

**INITIAL STUDY**

**FOR THE**

**CITY OF SAN JACINTO**  
**KIRBY STREET PROJECT**  
**(TENTATIVE TRACT MAP (TTM) NO. 38339)**

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Prepared for:

**City of San Jacinto**  
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Prepared by:

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**LIST OF ABBREVIATIONS AND ACROYNMS**

AAQS	Ambient Air Quality Standards
AB	Assembly Bill
ACOE	Army Corps of Engineers
APE	Area of Potential Effect
APN	Assessor's Parcel Number
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
BACMs	Best Available Control Measures
BMPs	Best Management Practices
BRA	Biological Resources Assessment
BUOW	Burrowing Owl
C&D	construction and demolition
CAA	Clean Air Act
CAAA	Clean Air Act Amendment
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
CalSTA	California State Transportation Agency
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CBSC	Compliance with the Building Energy Efficiency Standards
CCAR	California Climate Action Registry
CDFW	California Department of Fish and Wildlife (formerly CDFG)
CEC	California Energy Commission
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CHRIS	California Historical Resources Information System
CIP	Capital Improvement Project
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CPUC	California Public Utilities Commission
CWA	Clean Water Act
CTC	California Transportation Commission
dB	decibel
dBA	A-weighted decibel
DIF	Development Impact Fees
DOI	Department of Interior
DTSC	Department of Toxics Substances Control
DU/A	dwelling units per acre
DWR	Department of Water Resources
EIR	Environmental Impact Report

ESA	Endangered Species Act
EO	Executive Orders
ESA	Endangered Species Act
FAR	Floor Area Ratio
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FGC	Fish & Game Code
FTA	Federal Transit Association
GCC	Global Climate Change
GHG	Greenhouse Gas
GO Biz	Governor's Office of Business & Economic Development
GP	General Plan
GSA	Groundwater Sustainability Agencies
GSP	Groundwater Sustainability Plans
HSA	Hydrologic Sub-Area
HUSD	Hemet Unified School District
HVAC	heating, ventilating and air condition
IRP	Integrated Resource Planning
JD	Jurisdictional Delineation
LDR	Low Density Residential
LOS	Level of Service
LRA	Local Responsibility Area
LSA	Lake or Streambed Alteration
LST	Localized Significance Thresholds
LUST	Leaking Underground Storage Tank
MBTA	Migratory Bird Treaty Act
MCL	maximum contamination level
MM	Mitigation Measure
MND	Mitigated Negative Declaration
MSHCP	Multiple Species Habitat Conservation Plan
NAAQS	National Ambient Air Quality Standards
NBP	Nesting Bird Plan
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
OPR	Office of Planning and Research
OSHPD	Office of Statewide Health Planning and Development
PGAm	modified peak ground acceleration
RHNA	Regional Housing Needs Assessment
RL	Residential, Low Density
ROW	Rights-of-Way
RPS	Renewable Portfolio Standards
RTA	Riverside Transit Authority
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board

SB	State Bill
SBBM	San Bernardino Base Meridian
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SGC	Strategic Growth Council
SGMA	Sustainable Groundwater Management Act
SJSD	San Jacinto Unified School District
SJVRWRF	San Jacinto Valley Regional Water Reclamation Facility
SIP	State Implementation Plan
SMU	Site Mitigation Unit
SRA	State Responsibility Area
SSC	Species of Special Concern
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TA	Traffic Analysis
TAZ	Traffic Analysis Zones
TCR	Tribal Cultural Resources
TPA	Transit Priority Area
TTM	Tentative Tract Map
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UWMP	Urban Water Management Plan
VdB	vibration-velocity decibel
VMFHSZ	Very High Fire Hazard Severity Zone
VMT	vehicle miles traveled
WOTUS	Waters of the United States
WRCOG	Western Riverside Council of Governments
WQMP	Water Quality Management Plan
WVWD	West Valley Water District

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## **ENVIRONMENTAL CHECKLIST**

### **1. Project Information / Project Location**

- i) Project Title: Kirby Street Project (Tentative Tract Map (TTM) No. 38339)
- ii) Applicant: 3rd Avenue Storage, LLC  
32823 Temecula Parkway, Temecula, CA 92592  
  
Project Manager: Mr. Jordan Bursch, Director of Acquisitions  
T: (951) 491-6018 E: jordan@cormanleigh.com
- ii) Lead Agency Name: City of San Jacinto  
Address: 595 S. San Jacinto Avenue, San Jacinto, CA 92583
- iii) Contact: Yaneli Hernandez, Associate Planner  
Phone Number: (951) 487-7330
- iv) Project Location: The proposed Project is located within Assessor's Parcel Number (APN) 436-490-011 between Kirby Street to the west, Ivy Crest Drive to the east, and is bound partially by Oostdam Drive to the south in the City of San Jacinto, Riverside County, California. The site is located in Section 33, Township 4 South, Range 1 West SBMM as found on the USGS – San Jacinto Quadrangle, 7.5 Minute Series topographic map. The geographic coordinates are as follows: 33.782843°, -116.995913° (Please refer to Figures 1 and 2 for project location depicted at a regional and site level).

### **2. Project Description**

#### **A. Introduction**

This document is being prepared for the Kirby Street Project (Tentative Tract Map (TTM) No. 38339). The City will consider entitlements to subdivide 18.5-net acres into 76 single-family residential lots within APN 436-490-011, which is situated between Kirby Street to the west, Ivy Crest Drive to the east, and is bound partially by Oostdam Drive to the south in the City of San Jacinto. The purpose of the project is to obtain entitlements that would enable the subdivision of the property, which would ultimately provide additional housing options to serve the growing population of the City of San Jacinto, and further aid the City in meeting the housing needs determined in the Southern California Association of Governments (SCAG) Regional Housing Needs Assessment (RHNA).

#### **B. Project Characteristics**

The approximately 18.5 net acre site will require a Subdivision Application (Tentative Tract Map) by the City of San Jacinto. The project proposes the subdivision of the property to ultimately enable the development of 76 single-family residences, which is consistent with the existing land use designation and zoning classification. It is comprised of only one parcel with proposed entrances along Kirby Street and Oostdam Drive within the City of San Jacinto.

The proposed subdivision would result in 76 single-family residential lots with the minimum lot size of 7,200 square feet (SF), an average lot size of approximately 8,172 SF, with the largest lot at 17,642 SF. The varied lot sizes and site configuration are shown on Figure 3, which depicts the proposed site plan. In addition to the 76 numbered lots, the project proposes 1 letter lot, which would be a part of the ultimate development of the site to enable the construction of a water quality bioretention basin. The letter lot is located to northwest corner of the site and has been reserved to collect onsite incremental drainage from the ultimate residential development. The subdivision would necessitate the installation of access roads

that would align with Wildrose Circle to the south and Warwick Street to the west. Interior streets include two culs-de-sac oriented north-to-south and an interior street oriented west-to-east that would enable access to the four north-to-south oriented streets. Lots 40 through 48 would be oriented towards the existing Ivy Crest Drive; Lots 35 through 39 would be oriented towards the existing Oostdam Drive; Lots 1-4, the water quality bioretention basin ("Lot A"), and Lots 69 through 76 would be oriented towards proposed "Street A," which intersects with Warwick Street; Lots 5 through 18 would be oriented towards proposed "Street B"; Lots 55 through 68 would be oriented along proposed cul-de-sac "Street D"; Lots 30 through 34 and 49 through 54 would be oriented towards proposed "Street E," which intersects with existing Wildrose Circle Road; and Lots 19 through 29 would be oriented towards proposed cul-de-sac "Street G." These new internal roadways shall be dedicated to the City once the development becomes accessible to the public. All utilities would ultimately be extended to each lot within these proposed roadways upon the ultimate development of the proposed subdivision under a separate application with the City.

Kirby Street, which is classified as a Collector (78'/44') per the City' General Plan, along the property frontage within the 39-foot-half-width dedicated right-of-way, would be improved to provide for a 34-foot-wide asphalt paving (using a TI of 8.0 and PG 64-10), 6-inch curb and gutter located 22-feet east of centerline, 6-foot-wide sidewalk, and street lights. Ivy Crest Drive, which is classified as Collector (66'/44'), along the property frontage within the 33-foot-half-width dedicated right-of-way, would be improved to provide for a 34-foot-wide asphalt paving (using a TI of 8.0 and PG 64-10), 6-inch curb and gutter with the existing development to the north, 6-foot-wide sidewalk, and street lights. Oostdam Drive, which is classified as a Local Street 60'/40', along the property frontage within the 30-foot half width dedicated right-of-way, would be improved to provide for a 32-foot-wide asphalt paving (using a TI of 6.0 and PG 64-10), 6-inch curb and gutter located 20-feet north of centerline, 6-foot-wide sidewalk, and street lights. Additionally, all interior streets within the 60-foot full width dedicated rights-of-way shall be improved to provide for a 40-foot-wide pavement (using TI of 5.5 and PC 64-10), 6-inch curb and gutter located 20-feet on both sides of the centerline with 6-foot wide sidewalk and provide street lights.

Offsite utility improvements would ultimately include a new storm drain located within Oostdam Drive and Ivy Crest Drive along the project boundaries, as well as a new sewer connection and pipeline that will connect to an existing sewer pipeline within Ivy Crest Drive, and will travel along the project boundary within Oostdam Drive. Additionally, existing power poles along Kirby Street would be removed and cables under 66kv, including communication cables, would be undergrounded as part of the proposed Project development.

Upon the ultimate development of the subdivision—which would occur under a separate application with the City—the proposed Project would connect to existing water, sewer, natural gas and electricity that is available within adjacent roadways as shown on the site plan provided as Figure 3. Sewer would be provided by the City of San Jacinto; water would be provided by Eastern Municipal Water District (Eastern); natural gas would be provided by Southern California Gas Company (SoCalGas); electricity would be provided by Southern California Edison (SCE); and, telephone and cable would be provided by Frontier.

The ultimate development of the proposed subdivision would include a landscaping that would be consistent with the requirements of the City's Development Code Chapter 17.325, Water Efficient Landscape and Irrigation. Additionally, the proposed subdivision would comply with the City's Landscape Design Guidelines.

The future residences would be outfitted with low flow toilets and energy efficient appliances. Solar would be installed concurrent with development of each single-family residences as required by the California Energy Code.

#### Construction Scenario

Upon the ultimate development of the proposed subdivision (under a separate application with the City), the anticipated construction sequence would proceed as follows, but may be adjusted to conform to specific conditions at the time of actual construction:

1. Clear and grub, and demolish five onsite structures;
2. Preparation of subgrade;
3. Mass-grade site and road beds;
4. Installation of the northerly and southerly storm drain systems;
5. Installation of public sewer systems;
6. Installation of public water systems;
7. Fine grade to prepare for surface improvements;
8. Installation of building foundations;
9. Install private utilities, including water quality infrastructure;
10. Install curb, gutters, sidewalks and first asphalt lift;
11. Complete construction of new residences;
12. Install landscaping; place final lift of asphalt; and
13. Install signage and striping.

The new residential structures will be developed with a combination of wood framing, and the exterior will be stucco, similar to surrounding single family residence structures. Construction will be completed in one phase with the entirety of the horizontal improvements to be completed first. This will include grading and installation of utilities, and may also include development of internal paved roadways.

Construction is anticipated to be initiated in the 3rd quarter of 2023 and the units would open for occupancy approximately 10 months from the start of construction, once the application to develop the proposed subdivision is submitted to and approved by the City. The ultimate development of the project site would require about 8,000 cubic yards (CY) of cut and 29,000 CY of fill, as such the site requires approximately 21,000 CY of import. Grading would occur via traditional mechanized grading and compaction equipment including, but not limited to the following: front end loader, excavator, loader backhoe, dump truck, forklift, skid steer, mobile crane, bulldozer, grader, roller, water wagon, asphalt compactors, telehandlers, cement trucks, various hand tools traditional to grading operations, etc. For the areas that require paving, the asphalt or concrete will be delivered to the site and applied to these areas in a routine manner. It is anticipated that about 15 construction workers will be on site at any given time during construction, with construction truck trips requiring a maximum of about 80 miles round-trip. Further construction details are discussed in the Air Quality data provided in Appendix 1.

### **3. Project Information (cont.)**

#### **Existing Site Conditions**

The project site consists of a rectangular shaped parcel of land that is bounded to the south in part by Oostdam Drive, which is a paved roadway that traverses about half of the project's southern boundary, to the north by single-family residences, to the east by Ivy Crest Drive, and by South Kirby Street to the west. The majority of the development surrounding the project site consists of single-family residences, with vacant land scattered along the project's southern boundary. The lots surrounding the project are suburban and residential in nature. The approximately 18.5-acre site is essentially flat, with an elevation of about 1,425'. The entirety of the site has been previously disturbed. The westernmost quarter of the site contains approximately twenty trees as shown on Photos 1 and 2 provided below. While most of the trees are in good health, a few of the trees are in poor condition. The entirety of the site is presently fenced around the perimeter with additional fencing separating the residential portion of the site (the southwestern corner of the site) from the grazing use within the site. The property is occupied by an existing single-family residence with a backhouse structure, and a barn at the southwestern corner of the property, with the middle of the westernmost portion of the property containing two dilapidated wooden barn structures, each presently without a roof. The remainder of the site—the middle and easternmost portions of the site—appears to serve as grazing land, which currently supports a heard of goats. In the center of the grazing land portion of the site, roughly in the center of the site, there are two wooden shade structures that serve the animals that graze the site. The majority of the site is covered in weeds and warm-season grasses, as well as compacted dirt, with minimal hardscaped surfaces presently within the site, except in the areas immediately adjacent to and east of the existing onsite residence.

The overall setting is that of a suburban single-family residential area. Refer to the aerial photograph in Figure 1 for a representation of the existing project site in a regional setting, and to Figure 2 for a representation of the existing project site at a site-specific level.



**Photo 1: View from Kirby Street looking northeast at the project site**  
Source: Google Maps (Feb 2022)



**Photo 2: View from Kirby Street looking southeast at the project site**  
Source: Google Maps (Feb 2022)

**Surrounding Land Uses:** Current land use designations and existing land uses in the vicinity of the proposed Project

- North: Low Density Residential (LDR): the area north of the project is developed with single family residences.
- South: Low Density Residential (LDR): the area south of the project site contains single family residences, as well as some undeveloped vacant land.
- East: Low Density Residential (LDR): the area east of the project is developed with single family residences.
- West: Low Density Residential (LDR): the area west of the project is developed with single family residences.

### **General Plan Designation**

- Existing: Low Density Residential (LDR)  
Proposed: No change in General Plan designation proposed

### **Zoning**

- Existing: Residential, Low Density (RL)  
Proposed: No change in zone classification proposed

### **Other Agencies whose approval may be required**

Based on an evaluation of the specific project location, the proposed Project will not require any permits from other agencies to support subdivision of the site as proposed by the Owner's application.

Upon the ultimate development of the proposed subdivision under a separate discretionary action by City, the amount of area to be disturbed by the whole project would be greater than one acre and therefore, the developer would be required to file a Notice of Intent (NOI) for a General Construction permit to comply with the National Pollutant Discharge Elimination System (NPDES) requirements. The NOI is filed with the State Water Resources Control Board (SWRCB) and enforced by the Santa Ana Regional Water Quality Control Board (RWQCB). A Stormwater Pollution Prevention Plan (SWPPP) must be implemented in conjunction with construction activities. No other permits or agency requirements have been identified in association with the proposed Project.

### **Have California Native American tribes traditionally and cultural affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?**

Yes. The City has conferred with local Native American representatives.

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21083.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

**ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED**

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

- |   |   |  |
|---|---|--|
| <input type="checkbox"/> Aesthetics                             | <input type="checkbox"/> Agriculture and Forestry Resources | <input checked="" type="checkbox"/> Air Quality                        |
| <input checked="" type="checkbox"/> Biological Resources        | <input checked="" type="checkbox"/> Cultural Resources      | <input checked="" type="checkbox"/> Energy                             |
| <input checked="" type="checkbox"/> Geology / Soils             | <input type="checkbox"/> Greenhouse Gas Emissions           | <input checked="" type="checkbox"/> Hazards & Hazardous Materials      |
| <input checked="" type="checkbox"/> Hydrology & Water Quality   | <input type="checkbox"/> Land Use / Planning                | <input type="checkbox"/> Mineral Resources                             |
| <input checked="" type="checkbox"/> Noise                       | <input type="checkbox"/> Population / Housing               | <input type="checkbox"/> Public Services                               |
| <input type="checkbox"/> Recreation                             | <input checked="" type="checkbox"/> Transportation          | <input checked="" type="checkbox"/> Tribal Cultural Resources          |
| <input checked="" type="checkbox"/> Utilities / Service Systems | <input type="checkbox"/> Wildfire                           | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

**DETERMINATION** (To be completed by the Lead Agency)

On the basis of this initial evaluation, the following finding is made:

<input type="checkbox"/>	The proposed project <b>COULD NOT</b> have a significant effect on the environment, and a <b>NEGATIVE DECLARATION</b> will be prepared.
<input checked="" type="checkbox"/>	Although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A <b>MITIGATED NEGATIVE DECLARATION</b> will be prepared.
<input type="checkbox"/>	The proposed project <b>MAY</b> have a significant effect on the environment, and an <b>ENVIRONMENTAL IMPACT REPORT</b> is required.
<input type="checkbox"/>	The proposed project <b>MAY</b> have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An <b>ENVIRONMENTAL IMPACT REPORT</b> is required, but it must analyze only the effects that remain to be addressed.
<input type="checkbox"/>	Although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or <b>NEGATIVE DECLARATION</b> pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or <b>NEGATIVE DECLARATION</b> , including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

\_\_\_\_\_  
 Prepared by

\_\_\_\_\_  
 Date

\_\_\_\_\_  
 Lead Agency (signature)

\_\_\_\_\_  
 Date

EVALUATION OF ENVIRONMENTAL IMPACTS:

- 1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
- 4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
  - a) Earlier Analysis Used. Identify and state where they are available for review.
  - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
  - c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.



- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify:
  - a) the significance criteria or threshold, if any, used to evaluate each question; and
  - b) the mitigation measure identified, if any, to reduce the impact to less than significance.

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

**SUBSTANTIATION**

Project Description

The proposed Project includes the subdivision of one 18.5-acre parcel via a tentative tract map (TTM 38339), the future construction of 76 single-family detached residences, internal roadways, and a detention basin, as shown in Figure 3, the Site Plan.

The minimum lot size would be 7,200 SF, and the average lot size would be approximately 8,172 SF. The proposed Project will ultimately result in 76 single-family residences at 3.80 dwelling units per acre. Residential structures that would be 1 or 2 stories in height not to exceed the allowed height per the City's Development Code. Aesthetic impacts associated with construction and operation of the proposed Project, as described herein, are presented below.

Impact Analysis

- a. *Less Than Significant Impact* – Adverse impacts to scenic vistas can occur in one of two ways. First, an area itself may contain existing scenic vistas that would be altered by new development. A review of the project area determined that there are no scenic vista resources located internally within the area proposed for the subdivision and future development of the proposed Project. The project site is located adjacent to existing development to the north, east, and west with some residential development to the south, in addition to some vacant land. Beyond the immediately adjacent development, the overall project area has been developed with mostly residential uses. The project site is located within a suburban setting and is therefore located in an urbanized visual setting and is bordered mostly by surrounding roadways, residential, and rural residential development. Furthermore, the site currently contains an existing single-family residence with a backhouse structure, and a barn, as well as two dilapidated wooden barn structures, each presently without a roof, and two wooden shade structures that serve the animals that graze the site. The majority of the site is covered in weeds and warm-season grasses, as well as compacted dirt, with minimal hardscaped surfaces presently within the site, except in the areas immediately adjacent to and east of the existing onsite residence. Thus, the project site does not have any distinctive visual features on the property. Therefore, the future development of the proposed Project is not expected to impact any important scenic vistas within the project area.

An impact can also occur when a scenic vista can be viewed from the project area or immediate vicinity and a proposed development may interfere with the view to a scenic vista. The City of San Jacinto General Plan Environmental Impact Report (City GPEIR, July 2022) indicates that the Lakeview Mountains to the west, the San Jacinto Mountain foothills to the northeast, and the San Timoteo badlands to the northwest are considered important scenic vistas within the City. Thus, the project site is removed from the badlands, foothills, and mountains and thus, the proposed Project would not impact any scenic vistas. Though the project site currently serves as grazing land supporting goats, the site itself is surrounded by existing single-family residential development and does not contain any unique visual features that would serve as scenic vistas of value based on the criteria provided in the City GPEIR. Thus, the subdivision of this site to enable the future development of 76 single-family residences would conform with the existing visual setting, and thus would not have a potential to obstruct public views to scenic vistas. Therefore, the proposed Project would have a less than significant potential to have a substantial adverse effect on a scenic vista. No mitigation is required.

- b. *Less Than Significant Impact* – The project site currently contains to an existing single-family residence with a backhouse structure, a barn, and two dilapidated wooden barn structures, each presently without a roof. The remainder of the site serves as grazing land supporting goats. The site is essentially uniformly flat due to the existing site development. The site has been designated for Low Density Residential (LDR) use under the City’s General Plan. The proposed Project does not contain any noteworthy rocks or rock outcroppings that would be considered of scenic value under the current City standards. Furthermore, the project site does not contain any trees that are of scenic significance as the trees that exist within the project site are not significant in number. As a result, the removal of the onsite trees would not conflict with the City of San Jacinto General Plan Policy RM-1.2, which states “*Scenic Resources. Encourage the preservation of San Jacinto’s scenic resources, including mature trees, rock outcroppings, hillsides, ridgelines, and other prominent natural landforms, to the extent practical.*” As no such resources exist within the project site, the proposed Project would not conflict with the General Plan Policies pertaining to scenic resources. No roadways within the vicinity of the project site are considered eligible for official designation as a City, County or State Scenic Highway. No other scenic resources are located within the project site, and as such, there are no scenic resources within the site that would be damaged as a result of the proposed Project. Therefore, there is a less than significant impact to scenic resources.
- c. *Less Than Significant Impact* – Please refer to the discussion under issue I(a) and (b), above. The project site is located within a suburban setting and is therefore located in an urbanized visual setting that is bordered mostly by surrounding roadways, residential, and rural residential development. As stated above, the proposed Project will result in the development of the 76 single-family residences, which would create a temporary change in the visual character of the project site, but this would be temporary as the construction equipment and materials would only be present for the duration of construction of the proposed single-family home. The project site has been designed to be consistent with the Low Density Residential (LDR) development guidelines. The proposed Project would be designed in accordance with City General Plan and consistent with the Low Density Residential (LDR) development guidelines. The visual character of this site would be converted to a suburban residential visual setting consistent with surrounding single-family residences, but also consistent with the General Plan vision for the City at build-out.

The following table analyzes the consistency with General Plan goals and policies pertaining to scenic quality.

**Table I-1  
PROJECT SCENIC REGULATION CONSISTENCY ANALYSIS**

Applicable General Plan Policies	Project Consistency Analysis
<p><b>Policy LU-3.2. Surrounding Uses.</b> Consider as part of the development review process the compatibility of new development with surrounding uses and the ability of new development to enhance the character of the surrounding area.</p>	<p>The proposed Project would be consistent with Policy LU 3.1 because the proposed Project would be designed to conform with the Residential, Low Density (RL) Zoning Designation. The proposed Project would be installed within a site surrounded by other single-family residences, and thus the conversion of this parcel to a subdivision to enable the development of 76 single-family residences would each ensure that the design is compatible with the existing character of the City. The proposed Project would be consistent with Policy 4.1. As described above, the proposed Project would be consistent with the existing single-family residential development that surrounds the project site to the north, east, west, and a portion to the south of the project site and would be consistent with the future development in the vacant residentially designated areas to the south of the site.</p>
<p><b>Policy LU 2.2. Infill Development.</b> Encourage new development to occur in infill locations in a balanced and efficient pattern that reduces sprawl, preserves open space, and creates convenient connections to other land uses and activity centers..</p>	<p>The proposed Project would be consistent with Policy LU 2.2 because the bulk, scale, and intensity of the proposed future development would be consistent with the existing single-family residential development that surrounds the project site to the north, east, west, and a portion to the south of the project site and would be consistent with the future development in the vacant residentially designated areas to the south of the site.</p>
<p><b>Policy LU 5.2. Standards and Guidelines.</b> Develop and enforce development standards and objective design guidelines that provide clear direction for achieving quality community design in new development and redevelopment projects.</p>	<p>The proposed Project would be consistent with Policy LU 5.2. As described previously, the proposed Project would subdivide the site to ultimately result in the development of 76 single-family residences, which would be compatible with the surrounding land uses. In addition, the future development of the proposed subdivision would be required to meet City development standards and would meet City design guidelines, which would ensure compatibility with the Policy.</p>
<p><b>Policy LU 5.7. Landscaping.</b> Use landscaping for screening, solar control, parking lot shade, and other beautification purposes throughout the City.</p>	<p>The proposed Project would be consistent with Policy LU 5.7. The proposed Project would be required to meet City landscaping standards and would meet City design guidelines for landscaping, which would ensure compatibility with the Policy.</p>
<p><b>Policy LU 5.8. Streetscapes.</b> Promote drought tolerant landscaping, tree planting, and tree preservation along City streets as a means of improving aesthetics, making neighborhoods more pedestrian-friendly, and providing environmental and economic benefits.</p>	<p>The proposed Project would be consistent with Policy LU 5.7. The proposed Project would be required to meet City streetscape standards and would meet City design guidelines for streetscapes, which would ensure compatibility with the Policy.</p>
<p><b>Policy RM 1.2 Scenic Resources.</b> Encourage the preservation of San Jacinto’s scenic resources, including mature trees, rock outcroppings, hillsides, ridgelines, and other prominent natural landforms, to the extent practical.</p>	<p>The proposed Project would be consistent with Policy EM 1.2 as the subdivision of the project site to ultimately be developed with 76 single-family homes would not conflict with any scenic resources as none are located within or adjacent to the project site. Thus, the proposed Project would not conflict with the preservation of any scenic resources within the City, particularly given that the project site is flat and is surrounded by residential development.</p>

Based on the preceding analysis, the proposed Project would conform to the existing policies pertaining to scenic quality in the City, as well as to the City's zoning code, and impacts would be less than significant.

- d. *Less Than Significant Impact* – The implementation of the proposed Project will create new sources of light once the site has been occupied by new residences. The current site does generate some light from the existing residential and grazing land use. Existing sources of light in the vicinity of the project site include security lighting, landscape lighting, and lighting from building interiors that pass-through windows. Light and glare from interior and exterior building lighting, safety and security lighting, and vehicular traffic accessing the subdivision area will occur once the subdivision is developed and occupied by future residents. The proposed Project must be developed in accordance with the City of San Jacinto Development Code, which would ensure that any building or exterior lighting would not significantly impact adjacent uses. Thus, the proposed Project will introduce a new source of light into the project area, but design requirements can limit the lighting impacts to and from the project site. All outdoor lighting would be hooded, appropriately angled away from adjacent land uses, and would be installed in compliance with the San Jacinto Development Code, Section 17.300.080, which provides specifications for shielding lighting away from adjacent uses and intensity of lighting. Compliance with the Development Code would ensure that light and glare sources from the site would be shielded or modified in accordance with Section 17.300.080 to prevent the emission of light or glare beyond the property line or upward into the sky.

Additionally, the subdivision of the property would not have a potential to result in structures that would cause substantial glare. The future development of residences at the project site would require the installation of windows, but the design of each home would ensure that architectural elements would limit the potential of significant glare to a level of less than significant. Through compliance with the City's Development Code, proposed Project would have a less than significant potential to create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<p><b>II. AGRICULTURE AND FORESTRY RESOURCES:</b> In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:</p>				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**SUBSTANTIATION**

Project Description

The proposed Project includes the subdivision of one 18.5-acre parcel via a tentative tract map (TTM 38339), the future construction of 76 single-family detached residences, internal roadways, and a detention basin, as shown in Figure 3, the Site Plan. Agricultural Resource impacts associated with construction and operation of the proposed Project, as described herein, are presented below.

Impact Analysis

- a. *No Impact* – According to the California Department of Conservation Important Farmland Map Finder, the project site is located on land that is deemed “Farmland of Local Importance” (Figure II-1). The City has not designated this site nor zoned this site for agricultural use, as the General Plan

designation is Low Density Residential (LDR) and the Zoning Classifications is Residential, Low Density (RL). This indicates that the City intends for the project site to be developed for a use that would suit the land use designation/zoning classification that it has assigned the project site. Furthermore, the City's General Plan indicates that the loss of agricultural values within the City are outweighed by the social and economic factors making land for other uses more desirable. Section 5.2 of the City's General Plan (GPEIR July 2022), states that it is anticipated that changes in the existing environment associated with future development anticipated by the General Plan Update would result in the conversion of Farmland to non-agricultural use. No feasible mitigation measures were adopted due to conflicts with other objectives in the General Plan. However, the City's General Plan Policy LU-2.4 allows and supports for the continuation of agricultural operations on lands within the City limits that are designated for development uses and Action LU-2e gives priority to redevelopment and infill projects that reduce development pressure on agricultural lands. Ultimately, the GPEIR concluded that impacts to agricultural resources will remain significant and unavoidable. Thus, conversion of the land use of the project site from Farmland of Local Importance to residential use through the proposed subdivision of single-family residential lots would be consistent with the anticipated conversion of agricultural land analyzed in the City's General Plan and City GPEIR (July 2022). Therefore, given that the City does not identify the project site for agricultural use, and that no Prime Farmland, Unique Farmland or Farmland of Statewide Importance has been identified within the project site or project area, implementation of the proposed Project and conversion of the project site will not pose any significant adverse impact to agricultural resources or values. No adverse impacts are anticipated and no mitigation is required.

- b. *No Impact* – Implementation of the proposed Project will not conflict with existing zoning for agricultural use, or a Williamson Act contract because the project site General Plan designation is Low Density Residential (LDR) and the Zoning Classifications is Residential, Low Density (RL). Based on this information, the proposed Project will not conflict with existing zoning for agricultural use, or a Williamson Act contract. No adverse impacts are anticipated and no mitigation is required.
- c. *No Impact* – The project site is not located within forest land, timberland or timberland zoned for Timberland Production. Therefore, the proposed Project will not 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)). No adverse impacts are anticipated and no mitigation is required.
- d. *No Impact* – The project site is not located within forest land and has no commercial forest trees on the property; therefore, the proposed Project will not result in the loss of forest land or conversion of forest land to non-forest production use. No adverse impacts are anticipated and no mitigation is required.
- e. *No Impact* – Please refer to the discussion under issue II(a), above. No agricultural activities have been practiced on the site in recent history. The City has designated and zoned the site for Low Density Residential (LDR) use, which does not permit agricultural uses beyond limited seasonal farming to be carried out. The uses in the immediate vicinity surrounding the proposed Project do not currently support agricultural activities. The proposed Project would not involve other changes that would result in off-site agricultural land converting to a non-agricultural use. Furthermore, there is no forest land in the City of San Jacinto that would be impacted by the future development of the proposed Project. Therefore, the proposed Project would have no potential to 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.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>III. AIR QUALITY:</b> Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION:** The following data is based on calculations prepared utilizing CalEEMod. CalEEMod was developed by the SCAQMD to provide a model by which to calculate both construction emissions and operational emissions from a variety of land use projects. It calculates both the daily maximum and annual average emissions for criteria pollutants as well as total or annual greenhouse gas (GHG) emissions. These emissions calculations are provided as Appendix 1 to this Initial Study.

Project Description

The proposed Project includes the subdivision of one 18.5-acre parcel via a tentative tract map (TTM 38339), the future construction of 76 single-family detached residences, internal roadways, and a detention basin, as shown in Figure 3, the Site Plan. Air Quality emissions generated by construction and operation of the proposed Project, as described herein, are presented below.

Background

*Climate*

The climate of the San Jacinto area, technically called an interior valley subclimate of Southern California's semi-arid climate, is characterized by warm summers, mild winters, infrequent rainfall, moderate afternoon breezes, and generally fair weather. The clouds and the fog that form along the area's coastline rarely extend as far inland as the San Jacinto Valley, and if they do, they usually burn off quickly after sunrise. The most important weather pattern is associated with the warm season airflow across populated areas of the Los Angeles Basin that brings polluted air into western Riverside County late in the afternoon. This transport pattern creates unhealthy air quality when the fringes of this "urban smog cloud" extend to the project site during the summer months.

*Air Quality Standards*

Existing air quality is measured at established Southern California Air Quality Management District (SCAQMD) air quality monitoring stations. Monitored air quality is evaluated and in the context of ambient air quality standards. These standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) currently in effect are shown in Table III-1. Because the State of California had established Ambient Air Quality Standards (AAQS) several years before the federal action and because of unique air quality problems introduced by the restrictive dispersion



meteorology, there is considerable difference between state and national clean air standards. Those standards currently in effect in California are shown in Table III-1. Sources and health effects of various pollutants are shown in Table III-2.

**Table III-1  
AMBIENT AIR QUALITY STANDARDS**

Pollutant	Average Time	California Standards <sup>1</sup>		National Standards <sup>2</sup>		
		Concentration <sup>3</sup>	Method <sup>4</sup>	Primary <sup>3,5</sup>	Secondary <sup>3,6</sup>	Method <sup>7</sup>
Ozone (O <sub>3</sub> ) <sup>8</sup>	1 Hour	0.09 ppm (180 µg/m <sup>3</sup> )	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m <sup>3</sup> )		0.070 ppm (137 µg/m <sup>3</sup> )		
Respirable Particulate Matter (PM <sub>10</sub> ) <sup>9</sup>	24 Hour	50 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	150 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m <sup>3</sup>		–		
Fine Particulate Matter (PM <sub>2.5</sub> ) <sup>9</sup>	24 Hour	–	–	35 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	12.0 µg/m <sup>3</sup>	15.0 µg/m <sup>3</sup>	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m <sup>3</sup> )	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m <sup>3</sup> )	–	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9 ppm (10 mg/m <sup>3</sup> )		9 ppm (10 mg/m <sup>3</sup> )	–	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m <sup>3</sup> )		–	–	
Nitrogen Dioxide (NO <sub>2</sub> ) <sup>10</sup>	1 Hour	0.18 ppm (339 µg/m <sup>3</sup> )	Gas Phase Chemiluminescence	100 ppb (188 µg/m <sup>3</sup> )	–	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m <sup>3</sup> )		0.053 ppm (100 µg/m <sup>3</sup> )	Same as Primary Standard	
Sulfur Dioxide (SO <sub>2</sub> ) <sup>11</sup>	1 Hour	0.25 ppm (655 µg/m <sup>3</sup> )	Ultraviolet Fluorescence	75 ppb (196 µg/m <sup>3</sup> )	–	Ultraviolet Fluorescence; Spectrophotometry (Paraosaniline Method)
	3 Hour	–		–	0.5 ppm (1300 µg/m <sup>3</sup> )	
	24 Hour	0.04 ppm (105 µg/m <sup>3</sup> )		0.14 ppm (for certain areas) <sup>11</sup>	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas) <sup>11</sup>	–	
Lead <sup>8,12,13</sup>	30-Day Average	1.5 µg/m <sup>3</sup>	Atomic Absorption	–	–	–
	Calendar Quarter	–		1.5 µg/m <sup>3</sup> (for certain areas) <sup>12</sup>	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Avg	–		0.15 µg/m <sup>3</sup>		
Visibility Reducing Particles <sup>14</sup>	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	<b>No Federal Standards</b>		
Sulfates	24 Hour	25 µg/m <sup>3</sup>	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m <sup>3</sup> )	Ultraviolet Fluorescence			
Vinyl Chloride <sup>12</sup>	24 Hour	0.01 ppm (26 µg/m <sup>3</sup> )	Gas Chromatography			

Source: California Air Resources Board 5/4/16

Footnotes:

- 1 California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter – PM10, PM2.5, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- 2 National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year, with a 24-hour average concentration above  $150 \mu\text{g}/\text{m}^3$ , is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.
- 3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- 4 Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
- 5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- 6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- 7 Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.
- 8 On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
- 9 On December 14, 2012, the national PM2.5 primary standard was lowered from  $15 \mu\text{g}/\text{m}^3$  to  $12.0 \mu\text{g}/\text{m}^3$ . The existing national 24-hour PM2.5 standards (primarily and secondary) were retained at  $35 \mu\text{g}/\text{m}^3$ , as was the annual secondary standard of  $15 \mu\text{g}/\text{m}^3$ . The existing 24-hour PM10 standards (primarily and secondary) of  $150 \mu\text{g}/\text{m}^3$  also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
- 10 To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
- 11 On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.  
  
Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
- 12 The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
- 13 The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard ( $1.5 \mu\text{g}/\text{m}^3$  as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
- 14 In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Sources and health effects of various pollutants are shown in Table III-2.

**Table III-2  
HEALTH EFFECTS OF MAJOR CRITERIA POLLUTANTS**

<b>Pollutants</b>	<b>Sources</b>	<b>Primary Effects</b>
Carbon Monoxide (CO)	<ul style="list-style-type: none"> <li>• Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust.</li> <li>• Natural events, such as decomposition of organic matter.</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced tolerance for exercise.</li> <li>• Impairment of mental function.</li> <li>• Impairment of fetal development.</li> <li>• Death at high levels of exposure.</li> <li>• Aggravation of some heart diseases (angina).</li> </ul>
Nitrogen Dioxide (NO <sub>2</sub> )	<ul style="list-style-type: none"> <li>• Motor vehicle exhaust.</li> <li>• High temperature stationary combustion.</li> <li>• Atmospheric reactions.</li> </ul>	<ul style="list-style-type: none"> <li>• Aggravation of respiratory illness.</li> <li>• Reduced visibility.</li> <li>• Reduced plant growth.</li> <li>• Formation of acid rain.</li> </ul>
Ozone (O <sub>3</sub> )	<ul style="list-style-type: none"> <li>• Atmospheric reaction of organic gases with nitrogen oxides in sunlight.</li> </ul>	<ul style="list-style-type: none"> <li>• Aggravation of respiratory and cardiovascular diseases.</li> <li>• Irritation of eyes.</li> <li>• Impairment of cardiopulmonary function.</li> <li>• Plant leaf injury.</li> </ul>
Lead (Pb)	<ul style="list-style-type: none"> <li>• Contaminated soil.</li> </ul>	<ul style="list-style-type: none"> <li>• Impairment of blood function and nerve construction.</li> <li>• Behavioral and hearing problems in children.</li> </ul>
Fine Particulate Matter (PM-10)	<ul style="list-style-type: none"> <li>• Stationary combustion of solid fuels.</li> <li>• Construction activities.</li> <li>• Industrial processes.</li> <li>• Atmospheric chemical reactions.</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced lung function.</li> <li>• Aggravation of the effects of gaseous pollutants.</li> <li>• Aggravation of respiratory and cardio respiratory diseases.</li> <li>• Increased cough and chest discomfort.</li> <li>• Soiling.</li> <li>• Reduced visibility.</li> </ul>
Fine Particulate Matter (PM-2.5)	<ul style="list-style-type: none"> <li>• Fuel combustion in motor vehicles, equipment, and industrial sources.</li> <li>• Residential and agricultural burning.</li> <li>• Industrial processes.</li> <li>• Also, formed from photochemical reactions of other pollutants, including NO<sub>x</sub>, sulfur oxides, and organics.</li> </ul>	<ul style="list-style-type: none"> <li>• Increases respiratory disease.</li> <li>• Lung damage.</li> <li>• Cancer and premature death.</li> <li>• Reduces visibility and results in surface soiling.</li> </ul>
Sulfur Dioxide (SO <sub>2</sub> )	<ul style="list-style-type: none"> <li>• Combustion of sulfur-containing fossil fuels.</li> <li>• Smelting of sulfur-bearing metal ores.</li> <li>• Industrial processes.</li> </ul>	<ul style="list-style-type: none"> <li>• Aggravation of respiratory diseases (asthma, emphysema).</li> <li>• Reduced lung function.</li> <li>• Irritation of eyes.</li> <li>• Reduced visibility.</li> <li>• Plant injury.</li> <li>• Deterioration of metals, textiles, leather, finishes, coatings, etc.</li> </ul>

Source: California Air Resources Board, 2002.

### Air Quality Planning

The United State Environmental Protection Agency (U.S. EPA) is responsible for setting and enforcing the National Ambient Air Quality Standards (NAAQS) for O<sub>3</sub>, CO, NO<sub>x</sub>, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and lead. The U.S. EPA has jurisdiction over emissions sources that are under the authority of the federal government including aircraft, locomotives, and emissions sources outside state waters (Outer Continental Shelf). The U.S. EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of the California Air Resources Board (CARB).

The Federal Clean Air Act (CAA) was first enacted in 1955, and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes the federal air quality standards, the NAAQS, and specifies future dates for achieving compliance. The CAA also mandates that states submit and implement State Implementation Plans (SIPs) for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met. Substantial reductions in emissions of ROG, NO<sub>x</sub> and CO are forecast to continue throughout the next several decades. Unless new particulate control programs are implemented, PM-10 and PM-2.5 are forecast to slightly increase.

The Air Quality Management District (AQMD) adopted an updated clean air “blueprint” in August 2003. The 2003 Air Quality Management Plan (AQMP) was approved by the EPA in 2004. The AQMP outlined the air pollution measures needed to meet federal health-based standards for ozone by 2010 and for particulates (PM-10) by 2006. The 2003 AQMP was based upon the federal one-hour ozone standard which was revoked late in 2005 and replaced by an 8-hour federal standard. Because of the revocation of the hourly standard, a new air quality planning cycle was initiated.

With re-designation of the air basin as non-attainment for the 8-hour ozone standard, a new attainment plan was developed. This plan shifted most of the one-hour ozone standard attainment strategies to the 8-hour standard. As previously noted, the attainment date was to “slip” from 2010 to 2021. The updated attainment plan also includes strategies for ultimately meeting the federal PM-2.5 standard.

Because projected attainment by 2021 required control technologies that did not exist yet, the SCAQMD requested a voluntary “bump-up” from a “severe non-attainment” area to an “extreme non-attainment” designation for ozone. The extreme designation was to allow a longer time period for these technologies to develop. If attainment cannot be demonstrated within the specified deadline without relying on “black-box” measures, EPA would have been required to impose sanctions on the region had the bump-up request not been approved. In April 2010, the EPA approved the change in the non-attainment designation from “severe-17” to “extreme.” This reclassification set a later attainment deadline (2024), but also required the air basin to adopt even more stringent emissions controls.

In other air quality attainment plan reviews, EPA had disapproved part of the SCAB PM-2.5 attainment plan included in the AQMP. EPA stated that the current attainment plan relied on PM-2.5 control regulations that had not yet been approved or implemented. It was expected that a number of rules that were pending approval would remove the identified deficiencies. If these issues were not resolved within the next several years, federal funding sanctions for transportation projects could result. The 2012 AQMP included in the current California State Implementation Plan (SIP) was expected to remedy identified PM-2.5 planning deficiencies.

The Federal Clean Air Act requires that non-attainment air basins have EPA approved attainment plans in place. This requirement includes the federal one-hour ozone standard even though that standard was revoked almost ten years ago. There was no approved attainment plan for the one-hour federal standard at the time of revocation. Through a legal quirk, the SCAQMD is now required to develop an AQMP for the long since revoked one-hour federal ozone standard. Because the current SIP for the basin contains a number of control measures for the 8-hour ozone standard that are equally effective for one-hour levels, the 2012 AQMP was believed to satisfy hourly attainment planning requirements.

AQMPs are required to be updated every three years. The 2012 AQMP was adopted in early 2013. An updated 2016 AQMP was adopted by the SCAQMD Board in March 2017. The 2016 AQMD demonstrated the emissions reductions shown in Table III-3 compared to the 2012 AQMP.

**Table III-3  
COMPARISON OF EMISSIONS BY MAJOR SOURCE CATEGORY FROM 2012 AQMP**

<b>Pollutant</b>	<b>Stationary Sources</b>	<b>Mobile Sources</b>
VOC	-12%	-3%
NOx	-13%	-1%
SOx	-34%	-23%
PM2.5	-9%	-7%

\*Source: 2016 AQMP

SCAQMD has initiated the development of the 2022 AQMP to address the attainment of the 2015 8-hour ozone standard (70 ppb) for South Coast Air Basin (SCAB) and Coachella Valley which will focus on attaining the 70 ppb 8-hour ozone National Ambient Air Quality Standard (NAAQS) by 2037. On-road vehicles and off-road mobile sources represent the largest categories of NOx emissions. Accomplishment of attainment goals requires an approximate 70% reduction in NOx emissions. Large scale transition to zero emission technologies is a key strategy. To this end, Governor Executive Order N-79-20 requires 100 percent EV sales by 2035 for automobiles and short haul drayage trucks. A full transition to EV buses and heavy-duty long-haul trucks is required by 2045.

The proposed Project does not directly relate to the AQMP in that there are no specific air quality programs or regulations governing residential subdivisions. Conformity with adopted plans, forecasts and programs relative to population, housing, employment and land use is the primary yardstick by which impact significance of planned growth is determined. The SCAQMD, however, while acknowledging that the AQMP is a growth-accommodating document, does not favor designating regional impacts as less-than-significant just because the future development is consistent with regional growth projections. Air quality impact significance for the proposed Project has therefore been analyzed on a project-specific basis.

#### Impact Thresholds

Appendix G of the California CEQA Guidelines offers the following four tests of air quality impact significance. A project would have a potentially significant impact if it:

- a. Conflicts with or obstructs implementation of the applicable air quality plan.
- b. Results in a cumulatively considerable net increase of any criteria pollutants for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- c. Exposes sensitive receptors to substantial pollutant concentrations.
- d. Creates objectionable odors affecting a substantial number of people.

#### *Primary Pollutants*

Air quality impacts generally occur on two scales of motion. Near an individual source of emissions or a collection of sources such as a crowded intersection or parking lot, levels of those pollutants that are emitted in their already unhealthful form will be highest. Carbon monoxide (CO) is an example of such a pollutant. Primary pollutant impacts can generally be evaluated directly in comparison to appropriate clean air standards. Violations of these standards where they are currently met, or a measurable worsening of an existing or future violation, would be considered a significant impact. Many particulates, especially fugitive dust emissions, are also primary pollutants. Because of the non-attainment status of the SCAB for PM-10, an aggressive dust control program is required to control fugitive dust during project construction.

*Secondary Pollutants*

Many pollutants, however, require time to transform from a more benign form to a more unhealthful contaminant. Their impact occurs regionally far from the source. Their incremental regional impact is minute on an individual basis and cannot be quantified except through complex photochemical computer models. Analysis of significance of such emissions is based upon a specified amount of emissions (pounds, tons, etc.) even though there is no way to translate those emissions directly into a corresponding ambient air quality impact.

Because of the chemical complexity of primary versus secondary pollutants, the SCAQMD has designated significant emissions levels as surrogates for evaluating regional air quality impact significance independent of chemical transformation processes. Projects with daily emissions that exceed any of the following emission thresholds are recommended by the SCAQMD to be considered significant under CEQA guidelines.

**Table III-4  
DAILY EMISSIONS THRESHOLDS**

<b>Pollutant</b>	<b>Construction</b>	<b>Operations</b>
ROG	75	55
NOx	100	55
CO	550	550
PM-10	150	150
PM-2.5	55	55
Sox	150	150
Lead	3	3

Source: SCAQMD CEQA Air Quality Handbook, November, 1993 Rev.

*Additional Indicators*

In its CEQA Handbook, the SCAQMD also states that additional indicators should be used as screening criteria to determine the need for further analysis with respect to air quality. The additional indicators are as follows:

- Project could interfere with the attainment of the federal or state ambient air quality standards by either violating or contributing to an existing or projected air quality violation
- Project could result in population increases within the regional statistical area which would be in excess of that projected in the AQMP and in other than planned locations for the project's build-out year.
- Project could generate vehicle trips that cause a CO hot spot.

Impact Analysis

- a. *Less Than Significant Impact* – The proposed Project does not directly relate to the AQMP in that there are no specific air quality programs or regulations governing development projects. Conformity with adopted plans, forecasts and programs relative to population, housing, employment and land use is the primary yardstick by which impact significance of planned growth is determined. The SCAQMD, however, while acknowledging that the AQMP is a growth-accommodating document, does not favor designating regional impacts as less than significant just because the future development is consistent with regional growth projections. Air quality impact significance for the proposed Project has therefore been analyzed on a project-specific basis.

The proposed Project would be consistent with the City's General Plan and Zoning Code, because the future improvements would be developed within a site designated for Low Density Residential (LDR) and the Zoning Classifications is Residential, Low Density (RL), to which the proposed Project

would conform. As a result, the development density of the proposed Project would be consistent with the assumptions in the AQMP and would not conflict with SCAQMD's attainment plans. Furthermore, the proposed Project is forecast to be consistent with regional planning forecasts maintained by the Southern California Association of Government (SCAG) regional plans, particularly given that the proposed Project would install housing consistent with the recent SCAG Regional Housing Needs Assessment Final Allocation Plan approved on 3/22/21, modified 7/1/21.<sup>1</sup> Air quality impact significance for the proposed Project has been analyzed on a project-specific basis. As the analysis of Project-related emissions provided below in issues III(b) and III(c) indicate, the proposed Project would not cause or be exposed to significant air pollution, and is, therefore, consistent with the applicable air quality plan. No mitigation is required.

- b. *Less Than Significant Impact With Mitigation Incorporated* – Air pollution emissions associated with the proposed Project would occur over both a short- and long-term time period. Short-term emissions include fugitive dust from construction activities (i.e., site prep, demolition, grading, and exhaust emission) anticipated to occur as a result of future development of the proposed Project. Long-term emissions generated by occupancy of the proposed Project primarily include energy consumption generated by the single-family residences.

#### *Construction Emissions*

This analysis utilizes calculations generated by CalEEMod2022.1. CalEEMod was developed by the SCAQMD to provide a model by which to calculate both construction emissions and operational emissions from a variety of land use projects. It calculates both the daily maximum and annual average emissions for criteria pollutants as well as total or annual greenhouse gas (GHG) emissions.

The Project proposes the subdivision of 76 single-family residential lots within an 18.5-acre site. An additional lettered lot would be provided as part of the ultimate development of the site to enable the construction of a water quality bioretention basin at the northwest corner of the site. The average square footage of each lot is 8,125 SF. The building area was assumed at an average of 3,000 SF per residence as a conservative assumption of the future development. Approximately 200,000 SF of the entire 805,860 SF site is anticipated to be landscaped as part of the future development. Paved is conservatively assumed to consist of a maximum of 250,000 SF of the entire 805,860 SF site.

Construction is anticipated to start in July 2023 with the completion in 2024. The project site contains existing structures, but is mostly vacant. Regardless, build out of the proposed project would require demolition, site preparation (i.e., clearing, grading, and excavation), grading, paving, and construction of the onsite structure. Construction is anticipated to require about 8,000 cubic yards (CY) of cut and 29,000 CY of fill, as such the site requires approximately 21,000 CY of import. To account for the dust from earth movement it was assumed that the entire 18.5-acre site would undergo grading, not just the building pad areas.

Construction was modeled in CalEEMod2022.1 using the construction equipment and schedule for a site of this size as shown in Table III-5.

Program defaults were modified to account for the correct lot size area that would be modified by the future development. For construction, it was assumed that greater paved area would be installed by the proposed Project as a result of the internal roadways and driveways that would be installed.

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<sup>1</sup> <https://scag.ca.gov/sites/main/files/file-attachments/6th-cycle-rhna-final-allocation-plan.pdf?1625161899>

According to SCAG, "the RHNA does not necessarily encourage or promote growth, but rather allows communities to anticipate growth, so that collectively the region and subregion can grow in ways that enhance quality of life, improve access to jobs, promotes transportation mobility, and addresses social equity, fair share housing needs."; The intent of the future needs allocation by income groups is to relieve the undue concentration of very low and low-income households in a single jurisdiction and to help allocate resources in a fair and equitable manner.

**Table III-5  
CONSTRUCTION ACTIVITY EQUIPMENT FLEET**

Phase Name and Duration	Equipment
Demolition (20 days)	2 Rubber Tired Dozers
	3 Excavators
	1 Concrete/Industrial Saw
Site Preparation (10,500 CY Soil Import) (10 days)	3 Rubber Tired Dozers
	4 Tractors/Loaders/Backhoes
Grading (10,500 CY Soil Import) (30 days)	1 Grader
	2 Excavators
	2 Tractors/Loaders/Backhoes
	2 Scrapers
	1 Rubber Tired Dozer
Construction (300 days)	1 Crane
	1 Generator Set
	1 Loader/Backhoe
	1 Welders
	3 Forklifts
Paving (max 250,000 SF) (20 days)	2 Pavers
	2 Paving Equipment
	2 Rollers
Architectural Coating (20 Days)	1 Air Compressor

Utilizing this indicated equipment fleet and durations shown in Table III-5 the following worst case daily construction emissions are calculated by CalEEMod and are listed in Table III-6.

**Table III-6  
CONSTRUCTION ACTIVITY EMISSIONS UNMITIGATED  
MAXIMUM DAILY EMISSIONS (POUNDS/DAY)**

Maximal Construction Emissions	ROG	NOx	CO	SO <sub>2</sub>	PM-10	PM-2.5
SUMMER 2023	4.19	50.5	39.6	0.11	9.71	5.18
SUMMER 2024	1.20	11.2	13.1	0.02	0.89	0.56
<b>Maximum Daily Summer Emissions</b>	<b>4.19</b>	<b>50.5</b>	<b>39.6</b>	<b>0.11</b>	<b>9.71</b>	<b>5.18</b>
WINTER 2023	1.40	12.3	15.1	0.03	0.98	0.62
WINTER 2024	71.5	11.2	13.1	0.03	0.89	0.56
WINTER 2025	71.5	0.88	1.14	< 0.005	0.09	0.04
<b>Maximum Daily Winter Emissions</b>	<b>71.5</b>	<b>12.3</b>	<b>15.1</b>	<b>0.03</b>	<b>0.98</b>	<b>0.62</b>
<b>SCAQMD Thresholds</b>	<b>75</b>	<b>100</b>	<b>550</b>	<b>150</b>	<b>150</b>	<b>55</b>

Peak daily construction activity emissions from proposed Project are estimated be well below SCAQMD CEQA thresholds without the need for added mitigation. Future construction activities are not anticipated to cause dust emissions to exceed SCAQMD CEQA thresholds. Nevertheless,



emissions minimization through an enhanced dust control mitigation measure is recommended for use because of the non-attainment status of the air basin.

**AQ-1** *The development of the project site shall be required to comply with South Coast Air Quality Management District Rule 403 – Fugitive Dust. This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust. Applicable dust suppression requirements from Rule 403 are summarized below.*

- *Nontoxic chemical soil stabilizers shall be applied according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).*
- *Active sites shall be watered at least twice daily. (Locations where grading is to occur will be thoroughly watered prior to earthmoving.)*
- *All trucks hauling dirt, sand, soil, or other loose materials shall be covered, or at least 0.6 m (2 ft) of freeboard (vertical space between the top of the load and top of the trailer) maintained in accordance with the requirements of California Vehicle Code (CVC) Section 23114.*
- *Construction access roads shall be paved at least 30 m (100 ft) onto the site from the main road.*
- *Traffic speeds on all unpaved roads shall be reduced to 15 mph or less.*

Similarly, ozone precursor emissions (ROG and NOx) are calculated to be below SCAQMD CEQA thresholds. However, because of regional non-attainment for photochemical smog, the use of a reasonably available exhaust emission control mitigation measure for diesel exhaust is recommended.

**AQ-2** *Exhaust Emissions Control. The following measures shall be incorporated into project plans and specifications for implementation:*

- *Utilize off-road construction equipment that has met or exceeded the maker's recommendations for vehicle/equipment maintenance schedule.*
- *Contactors shall utilize Tier 4 or better heavy equipment.*
- *Enforce 5-minute idling limits for both on-road trucks and off-road equipment.*

The following additional measures shall be implemented during future construction activities to further reduce emissions:

**AQ-3** *Development of the project site shall be required to use electric or alternative fueled construction equipment where technically feasible and/or commercially available, where the electric or alternatively fueled equipment can perform adequately when compared to gasoline or diesel fueled equipment.*

**AQ-4** *Development of the project site shall be required to utilize "Super-Compliant" low VOC paints which have been reformulated to exceed the regulatory VOC limits put forth by SCAQMD's Rule 1113. Super-Compliant low VOC paints shall be no more than 10g/L of VOC. Alternatively, Future AGSP Development may utilize building materials that do not require the use of architectural coatings. This measure will apply to all future projects*

**AQ-5** *Development of the project site shall be required to sweep all streets at least once a day using SCAQMD Rule 1186 certified street sweepers if visible soil materials are carried to adjacent streets.*

**AQ-6** *The contract with demolition and construction contractors shall include the requirement that all materials that can be recycled shall be salvaged and recycled. This includes, but is not limited to, wood, metals, concrete, road base, and asphalt. The developer shall submit a recycling plan to the City for review and approval prior to the start of demolition/construction activities to accomplish this objective.*

With implementation of mitigation measures (MMs) **AQ-1** through **AQ-6**, any impacts related to construction emissions are considered less than significant.

*Operational Emissions*

Operational emissions were calculated using CalEEMod2022.1 for an assumed occupancy year of 2024, with the full occupancy occurring in 2025. The operational impacts are shown in Table III-7. As shown, operational emissions will not exceed applicable SCAQMD operational emissions CEQA thresholds of significance. For operational assumptions, it is assumed that no wood fireplaces would be installed, and the default settings for water use were modified as a result of the available data through Eastern Municipal Water District's (Eastern's) 2020 Urban Water Management Plan (UWMP). Mobile source operational emissions were calculated based on an average daily trip generation of 718, with 15.9 miles per resident assumed as the number of vehicle miles traveled. This is based on the VMT Analysis provided as Appendix 7b, prepared by Urban Crossroads. Note that solar panels are now required for residential development, so a conservative 10% of the energy consumption generated by the proposed Project was assumed to be offset by solar.

**Table III-7  
PROPOSED USES DAILY OPERATIONAL IMPACTS (2024)  
UNMITIGATED**

Maximal Summer Emissions	ROG	NOx	CO	SO <sub>2</sub>	PM-10	PM-2.5
SUMMER MOBILE	2.56	0.64	4.40	< 0.005	0.01	< 0.005
SUMMER AREA	5.74	1.30	4.83	0.01	0.10	0.10
SUMMER ENERGY	0.04	0.68	0.29	< 0.005	0.06	0.06
<b>Total Summer Operational Emissions</b>	<b>8.34</b>	<b>2.63</b>	<b>9.52</b>	<b>0.01</b>	<b>0.17</b>	<b>0.16</b>
WINTER MOBILE	2.33	0.68	5.14	< 0.005	0.01	< 0.005
WINTER AREA	5.34	1.26	0.54	0.01	0.10	0.10
WINTER ENERGY	0.04	0.68	0.29	< 0.005	0.06	0.06
<b>Total Winter Operational Emissions</b>	<b>7.72</b>	<b>2.62</b>	<b>5.96</b>	<b>0.01</b>	<b>0.17</b>	<b>0.16</b>
SCAQMD Threshold	55	55	550	150	150	55
Exceeds Threshold?	No	No	No	No	No	No

Impacts without Mitigation: Operational activities for summer and winter scenarios are presented in Table III-7. Detailed operational model outputs are presented in Appendix 1. Operational-source emissions will not exceed the thresholds of significance and as such, a significant operational impact will not occur. However, in an effort to reduce emissions to the greatest extent feasible, the following measures shall be implemented to minimize future operational emissions:

**AQ-7** *The developer shall require that all building structures meet or exceed 2020 Title 24, Part 6 Standards and meet Green Building Code Standards.*

**AQ-8** *The developer shall require that all faucets, toilets and showers installed in the proposed structures utilize low-flow fixtures that would reduce indoor water demand by 20% per CalGreen Standards.*

- AQ-9** *The developer shall require that a water-efficient irrigation system be installed that conforms to the requirements of City codes.*
- AQ-10** *The developer shall require that ENERGY STAR-compliant appliances are installed on-site.*
- AQ-11** *The developer shall require that high-efficiency lighting be installed that is at least 34% more efficient than standard lighting.*
- AQ-12** *No wood burning devices shall be installed in any dwelling units, consistent with SCAQMD Rule 445.*

Conclusion

With the incorporation of MMs **AQ-1** through **AQ-12**, the future development of the proposed Project would have a less than significant potential to result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

- c. *Less Than Significant Impact* – The SCAQMD has developed analysis parameters to evaluate ambient air quality on a local level in addition to the more regional emissions-based thresholds of significance. These analysis elements are called Localized Significance Thresholds (LSTs).<sup>2</sup> LSTs were developed in response to Governing Board's Environmental Justice Enhancement Initiative 1-4 and the LST methodology was provisionally adopted in October 2003 and formally approved by SCAQMD's Mobile Source Committee in February 2005.

Use of an LST analysis for a project is optional. For the proposed Project, the primary source of possible LST impact would be during construction. LSTs are applicable for a sensitive receptor where it is possible that an individual could remain for 24 hours such as a residence, hospital or convalescent facility.

LSTs are only applicable to the following criteria pollutants: oxides of nitrogen (NO<sub>x</sub>), carbon monoxide (CO), and particulate matter (PM-10 and PM-2.5). LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor.

LST screening tables are available for 25, 50, 100, 200- and 500-meter source-receptor distances. The closest distance of the project site boundary to the nearest neighboring residential structure is at the northern boundary with the neighboring subdivision, which is a distance of about 35 feet. Thus, the 25-meter distance was used.

The SCAQMD has issued guidance on applying CalEEMod to LSTs. LST pollutant screening level concentration data is currently published for 1, 2- and 5-acre sites for varying distances. For this Project, the thresholds for a 5-acre site were applied.<sup>3</sup>

The following construction thresholds and future emissions in Table III-8 are therefore determined (pounds per day):

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<sup>2</sup> <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf?sfvrsn=2>

<sup>3</sup> <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=2>

**Table III-8  
LST AND PROJECT EMISSIONS (POUNDS/DAY)  
CONSTRUCTION**

5.0 acre/25 meters Hemet/San Jacinto Valley	CO	NOx	PM-10	PM-2.5
<b>LST Threshold</b>	1,965	371	13	8
<b>Max On-Site Emissions</b>				
<b>2023</b>	39.6	50.5	9.71	5.18
<b>2024</b>	13.1	11.2	0.89	0.56
<b>2025</b>	1.14	0.88	0.09	0.04
<b>Exceeds LST Threshold?</b>	NO	NO	NO	NO

The following operational thresholds and future emissions in Table III-9 are therefore determined (pounds per day):

**Table III-9  
LST AND PROJECT EMISSIONS (POUNDS/DAY)  
OPERATIONS**

5.0 acre/25 meters Hemet/San Jacinto Valley	CO	NOx	PM-10	PM-2.5
<b>LST Threshold</b>	1,965	371	4	2
<b>Max On-Site Emissions</b>				
<b>Operations</b>	9.52	2.63	0.17	0.16
<b>Exceeds LST Threshold?</b>	NO	NO	NO	NO

LSTs were compared to the maximum daily construction activities. As seen in Table III-8, even if all activities were performed simultaneously, emissions meet the LST for construction thresholds. Furthermore, as seen on Table III-9, operational LST impacts are less than significant.

Construction equipment exhaust contains carcinogenic compounds within the diesel exhaust particulates. The toxicity of diesel exhaust is evaluated relative to a 24-hour per day, 365 days per year, 70-year lifetime exposure. The SCAQMD does not generally require the analysis of construction-related diesel emissions relative to health risk due to the short period for which the majority of diesel exhaust would occur. Health risk analyses are typically assessed over a 9-, 30-, or 70-year timeframe and not over a relatively brief construction period due to the lack of health risk associated with such a brief exposure. No analysis was required for the proposed Project.

Given that the proposed Project does not exceed LST thresholds, the future development of the proposed Project would have a less than significant potential to expose sensitive receptors to substantial pollutant concentrations would occur. No mitigation is required.

- d. *Less Than Significant Impact* – The potential for the generation of objectionable odors has also been considered in relation to the proposed Project. Land uses generally associated with odor complaints include: Agricultural uses (livestock and farming); Wastewater treatment plants; Food processing plants; Chemical plants; Composting operations; Refineries; Landfills; Dairies; and, Fiberglass molding facilities. The proposed Project would result in residential development. The project site does not contain land uses typically associated with emitting objectionable odors. Potential odor sources associated with the proposed Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during future construction activities and the temporary storage of typical solid waste (refuse) associated with long-term operational use of the

site. Standard construction requirements would minimize odor impacts from future construction activities. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction and is thus considered less than significant. It is expected that future project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the City of San Jacinto solid waste regulations. The proposed Project would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public odor nuisances. Therefore, odors associated with the future construction and occupation of the proposed Project would be less than significant and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>IV. BIOLOGICAL RESOURCES:</b> 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION:** A biological resources assessment (BRA), Jurisdictional Delineation (JD), and multiple-species habitat conservation plan (MSHCP) consistency analysis has been prepared for the proposed Project titled “Biological Resources Assessment, Jurisdictional Delineation and MSHCP Consistency Analysis” prepared by Jacobs Engineering Group, Inc. dated August 2022 (Appendix 2). The following summary information has been abstracted from this report.

Project Description

The proposed Project includes the subdivision of one 18.5-acre parcel via a tentative tract map (TTM 38339), the future construction of 76 single-family detached residences, internal roadways, and a detention basin, as shown in Figure 3, the Site Plan. Impacts to Biological Resources from construction and operation of the proposed Project, as described herein, are presented below.

Summary of Findings

*Introduction*

The purpose of the BRA is to address potential effects of the project to designated Critical Habitats and/or any species currently listed or formally proposed for listing as endangered or threatened under the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA) or species designated

as sensitive by the California Department of Fish and Wildlife (CDFW [formerly California Department of Fish and Game]) and/or the California Native Plant Society (CNPS). As part of the BRA, the project site was also assessed to determine the extent (if any) of State and federal jurisdictional waters (i.e. Waters of the U.S. and Waters of the State) within the project area potentially subject to regulation by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA), Regional Water Quality Control Board (RWQCB) under Section 401 of the CWA and Porter Cologne Water Quality Control Act, and CDFW under Section 1602 of the California Fish and Game Code (FGC), respectively. In addition to the BRA, Jacobs prepared a Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Consistency Analysis, which is included in the scope of this report. As part of the City of San Jacinto's approval process, a Western Riverside County MSCHP compliance report is required. Another purpose of the BRA is to assess whether the proposed Project is consistent with the conditions and provisions identified in the MSCHP.

#### *Environmental Setting*

The project area is situated in the San Jacinto Valley, between the Santa Ana Mountains to the west/southwest and the San Jacinto Mountains the east/northeast. The topography of the project area consists of flat urban landscape, comprised of vacant land and surrounding residential and commercial development. The elevation of the project site is approximately 1,400 feet above mean sea level (amsl).

Hydrologically, the project area is situated within the Gilman Hot Springs Hydrologic Sub-Area (HSA 802.21). The Gilman Hot Springs HSA comprises a 193,598-acre drainage area, within the larger San Jacinto Valley Watershed (HUC 18070202). The San Jacinto River is the major hydrogeomorphic feature within the San Jacinto Watershed.

Soils within the project site are comprised of San Emigdio fine sandy loam and Emigdio fine sandy loam deep both strongly saline-alkali 2 to 5 percent slopes (eroded). The San Emigdio series consists of very deep, well drained soils that formed in dominantly sedimentary alluvium. San Emigdio soils are on fans and floodplains and have slopes of 0 to 15 percent. The mean annual precipitation is about 15 inches and the mean annual air temperature is about 62 degrees F.

The City of San Jacinto consists of a mix of urban landscapes and isolated patches of undeveloped, grassland, and coastal sage scrub habitats. The project site is entirely within an urban landscape that no longer supports any native habitat and consists of a rural residential developed area with non-native landscaped vegetation and livestock outbuildings. The majority of the property cleared/graded vacant and being used by goat herds. The property is predominantly surrounded by single family residential with the exception of a parcel of vacant land to the southwest which is also being used by goats.

The project site is completely disturbed and no longer supports any native habitat. Dense vegetation cover within the undisturbed portion of the project site is dominated by non-native, invasive species, consisting primarily of tocalote (*Centaurea melitensis*), short podded mustard (*Hirschfeldia incana*), and brome grasses (*Bromus spp.*).

The predominant wildlife species observed or otherwise detected during the reconnaissance-level survey were birds, including red-winged blackbird (*Agelaius phoeniceus*), killdeer (*Charadrius vociferus*), barn swallow (*Hirundo rustica*), house sparrow (*Passer domesticus*), Common Raven (*Corvus corax*), Cassin's kingbird (*Tyrannus vociferans*), and mourning dove (*Zenaida macroura*). Other species observed include California ground squirrel (*Otospermophilus beecheyi*), cotton-tail rabbit (*Sylvilagus auduboni*), and domestic goats (*Capra sp.*).

#### Conclusion

A reconnaissance level BRA survey of the project site was conducted by Jacobs in April of 2022 to identify potential habitat for special status wildlife within the project area. No sensitive species were observed within the project area during the reconnaissance-level field survey and due to the environmental conditions on site, none are expected to occur. The project site is completely disturbed and no longer supports any native

habitat (see attached Site Photos). The project site consists of a dwelling and out buildings and cleared/graded vacant area surrounded by urban landscape consisting of residential development in all directions, with some vacant land to the south (Figure 3). Existing disturbances within the project site include periodic disking, previous dumping of rock and dirt material, and litter. Due to the environmental conditions on site and the adjacent disturbances, the project site is likely not suitable to support any of the listed species that have been documented in the project vicinity (within approximately 3 miles). Furthermore, the project site does not contain any sensitive habitat, including any USFWS designated Critical Habitat for any federally listed species, and the proposed Project will not result in any loss or adverse modification of Critical Habitat.

#### *Burrowing Owl*

A burrowing owl (BUOW) habitat suitability assessment was conducted by Jacobs in April 19, 2022 that included 100 percent visual coverage of any potentially suitable BUOW habitat within the project area. The result of the survey was that no evidence of BUOW was found in the survey area and much of the project site is not suitable to support this species. No BUOW individuals or sign including castings, feathers or whitewash were observed and BUOW are considered absent from the project area at the time of survey. Although the proposed Project is not likely to adversely affect this species, there is still a low potential for the project site to become occupied by BUOW between the time the survey was conducted and the commencement of future site disturbance. Therefore, the following precautionary avoidance measures are recommended to ensure the proposed Project does not result in any impacts to BUOW:

Pre-construction surveys for BUOW should be conducted no more than 3 days prior to commencement of ground disturbance to verify that BUOW remain absent from the project area.

The BUOW is a state and federal species of special concern (SSC) and is also protected under the Migratory Bird Treaty Act (MBTA) and by state law under the California FGC (FGC #3513 & #3503.5). In general, impacts to BUOW can be avoided by avoiding occupied burrows and conducting work outside of their nesting season (peak BUOW breeding season is identified as April 15th to August 15th). However, if all work cannot be conducted outside of nesting season and occupied burrows cannot be avoided, a project specific BUOW protection and/or passive relocation plan can be prepared to determine suitable buffers and/or artificial burrow construction locations to minimize impacts to this species. Regardless of survey results and conclusions given herein, BUOW are protected by applicable state and federal laws. As such, if a BUOW is found on-site at the time of construction, all activities likely to affect the animal(s) should cease immediately and regulatory agencies should be contacted to determine appropriate management actions. Importantly, nothing given in this report is intended to authorize any form of disturbance to BUOW. Such authorization must come from the appropriate regulatory agencies, including CDFW and/or United States Fish and Wildlife Service (USFWS).

#### *Nesting Birds*

The habitat within the project area is suitable to support nesting birds, including open ground nesting species. Most native bird species are protected from unlawful take by the MBTA. In December 2017, the Department of the Interior (DOI) issued a memorandum concluding that the MBTA's prohibitions on take apply "[...] only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs." Then in April 2018, the USFWS issued a guidance memorandum that further clarified that the take of migratory birds or their active nests (i.e., with eggs or young) that is incidental to, and not the purpose of, an otherwise lawful activity does not constitute a violation of the MBTA. The State of California provides additional protection for native bird species and their nests in the FGC.

In general, impacts to all bird species (common and special status) can be avoided by conducting work outside of the nesting season, which is generally February 1<sup>st</sup> through August 31<sup>st</sup>. However, if all work cannot be conducted outside of nesting season, mitigation is required (MM **BIO-3**) below.

#### *Jurisdictional Waters*

In addition to the BRA and focused botanical field survey, Jacobs also assessed the project site for the presence of any state and/or federal jurisdictional waters. The result of the jurisdictional waters assessment



is that there are no wetland or non-wetland waters of the United States (WOTUS) or waters of the State potentially subject to regulation by the USACE under Section 404 of the CWA, the RWQCB under Section 401 of the CWA and/or Porter Cologne Water Quality Control Act, or the CDFW under Section 1602 of the California FGC, respectively. Therefore, the project will not impact any jurisdictional waters and no state or federal jurisdictional waters permitting will be required.

#### *MSHCP Consistency Analysis*

The proposed project is consistent with the MSHCP policies found in Sections 3 and 6 of the MSHCP, which include Riparian/Riverine Areas/Vernal Pools, Narrow Endemic Plant Species, Criteria Area Species, Urban/Wildlands Interface, and Surveys for Special Status Species (BUOW). The project site is within the Western Riverside County MSHCP boundary but is not within or adjacent any MSHCP Criteria Cells or Cell Groups. Therefore, implementation of the MSHCP Section 6.1.4 Guidelines Pertaining to the Urban/Wildlands Interface is not required. The future developer should be prepared to pay the MSHCP fees and restrict all future development activities to existing right-of-way and/or other areas outside of Conserved Lands. No conservation or avoidance measures are expected, and thus, consistency with the San Jacinto Area Plan conservation criteria and overall conservation goals and objectives set forth in the MSHCP is anticipated.

#### Impact Analysis

- a. *Less Than Significant With Mitigation Incorporated* – As discussed above, no special status wildlife species, including any state and/or federally listed threatened or endangered species, were observed or otherwise detected within the project area during the reconnaissance-level assessment survey. Of the 41 sensitive species (12 plant species, 29 animal species) documented within the within the San Jacinto USGS 7.5-Minute Series Quadrangle, 15 are state and/or federally listed as threatened or endangered species. However, project site is entirely within an urban landscape that no longer supports any native habitat and consists of a rural residential developed area with non-native landscaped vegetation and livestock outbuildings. As a result, the habitat requirements for the listed species documented within the within the San Jacinto USGS 7.5-Minute Series Quadrangle are absent from the project area. Although not a state or federally listed as threatened or endangered species, BUOW are considered a state and federal SSC and this species is protected by international treaty under the Migratory Bird Treaty Act of 1918 and by State law under the California FGC (FGC #3513 & #3503.5). Additionally, the project site is located within an MSHCP BUOW Survey Area and this species has been documented in the project vicinity (approximately 3 miles).

The result of the survey was that BUOW have not been documented within the project site. According to the literature review, the nearest documented BUOW occurrence (2007) is approximately 0.7 miles east of the project site. The BUOW habitat assessment survey was structured, in part, to detect BUOW. The survey consisted of walking transects spaced approximately 10 meters (30 feet) apart to provide 100 percent visual coverage of the project site, including the adjacent earthen flood control channel to the north. The result of the survey was that no evidence of BUOW was found in the survey area and much of the project site is not suitable to support this species. BUOW prefer short or sparse vegetation and the undisturbed portion of the project site consists mostly of dense ruderal vegetation, with a shrub cover >90 percent. No BUOW individuals or sign including castings, feathers or whitewash were observed within the project site during the habitat assessment survey. Furthermore, no burrow surrogates or appropriately sized fossorial mammal dens were observed within the project site. Therefore, BUOW are considered absent from the project area at the time of survey and the proposed Project is not likely to adversely affect this species. Although the proposed Project is not likely to adversely affect this species, there is still a low potential for the project site to become occupied by BUOW between the time the survey was conducted and the commencement of Project-related site disturbance. Therefore, the following avoidance measures shall be implemented to ensure the proposed Project does not result in any impacts to BUOW:

**BIO-1 Pre-construction surveys for BUOW should be conducted no more than 3 days prior to commencement of Project-related ground disturbance to verify that BUOW remain absent from the project area.**

The BUOW is a state and federal SSC and is also protected under the MBTA and by state law under the California FGC (FGC #3513 & #3503.5). In general, impacts to BUOW can be avoided by avoiding occupied burrows and conducting work outside of their nesting season (peak BUOW breeding season is identified as April 15th to August 15th). However, if all work cannot be conducted outside of nesting season and occupied burrows cannot be avoided, the following measure shall be required:

**BIO-2 If burrowing owl are discovered within the project footprint during construction activities, a site-specific BUOW protection and/or passive relocation plan shall be prepared to determine suitable buffers and/or artificial burrow construction locations to minimize impacts to this species. If a BUOW is found on-site at the time of construction, all activities likely to affect the animal(s) shall cease immediately and regulatory agencies shall be contacted to determine appropriate management actions.**

This measure will ensure that any burrowing owl that may come to inhabit the site between the date of the BRA survey and the start of construction. Given that no other State- and/or federally-listed threatened or endangered species, or other sensitive species are anticipated to occur within the project site based on the results of the BRA, the proposed Project would have a less than significant potential to have a substantial adverse effect on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS with implementation of mitigation measures (MMs) **BIO-1** and **BIO-2**.

- b. *Less Than Significant Impact* –The approximately 18.5-acre site is located in the City of San Jacinto. The project site is occupied by an existing single-family residence with a backhouse structure, and a barn at the southwestern corner of the property, with the middle of the westernmost portion of the property containing dilapidated two wooden barn structures, each presently without a roof. The remainder of the site—the middle and easternmost portions of the site—serves as grazing land, which currently supports a heard of goats. The project site does not contain any sensitive habitats, nor does it contain any USFWS designated Critical Habitat<sup>4</sup> for any federally listed species. The nearest Critical Habitat unit is approximately 1 mile to the east of the project site for Spreading navarretia (*Navarretia fossalis*) and Thread-leaved brodiaea (*Brodiaea filifolia*); and 3 miles south of the project site. This Critical Habitat unit is part of the Western Riverside County MSHCP unit (Unit 10) of USFWS designated Critical Habitat for the federally listed as threatened coastal California gnatcatcher (*Polioptila californica californica*). However, no portion of the project site is within or adjacent this Critical Habitat unit, or any other Critical Habitat. According to the CNDDDB, the nearest sensitive habitat is Southern Cottonwood Willow Riparian Forest located approximately 2.6 miles southeast of the project site. Therefore, the proposed Project will not result in any loss or adverse modification of USFWS designated Critical Habitat, or any other special status habitats. Based on the field survey conducted by Jacobs, and the information contained in Appendix 2, the proposed Project has no potential to impact riparian habitat or other sensitive communities as there are none on the project site. No mitigation is required.
- c. *No Impact* – Jacobs assessed the project site for the presence of any state and/or federal jurisdictional waters. The result of the jurisdictional waters assessment is that there are no wetlands within the project site. Within the project site, there are no wetland or non-wetland WOTUS or waters of the State potentially subject to regulation by the USACE under Section 404 of the CWA, the

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<sup>4</sup> Critical habitat is defined by the USFWS as: *The specific areas within the geographic area, occupied by the species at the time it was listed, that contain the physical or biological features that are essential to the conservation of endangered and threatened species and that may need special management or protection.*  
<https://www.fws.gov/sites/default/files/documents/critical-habitat-fact-sheet.pdf>

RWQCB under Section 401 of the CWA and/or Porter Cologne Water Quality Control Act, or the CDFW under Section 1602 of the California FGC, respectively. Therefore, the proposed Project will not impact any jurisdictional waters and no state or federal jurisdictional waters permitting will be required, and ultimately, the proposed Project would have no potential to have 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. No mitigation is required.

- d. *Less Than Significant With Mitigation Incorporated* – As indicated previously, the site and environs are located adjacent to some vacant land that is surrounded by urban development. Given the results of the BRA, the project site does not appear to support wildlife movement. The project site is bound to the south in part by Oostdam Drive, which is a paved roadway that traverses about half of the project's southern boundary, to the north by single-family residences, to the east by Ivy Crest Drive, and by South Kirby Street to the west, which would minimize wildlife movement in the project area. When future development proceeds, the site could contain nesting birds, which could be adversely impacted. Most native bird species are protected from unlawful take by the MBTA. However, the USFWS issued a guidance memorandum that further clarified that the take of migratory birds or their active nests (i.e., with eggs or young) that is incidental to, and not the purpose of, an otherwise lawful activity does not constitute a violation of the MBTA. The State of California provides additional protection for native bird species and their nests in the FGC. Given that suitable habitat for nesting birds has been identified within the project site, the following mitigation measure is required to minimize impacts from the proposed Project to a less than significant level:

**BIO-3** *The State of California prohibits the “take” of active bird nests. To avoid an illegal take of active bird nests, any grubbing, brushing or tree removal should be conducted outside of the State identified nesting season (typically February 1 through September 1). Alternatively, nesting bird surveys shall be conducted by a qualified avian biologist no more than three (3) days prior to vegetation clearing or ground disturbance activities. Preconstruction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the preconstruction nesting bird surveys, a Nesting Bird Plan (NBP) shall be prepared and implemented by the qualified avian biologist. At a minimum, the NBP shall include guidelines for addressing active nests, establishing buffers, ongoing monitoring, establishment of avoidance and minimization measures, and reporting. The size and location of all buffer zones, if required, shall be based on the nesting species, individual/pair's behavior, nesting stage, nest location, its sensitivity to disturbance, and intensity and duration of the disturbance activity. To avoid impacts to nesting birds, any grubbing or vegetation removal should occur outside peak breeding season (typically February 1 through September 1).*

Thus, with implementation of the above measure, any effects on wildlife movement or the use of wildlife nursery sites can be reduced to a less than significant impact.

- e. *Less Than Significant Impact* – The project site is completely disturbed and no longer supports any native habitat. Dense vegetation cover within the undisturbed portion of the project site is dominated by non-native, invasive species, consisting primarily of tocalote (*Centaurea melitensis*), short podded mustard (*Hirschfeldia incana*), and brome grasses (*Bromus spp.*). Future development of the proposed Project would have a less than significant potential to conflict with any local policies or ordinances protecting biological resources as no local policies or ordinances would apply to the development of this site. Though the project site contains approximately twenty trees on the westernmost quarter of the site as shown on Photos 1 and 2, located in the Project Description, the City of San Jacinto does not have a tree preservation ordinance that would apply to the removal of

these trees in support of the ultimate development of the proposed Project. Impacts to biological resources have been addressed above under issues IV(a-d). Therefore, the potential for the proposed Project to conflict with local policies or ordinances pertaining to biological resources would be considered less than significant.

- f. *Less Than Significant With Mitigation Incorporated* – The proposed Project is consistent with the MSHCP policies found in Sections 3 and 6 of the MSHCP, which include Riparian/Riverine Areas/Vernal Pools, Narrow Endemic Plant Species, Criteria Area Species, Urban/Wildlands Interface, and Surveys for Special Status Species (BUOW). The project site is within the Western Riverside County MSHCP boundary but is not within or adjacent to any MSHCP Criteria Cells or Cell Groups. Therefore, implementation of the MSHCP Section 6.1.4 Guidelines Pertaining to the Urban/Wildlands Interface is not required. The future developer must be prepared to pay the MSHCP fees and restrict all future development activities to existing right-of-way and/or other areas outside of Conserved Lands. No conservation or avoidance measures are expected, and the future development of the project site would be consistent with the San Jacinto Area Plan conservation criteria and overall conservation goals and objectives set forth in the MSHCP. Therefore, with implementation of MMs **BIO-1** and **BIO-2**, the proposed Project will not have any adverse impact or conflict with the MSHCP. No further mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>V. CULTURAL RESOURCES:</b> Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION:** A cultural resources report has been prepared to evaluate the potential for cultural resources to occur within the project area of potential effect titled “Phase I Historical/Archaeological Resources Survey, Tentative Tract Map Number 38339, Assessor’s Parcel Number 436-490-011, 393 South Kirby Street” prepared by CRM TECH dated August 9, 2022 (Appendix 3). The following summary information has been abstracted from this report. It provides an overview and findings regarding the cultural resources found within the project area.

Project Description

The proposed Project includes the subdivision of one 18.5-acre parcel via a tentative tract map (TTM 38339), the future construction of 76 single-family detached residences, internal roadways, and a detention basin, as shown in Figure 3, the Site Plan. Impacts to Cultural Resources from construction and operation of the proposed Project, as described herein, are presented below.

Summary of Findings

Between May and July 2022, CRM TECH performed a cultural resources study on approximately 19 acres of partially developed land in the City of San Jacinto, Riverside County, California. The purpose of the Phase I Historical/Archaeological Resources Survey Report is to provide the City with the necessary information and analysis to determine whether the proposed Project would cause substantial adverse changes to any “historical resources,” as defined by CEQA, that may exist in or around the project area. In order to identify such resources, CRM TECH initiated a historical/archaeological resources records search and a Native American Sacred Lands File search, pursued historical background research, and carried out an intensive-level field survey.

As a result of these research procedures, a ranch complex constructed between circa 1938 and 1978, including a residence at 393 South Kirby Street, was recorded within the project area and designated temporarily as Site 3885-1H, pending the assignment of an official identification number once the California Historical Resources Information System resumes normal operation. Despite its historical age, the ranch complex does not appear to meet any of the criteria for listing in the California Register of Historical Resources, and therefore would not meet the definition of a “historic resource” as defined by the California Register of Historical Resources. As a result, the ranch complex does not constitute a “historical resource” under CEQA provisions.

No other potential “historical resources” were encountered within the project area throughout the course of this study. However, the State of California Native American Heritage Committee has reported the presence of unspecified Native American cultural resource(s) in the project vicinity and referred further inquiry to nearby tribal organizations. According to current CEQA guidelines, the identification of potential “tribal cultural resources” is beyond the scope of this study and needs to be addressed through government-to-government consultations between the City of San Jacinto and the pertinent Native American groups

pursuant to Assembly Bill (AB) 52. This is discussed further under Subsection XVIII, Tribal Cultural Resources.

Based on these findings, CRM TECH recommends to the City of San Jacinto a conclusion of *No Impact* on cultural resources, with the input and mitigation provided by the Soboba Band of Luiseño Indians as a result of the AB 52 consultation process for this Project. No other cultural resources investigation is recommended for this Project unless development plans undergo such changes as to include areas not covered by the Phase I Historical/Archaeological Resources Survey. However, if buried cultural materials are encountered during any earth-moving operations associated with future development, all work within 50 feet of the discovery should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds. Human remains unearthed during the construction of the proposed Project will need to be treated in accordance with Health and Safety Code §7050.5 and Public Resources Code §5097.98.

### Impact Analysis

a&b. *Less Than Significant With Mitigation Incorporated* – CEQA establishes that "a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment" (PRC §21084.1). "Substantial adverse change," according to PRC §5020.1(q), "means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired."

The former ranch complex at 393 South Kirby Street (Site 3885-1H) is the only potential "historical resource" identified in the project area that requires proper evaluation. As a relative common property in the San Jacinto area from the late historic period, however, the ranch complex does not appear to meet any of the criteria for listing in the California Register of Historical Resources. More specifically, CEQA guidelines state that the term "historical resources" applies to any such resources listed in or determined to be eligible for listing in the California Register of Historical Resources, included in a local register of historical resources, or determined to be historically significant by the Lead Agency. A resource may be listed in the California Register if it meets any of the following criteria:

- 1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- 2) Is associated with the lives of persons important in our past.
- 3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
- 4) Has yielded, or may be likely to yield, information important in prehistory or history. (PRC §5024.1(c)).

Due to the lack of specific documentation, the identities of the property owners during the historic period remain largely unknown, and no historical events of recognized significance have been identified in association with the ranch and its various components. In any event, as the earlier building have all been significantly altered, with additional structures built in the 1960s-1970s, the property as a whole does not retain sufficient historic integrity to its original period of construction.

Neither the buildings and structures nor the ranch as a whole represent important examples of any particular style, construction methods, or property type. In its current condition as a collection of compromised historic-period buildings of common design and construction practice, the property does not exhibit a high level of artistic or aesthetic merit, nor does it hold the potential for any important historical/archaeological data for the study of rural development in San Jacinto during the early and mid-20th century. Based on these considerations, the present study concludes that Site 3885-1H does not appear to qualify as a "historical resource" under CEQA provisions. Thus, no "historical resources," as defined by CEQA and associated regulations, have been identified within the project area.

Per the above discussion and definition, no historical resources, archaeological sites or isolates were recorded within the project site boundaries; thus, none of them requires further consideration as part of the proposed Project. In light of this information and pursuant to PRC §21084.1, the following conclusions have been reached for the proposed Project:

- The proposed Project as currently proposed will not cause a substantial adverse change to any known “historical resources.”
- A tentative conclusion of *No Impact* on cultural resources appears to be appropriate for this proposed Project, with the input and mitigation provided by the Soboba Band of Luiseño Indians as a result of the AB 52 consultation process, which has ensured proper identification of potential “tribal cultural resources.”
- No other cultural resources investigation will be necessary for the proposed Project unless development plans undergo such changes as to include areas not covered by the study prepared by CRM TECH.
- If buried cultural materials are discovered inadvertently during any future earth-moving operations associated with the proposed Project, all work within 50 feet of the discovery should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.

However, if any earth moving activities are required, the following mitigation measure ensures that impacts to any buried cultural materials that may be discovered during earth moving activities are appropriately reviewed and assessed:

***CUL-1 In the event that cultural resources are discovered during future project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find. Work on the other portions of the project outside of the buffered area may continue during this assessment period. The archaeological professional shall assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act.***

With the incorporation of MM **CUL-1**, as well as the mitigation identified under Tribal Cultural Resources in Section XVIII, the potential for impacts to cultural resources will be reduced to a less than significant level.

- c. *Less Than Significant With Mitigation Incorporated* – As noted in the discussion above, no available information suggests that human remains may occur within the project site and the potential for such an occurrence is considered low. Human remains discovered during future construction or operation activities would need to be treated in accordance with the provisions of HSC §7050.5 and PRC §5097.98, which is mandatory. State law (Section 7050.5 of the Health and Safety Code) as well as local laws requires that the Police Department, County Sheriff and Coroner’s Office receive notification if human remains are encountered. Compliance with these laws is considered adequate mitigation; however, the Soboba Band of Luiseño Indians requested that the following mitigation measure be incorporated due to the location of the project site within the Tribe’s ancestral territory:

***CUL-2 If human remains, grave goods, ceremonial items, and/or sacred items are encountered, work will immediately halt within the immediate area and any nearby area reasonably suspected to overlie adjacent remains, and a 100-foot environmentally sensitive area (ESA) boundary will be established to protect the find from impact, and the Soboba Band of Luiseno Indians and the City of San Jacinto Planning Division shall be immediately notified.***

***In accordance with Section 7050.5 of the California Health and Safety Code and State CEQA Guidelines Section 15064.5(e), if human remains are found, the Riverside County Coroner’s office shall be notified by the permittee within 24***

***hours of the discovery. County Coroner's determination regarding the origin of the remains and any required notification is described in Section 7050.5 of the California Health and Safety Code and State CEQA Guidelines Section 15064.5(e). No further excavation or disturbance of the potential human remains, or any area reasonably suspected to overlie additional remains, shall occur until a determination has been made, any notifications have been sent and received, and the Riverside County Coroner's Office has cleared the site.***

With the implementation of the above mitigation measure, the proposed Project would have a less than significant potential to disturb any human remains, including those interred outside of formal cemeteries.



	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>VI. ENERGY:</b> Would the project:				
a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION:** The following analysis is based on calculations prepared utilizing CalEEMod. CalEEMod was developed by the SCAQMD to provide a model by which to calculate both construction emissions and operational emissions from a variety of land use projects. It calculates both the daily maximum and annual average emissions for criteria pollutants as well as total or annual greenhouse gas (GHG) emissions, which was then used to analyze the energy requirements for the future development of the proposed subdivision. These emissions calculations are provided as Appendix 1 to this Initial Study.

Impact Analysis

- a. *Less Than Significant With Mitigation Incorporated* – The proposed Project consists of the subdivision of an 18.5-acre parcel into 76 single-family residential lots, with an additional lettered lot that would enable the construction of a water quality bioretention basin. The proposed Project and its future build out has been analyzed in the following sections.

Energy consumption encompasses many different activities. For example, construction can include the following activities: delivery of equipment and material to a site from some location (note it also requires energy to manufacture the equipment and material, such as harvesting, cutting and delivering wood from its source); employee trips to work, possibly offsite for lunch (or a visit by a catering truck), travel home, and occasionally leaving a site for an appointment or checking another job; use of equipment onsite (electric or fuel); and sometimes demolition and disposal of construction waste. During future construction activities, equipment that is California Air Resources Board (CARB) approved will be utilized, minimizing emissions generated and electricity required to the extent feasible (as outlined under Section III, Air Quality, above). As stated in Section III, Air Quality, the future construction of the proposed Project would require mitigation measures to minimize emissions impacts from construction equipment use (refer to MM **AQ-2**). This mitigation measure applies to energy resources as they require equipment not in use for 5 minutes to be turned off, and for electrical construction equipment to be used where available. Furthermore, compliance with California Air Resources Board (CARB) Rule 2485 (13 CCR, Chapter 10 Section 2485), Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling is required. The proposed Project would comply with existing regulations requiring recycling of construction debris from demolition of the onsite structures. Furthermore, the contract with demolition and construction contractor must include a requirement that all materials that can be recycled should be salvaged, thus further reducing a wasteful consumption of energy resources (refer to MM **AQ-6**). These measures would prevent a significant impact during construction due to wasteful, inefficient, or unnecessary consumption of energy resources, and would also conform to the CARB regulations regarding energy efficiency. These requirements are consistent with State and regional rules and regulations.

Additionally, the future use of construction equipment would be regulated per the In-Use Off-Road Diesel Vehicle Regulation administered by CARB. The In-Use Off-Road Diesel Vehicle Regulation is intended to reduce emissions from in-use, off-road, heavy-duty diesel vehicles in California by imposing limits on idling, requiring all vehicles to be reported to CARB, restricting the addition of older vehicles into fleets, and requiring fleets to reduce emissions by retiring, replacing, or repowering older engines, or installing exhaust retrofits. Compliance with this regulation would also ensure that off-

road diesel-powered vehicles would consume less fuel and more efficiently combust fuel. In addition to off-road regulations, the California Environmental Protection Agency (EPA) establishes stringent on-road emissions standards for heavy-duty engines, though enforcing emissions standards that promote fuel efficiency. These standards are continually evolving to result in more effective technology and more stringent standards, which reduce reliance on fossil fuels and thus reduce emissions. The future development of the proposed Project would be required to comply with Title 24, Part 6, of the California Code of Regulations (the CalGreen Code), which would help to ensure that energy efficient equipment is utilized. As the proposed Project would be required to comply with these standards and regulations, under the construction scenario outlined in the Project Description, the future construction activities associated with the proposed Project would not result in a significant increase in demand on regional energy supplies or require additional capacity from local or regional energy suppliers.

The proposed Project will be supplied with electricity by Southern California Edison (SCE) through the power distribution system located adjacent to the site. SCE will be able to supply sufficient electricity. Natural gas would be supplied by Southern California Gas (SoCalGas). Both SCE and SoCalGas would review the proposed connections to their systems. The project site will connect to the existing natural gas line adjacent to the project site. Energy use associated with operation of the future development would be typical of a single-family residential development, including that solar must be installed as part of the proposed Project as required by the 2019 California Energy Code, thus further reducing the demand for electricity that would be obtained from SCE's electricity mix as a result of energy demanded by future Project occupancy. Additionally, the Energy Star-rated appliances, and other energy efficient systems, including the HVAC systems would be utilized. The 2019 CalGreen Code also requires water efficient landscaping and irrigation, to which proposed Project will adhere.

Other energy demanding activities associated with Project occupancy would include landscape maintenance, consumption of fuel from non-electric vehicle trips, consumption of electricity from electric-vehicle trips, etc. The developer would not have control over what types of vehicles visit the residence over the life of the Project, but the trend for greater fuel efficiency in on-road vehicles that has occurred as a result of State and Federal Mandates suggest that long-term transportation fuel consumption from Project occupancy would steadily decline over time, thus ensuring that vehicle fuel consumption is not wasteful or inefficient.

The proposed Project must be constructed in conformance with a variety of existing energy efficiency regulatory requirements or guidelines including:

- Compliance with Title Chapter 6 of the California Code of Regulations with respect to energy efficiency standards for new building construction.
- Both federally and non-federally regulated appliances shall abide by the efficiency standards of Title 20, Section 1601 et seq. of the California Code of Regulations.
- Compliance with the 2019 California Green Building Standards Code, AKA the CALGreen Code (Title 24, Part 11). The purpose of the CALGreen Code is to improve public health, safety, and general welfare by enhancing the design and construction of building through the use of building concepts encouraging sustainable construction practices.
- The provisions of the CALGreen code apply to the planning, design, operation, construction, use, and occupancy of every newly construction building.
- Compliance with the Building Energy Efficiency Standards (CBSC) would ensure that the building energy use associated with the proposed Project would not be wasteful or unnecessary.
- Compliance with Indoor Water use consumption reduced through the maximum fixture water use rates.
- Compliance with diversion of construction and demolition materials from landfills.
- Compliance with AQMD Mandatory use of low-pollutant emitting finish materials.
- Compliance with AQMD Rules 431.1 and 431.2 to reduce the release of undesirable emissions.
- Compliance with diesel exhaust emissions from diesel vehicles and off-road diesel vehicle/equipment operations.

Compliance with these regulatory requirements for operational energy use and construction energy use would not be wasteful or unnecessary use of energy. Further, SCE is presently in compliance with State renewable energy supply requirements and SCE, in addition to energy generated by solar on site, will supply electricity to the Project. Under the future operational scenario for the proposed Project, no wasteful, inefficient, or unnecessary energy consumption that could result in a significant adverse impact to energy issues based on compliance with the referenced laws, regulations and guidelines would be anticipated to occur. No mitigation beyond those identified above are required.

- b. *Less Than Significant Impact* – The Project’s consistency with the applicable state and local plans is discussed below.

*Consistency with Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)*

Transportation and access to the project site is provided by the local and regional roadway systems. The proposed Project would not interfere with, nor otherwise obstruct intermodal transportation plans or projects that may be realized pursuant to the ISTEA because Southern California Association of Governments is not planning for intermodal facilities on or through the project site.

*Consistency with the Transportation Equity Act for the 21st Century (TEA-21)*

The project site is located near major transportation corridors with proximate access to the Interstate freeway system. The project site facilitates access and acts to reduce vehicle miles traveled, takes advantage of existing infrastructure systems, and promotes land use compatibilities through collocation of similar uses. The proposed Project supports the strong planning processes emphasized under TEA-21. The proposed Project is therefore consistent with, and would not otherwise interfere with, nor obstruct implementation of TEA-21.

*Consistency with Integrated Energy Policy Report (IEPR)*

Electricity would be provided to the project site by SCE. SCE’s Clean Power and Electrification Pathway white paper builds on existing state programs and policies. As such, the proposed Project is consistent with, and would not otherwise interfere with, nor obstruct implementation the goals presented in the 2020 IEPR.

*Consistency with State of California Energy Plan*

The project site is located proximate to transportation corridors with access to the Interstate freeway system. The project site is infill and facilitates access and takes advantage of existing infrastructure systems. The proposed Project therefore supports urban design and planning processes identified under the State of California Energy Plan, is consistent with, and would not otherwise interfere with, nor obstruct implementation of the State of California Energy Plan.

*Consistency with California Code Title 24, Part 6, Energy Efficiency Standards*

The 2019 version of Title 24 was adopted by the California Energy Commission (CEC) and became effective on January 1, 2020. It should be noted that the analysis herein assumes compliance with the 2019 Title 24 Standards.

*Consistency with AB 1493 (Pavley Regulations and Fuel Efficiency Standards)*

AB 1493 is not applicable to the proposed Project as it is a statewide measure establishing vehicle emissions standards. No feature of the proposed Project would interfere with implementation of the requirements under AB 1493.

*Consistency with California’s Renewable Portfolio Standard (RPS)*

California’s Renewable Portfolio Standard is not applicable to the proposed Project as it is a statewide measure that establishes a renewable energy mix. No feature of the proposed Project would interfere with implementation of the requirements under RPS.

*Consistency with the Clean Energy and Pollution Reduction Act of 2015 (SB 350)*

The proposed Project would use energy from SCE, which has committed to diversify its portfolio of energy sources by increasing energy from wind and solar sources. No feature of the proposed Project would interfere with implementation of SB 350. Additionally, the proposed Project would be designed and constructed to implement the energy efficiency measures for new residential developments and would include several measures designed to reduce energy consumption.

Conclusion

As shown above, the proposed Project would not conflict with any of the state or local plans. As such, the proposed Project would have a less than significant potential to conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>VII. GEOLOGY AND SOILS:</b> 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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION:** A Geotechnical Investigation provided as Appendix 4a to this Initial Study has been prepared for the proposed Project titled: “*Geotechnical Investigation Proposed Residential Development at 393 South Kirby Street, APN 436-490-011, San Jacinto, California.*” The report was prepared by Sladden Engineering and is dated February 22, 2023.

Project Description

The proposed Project includes the subdivision of one 18.5-acre parcel via a tentative tract map (TTM 38339), the future construction of 76 single-family detached residences, internal roadways, and a detention basin, as shown in Figure 3, the Site Plan. Potential Geology and Soils impacts from construction and operation of the proposed Project, as described herein, are presented below.

Impact Analysis

a. i. Ground Rupture

*Less Than Significant Impact* – The project site is located in the City of San Jacinto, which is an area with several active faults, including Alquist-Priolo Special Study Zones classified as such under the Alquist-Priolo Earthquake Fault Zoning Act. Figure VII-1 shows where these faults are located as indicated by the California Department of Conservation Data Viewer Map depicting Alquist Priolo Fault Hazard Zones. According to Figure VII-1, the San Jacinto Fault Zone traverses in a diagonal path from northwest to southeast. The Alquist-Priolo Special Study Zone is located in close proximity to the project site, just northeast of the Project's northeastern boundary. According to the Geotechnical Investigation provided as Appendix 4a, the closest known active fault is the San Jacinto – San Jacinto Valley fault about 2 kilometers from the project site, with a maximum known event of 6.9. Given that there is a distance of 2 km separating the proposed Project from the Alquist-Priolo Special Study Zone to the northeast, the risk for ground rupture at the site location is low; therefore, it is not likely that future residents of the project site will be subject to rupture from a known earthquake fault. Therefore, any impacts under this issue are considered less than significant; no mitigation is required.

ii. Strong Seismic Ground Shaking

*Less Than Significant With Mitigation Incorporated* – Several faults run through the valley within which the City of San Jacinto is located, and as with much of southern California, and the proposed structures ultimately developed by the proposed subdivision will be subject to strong seismic ground shaking impacts should any major earthquakes occur in the future. The California Department of Conservation Data Viewer Map depicting Alquist Priolo Fault Hazard Zones, provided as Figure VII-1, indicates that the project site is situated near major fault systems, including the San Jacinto Fault Zone. Furthermore, the California Department of Conservation Data Viewer Map depicting Earthquake Shaking Potential (Figure VII-2) indicates that the project site is situated within an area with at least moderate shaking potential. Furthermore, the Geotechnical Investigation indicates that the project site has been subject to groundshaking by faults that traverse the region in the past. Strong seismic shaking from nearby faults was determined to be anticipated during the design life of the proposed Project and thus, the site shall be designed in accordance with the site modified peak ground acceleration (PGAm) at 0.942g. As such, the following mitigation measure that will enforce the overall geotechnical design parameters introduced in the Geotechnical Investigation shall be implemented:

***GEO-1 Based upon the geotechnical investigation (Appendix 4a of this document), all of the recommended design parameters identified in Appendix 4a (beginning on Page 6) shall be implemented by the developer. Implementation of these specific measures will address all of the identified geotechnical constraints identified at project site, including remediation to address liquefaction.***

Additionally, like all other development in the City and throughout the Southern California Region, the proposed Project will be required to comply with all applicable seismic design standards contained in 2019 California Building Code (CBC), including Section 1613 Earthquake Loads. Compliance with the CBC will further ensure that structural integrity will be maintained in the event of an earthquake. Therefore, impacts associated with strong ground shaking will be less than significant with the implementation of MM **GEO-1**, above.

iii. Seismic-Related Ground Failure Including Liquefaction

*Less Than Significant Impact* – According to the San Jacinto General Plan Liquefaction Map (Figure VII-3), the project site is located in an area that may experience moderate liquefaction potential. The Geotechnical Investigation provided as Appendix 4a indicates that the project site is located within a

moderate liquefaction potential zone, but based on the groundwater depth, the risks associated with liquefaction are considered low. Therefore, impacts under this issue would be less than significant, and compliance with the 2019 CBC will ensure human safety will be protected from any liquefaction hazards that may exist at the project site.

iv. Landslides

*Less Than Significant Impact* – According to the San Jacinto General Plan Landslide Map (Figure VII-4), the project site is not located in an area with an earthquake induced landslide potential. Seismically induced landslides and other slope failures are common occurrences during or soon after earthquakes. According to the Geotechnical Investigation, the slope failure, landsliding and rock failure potential at the Project's location on relatively flat ground and not immediately adjacent to any slopes or hillsides indicates that the risks associated with slope instability are negligible. Given that the project site is both located outside of a delineated landslide zone, and the future development on a flat site removed from any hillsides that might pose landslide-related hazards, the proposed Project will have a less than significant potential to expose people or structures to potential substantial adverse landslide effects, including the risk of loss, injury, or death involving landslides.

- b. *Less Than Significant With Mitigation Incorporated* – The potential for soil erosion, loss of topsoil, and/or placing structures on unstable soils is anticipated to be marginally possible at the site during future ground disturbing activities. The project site is currently occupied by an existing residence, accessory structures, and grazing land support structures with much of the open space on the site consisting of compacted dirt and minimal vegetation. City grading standards, best management practices and the Storm Water Pollution Prevention Plan (SWPPP) and Water Quality Management Plan (WQMP) are required to control the potential significant erosion hazards. The topography of the site is generally flat.

During future construction activities, when soils are exposed, temporary soil erosion could occur, which could be exacerbated by rainfall. Grading would be managed through the preparation and implementation of a SWPPP, and will be required to implement best management practices to achieve concurrent water quality controls after construction is completed and the proposed Project has been subdivided and future development of the site ultimately occurs. Additionally, the proposed Project will be required to comply with SCAQMD Rule 403, which requires watering of project sites during dry periods and reduction in construction vehicle speeds to minimize fugitive dust, and on-site washing of construction vehicle tires to prevent transfer of soil to surface streets. Regardless, the following mitigation measures or equivalent best management practices (BMPs) shall be implemented to address potential for soil erosion:

**GEO-2** *Stored backfill material shall be covered with water resistant material during periods of heavy precipitation to reduce the potential for rainfall erosion of stored backfill material. If covering is not feasible, then measures such as the use of straw bales or sandbags shall be used to capture and hold eroded material on the project site for future cleanup.*

**GEO-3** *All exposed, disturbed soil (trenches, stored backfill, etc.) shall be sprayed with water or soil binders twice a day, or more frequently if fugitive dust is observed migrating from the project site during future construction activities.*

With implementation of the above mitigation measures, implementation of the SWPPP, WQMP, and associated BMPs, any impacts under this issue are considered less than significant.

- c. *Less Than Significant With Mitigation Incorporated* – Refer to the discussion under VII(a), above. Potential slope instability related to the proposed Project was determined to be less than significant. Liquefaction potential at the site appears to be low, and building and site preparation consistent with recommendations included in the geotechnical report and conforming to seismic requirements of the

California Building Codes reduces the risk from liquefaction to new development to a less than significant level. According to the Geotechnical Investigation, subsidence is not anticipated to be an issue at the site, as the depth to groundwater is greater than 50 feet. Static settlement is expected to be less than 1 inch when using the recommended allowable bearing pressures provided in the Conclusions and Recommendations in the Geotechnical Investigation provided as Appendix 4a. Thus, implementation of MMs **GEO-1** and **GEO-4** will ensure that settlement and other geologic hazards are minimized to a level of less than significant. Furthermore, the Geotechnical Investigation identified several recommendations for future site construction that will ensure that the proposed Project is constructed to address the geotechnical constraints of the project site. Thus, with the following mitigation measure, the proposed Project will not have a significant potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the proposed Project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse:

**GEO-4** *Based upon the geotechnical investigation (Appendix 4a of this document), all of the recommended design measures identified in Appendix 4a (listed on pages 7-12) shall be implemented by the developer. Implementation of these specific measures will address all of the geotechnical constraints identified at project site.*

- d. *Less Than Significant With Mitigation Incorporated* – According to the United States Department of Agriculture Web Soil Survey, the project's area of potential effect (APE) is underlain mostly by San Emigdio fine sandy loam soils (Appendix 4b). According to the USDA Soil Series website, the San Emigdio series is well drained with negligible to low runoff and moderately rapid permeability.<sup>5</sup> The Geotechnical Investigation indicates that the materials underlying the site are considered to have a low expansion potential. However, the expansion potential of the surface soils will be reevaluated after grading. Results of expansion testing at finish grades will be utilized to confirm final foundation design through the implementation of MMs **GEO-1** and **GEO-4**, which are intended to ensure that the recommendations provided in the Geotechnical Investigation are implemented. Therefore, the future development of this site will have a less than significant potential to create a substantial risk to life or property by being placed on expansive soils because none exist on the site. Any impacts are considered less than significant with the implementation of mitigation identified above.
- e. *No Impact* – The proposed Project does not propose any septic tanks or alternative wastewater disposal systems. Therefore, determining if the project site soils are capable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater does not apply. No impacts are anticipated. No mitigation is required.
- f. *Less Than Significant With Mitigation Incorporated* – The potential for discovering paleontological resources during future development of the proposed Project is considered unlikely, primarily because the site has been previously disturbed, and based on the data gathered within the Phase I Historical/Archaeological Resources Survey provided as Appendix 3. No unique geologic features are known or suspected to occur on or beneath the site. However, because these resources are located beneath the surface and can only be discovered as a result of future ground disturbing activities, the following measure shall be implemented:

**GEO-5** *Should any paleontological resources be encountered during construction, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection should be performed immediately by a qualified paleontologist. Responsibility for making this determination shall be with the City's onsite inspector. The paleontological professional shall assess the find, determine its significance, and determine appropriate mitigation measures within the guidelines of the California Environmental Quality Act*

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<sup>5</sup> [https://soilseries.sc.egov.usda.gov/OSD\\_Docs/S/SAN\\_EMIGDIO.htm](https://soilseries.sc.egov.usda.gov/OSD_Docs/S/SAN_EMIGDIO.htm) |



**that shall be implemented to minimize any impacts to a paleontological resource.**

With incorporation of this contingency mitigation, the potential for adverse impact to paleontological resources will be reduced to a less than significant level. No additional mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>VIII. GREENHOUSE GAS EMISSIONS:</b> Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION:** The following data is based on calculations prepared utilizing CalEEMod. CalEEMod was developed by the SCAQMD to provide a model by which to calculate both construction emissions and operational emissions from a variety of land use projects. It calculates both the daily maximum and annual average emissions for criteria pollutants as well as total or annual greenhouse gas (GHG) emissions. These emissions calculations are provided as Appendix 1 to this Initial Study. Additionally, a GHG Impact Analysis has been prepared for the Project utilizing the CalEEMod emissions calculations provided as Appendix 1. This report was prepared by Giroux & Associates, is titled “GHG Impact Analysis TTM No. 38339 Kirby Street Project, San Jacinto, California,” and is provided as Appendix 5 to this Initial Study.

Project Description

The Project proposes the subdivision of an 18.5-acre property to enable the development of 76 single-family residences within the City of San Jacinto. GHG emissions associated with construction and operation of the future development of the proposed subdivision are presented below.

Regulatory Framework

California has passed several bills and the Governor has signed at least three executive orders regarding greenhouse gases. Greenhouse gas (GHG) statutes and executive orders (EO) include AB 32, SB 1368, EO S-03-05, EO S-20-06 and EO S-01-07.

AB 32 is one of the most significant pieces of environmental legislation that California has adopted. Among other things, it is designed to maintain California’s reputation as a “national and international leader on energy conservation and environmental stewardship.” It will have wide-ranging effects on California businesses and lifestyles as well as far reaching effects on other states and countries. A unique aspect of AB 32, beyond its broad and wide-ranging mandatory provisions and dramatic GHG reductions are the short time frames within which it must be implemented. Major components of the AB 32 include:

- Require the monitoring and reporting of GHG emissions beginning with sources or categories of sources that contribute the most to statewide emissions.
- Requires immediate “early action” control programs on the most readily controlled GHG sources.
- Mandates that by 2020, California’s GHG emissions be reduced to 1990 levels.
- Forces an overall reduction of GHG gases in California by 25-40%, from business as usual, to be achieved by 2020.

- Must complement efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminants.

Statewide, the framework for developing the implementing regulations for AB 32 is under way. Maximum GHG reductions are expected to derive from increased vehicle fuel efficiency, from greater use of renewable energy and from increased structural energy efficiency. Additionally, through the California Climate Action Registry (CCAR now called the Climate Action Reserve), general and industry-specific protocols for assessing and reporting GHG emissions have been developed. GHG sources are categorized into direct sources (i.e., company owned) and indirect sources (i.e., not company owned). Direct sources include combustion emissions from on-and off-road mobile sources, and fugitive emissions. Indirect sources include off-site electricity generation and non-company owned mobile sources.

#### GHG Emissions Thresholds

In response to the requirements of SB 97, the State Resources Agency developed guidelines for the treatment of GHG emissions under CEQA. These new guidelines became state laws as part of Title 14 of the California Code of Regulations in March 2010. The CEQA Appendix G guidelines were modified to include GHG as a required analysis element. A project would have a potentially significant impact if it:

- Generates GHG emissions, directly or indirectly, that may have a significant impact on the environment, or,
- Conflicts with an applicable plan, policy or regulation adopted to reduce GHG emissions.

On December 5, 2008 the SCAQMD Governing Board adopted an Interim quantitative GHG Significance Threshold for industrial projects where the SCAQMD is the lead agency (e.g., stationary source permit projects, rules, plans, etc.) of 10,000 Metric Tons (MT) CO<sub>2</sub> equivalent/year. In September 2010, the SCAQMD CEQA Significance Thresholds GHG Working Group released revisions which recommended a threshold of 3,000 MT CO<sub>2</sub>e for all land use projects. This 3,000 MT/year recommendation has been used as a guideline for this analysis. In the absence of an adopted numerical threshold of significance, future Project-related GHG emissions in excess of the guideline level are presumed to trigger a requirement for enhanced GHG reduction at the Project level.

#### Impact Analysis

a&b. *Less Than Significant Impact* – Global Climate Change (GCC) is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. Many scientists believe that the climate shift taking place since the industrial revolution (1900) is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of greenhouse gases in the earth's atmosphere, including carbon dioxide, methane, nitrous oxide, and fluorinated gases. Many scientists believe that this increased rate of climate change is the result of greenhouse gases resulting from human activity and industrialization over the past 200 years.

An individual project like the proposed Project evaluated in the GHG analysis cannot generate enough greenhouse gas emissions to effect a discernible change in global climate. However, the proposed Project may participate in the potential for GCC by its incremental contribution of greenhouse gases combined with the cumulative increase of all other sources of greenhouse gases, which when taken together constitute potential influences on GCC.

#### *Construction Activity GHG Emissions*

The Project is assumed to require less than two years for construction, but would occur over three calendar years. Construction was modeled in CalEEMod2022.1 using the construction equipment and schedule for a site and development of this size and scope as shown in Table III-5. Program defaults were modified to account for the correct lot size area that would be developed under the proposed subdivision. For construction, it was assumed that greater paved area would be installed by the proposed Project as a result of the internal roadways and driveways that would be installed as

part of the proposed Project. Less than one year of construction is anticipated to develop the proposed Project. The CalEEMod2022 computer model predicts that the future construction activities will generate the annual CO<sub>2</sub>e emissions identified below.

**Table VIII-1  
CONSTRUCTION EMISSIONS (METRIC TONS CO<sub>2</sub>e)**

	<b>CO<sub>2</sub>e</b>
Year 2023	340
Year 2024	267
Year 2025	0.69
Total	<b>607.69</b>
<b>Amortized</b>	<b>20.26</b>

CalEEMod Output provided in appendix to the AQ/GHG Analysis

SCAQMD GHG emissions policy from construction activities is to amortize emissions over a 30-year lifetime. The amortized level is also provided. GHG impacts from construction are considered individually less than significant. No mitigation is required.

*Operational Activity Emissions*

Operational emissions were calculated using CalEEMod2022.1 for an assumed occupancy year of 2024, with the full occupancy occurring in 2025. As shown in Table VIII-2, operational emissions will not exceed applicable SCAQMD operational emissions CEQA thresholds of significance. For operational assumptions, it is assumed that no wood fireplaces are contemplated by the proposed Project, and the default settings for water use were modified as a result of the available data through Eastern Municipal Water District's (Eastern's) 2020 Urban Water Management Plan (UWMP). Mobile source operational emissions were calculated based on an average daily trip generation of 718, with 15.9 miles per resident assumed as the number of vehicle miles traveled. This is based on the VMT Analysis provided as Appendix 7b, prepared by Urban Crossroads. Note that solar panels are now required for residential development, so a conservative 10% (at least) of the energy consumption generated by the proposed Project was assumed to be offset by solar.

The total operational and annualized construction emissions for the proposed Project are identified in Table VIII-2.

**Table VIII-2  
OPERATIONAL EMISSIONS (METRIC TONS CO<sub>2</sub>e)**

	<b>CO<sub>2</sub>e Unmitigated</b>	<b>CO<sub>2</sub>e Mitigated</b>
Mobile	12.2	12.2
Area	19.5	19.5
Energy	257	253
Water	0.11	0.11
Waste	6.73	6.73
Refrigeration	0.27	0.27
Vegetation	8.51	8.51
Amortized Construction	20.26	20.26
<b>Total</b>	<b>324.26</b>	<b>320.86</b>
<b>Exceeds Thresholds?</b>	<b>NO</b>	<b>NO</b>
Guideline Threshold	3,000	3,000

Based on the emissions calculations provided above, operational GHG emissions are less than significant. No mitigation is required.

#### Consistency with GHG Plans, Programs, and Policies

Pursuant to 15604.4 of the *CEQA Guidelines*, a lead agency may rely on qualitative analysis or performance-based standards to determine the significance of impacts from GHG emissions. As such, the Project's consistency with SB 32 (2017 Scoping Plan), is discussed below. Consistency with AB 32 and the 2008 Scoping Plan is not necessary, since the target year for AB 32 and the 2008 Scoping Plan was 2020, and the proposed Project's buildout year for modeling is 2024. As such the 2017 Scoping Plan is the most relevant statewide plan. Project consistency with SB 32 is evaluated in the following discussion.

#### *Western Riverside Council of Governments (WRCOG) Subregional Climate Action Plan*

The City of San Jacinto is participating the Western Riverside Council of Governments (WRCOG) Subregional Climate Action Plan. The WRCOG Subregional CAP establishes a community-wide emissions reduction target of 15% below 2010, following guidance from CARB and the Governor's Office of Planning and Research. CARB and the California Attorney General have determined this approach to be consistent with the state-wide AB 32 goal of reducing emissions to 1990 levels.

The future development of the proposed subdivision's total operational and amortized construction emissions are 315.6 MT CO<sub>2</sub>e per year and do not exceed the SCAQMD draft threshold. The proposed Project would also be anticipated to be consistent with the WRCOG Subregional CAP with the following design features, which include standard rules and requirements and recognized building design elements which will help reduce GHG emissions.

#### Operational Design Features:

- No wood burning fireplaces will be installed in any residential dwelling.
- The future residences would be outfitted with low flow toilets and energy efficient appliances. Solar would be installed concurrent with development of each residence as required by the California Energy Code.
- The proposed Project will include a landscaping consistent with the requirements of the City's Development Code Chapter 17.325, Water Efficient Landscape and Irrigation. Additionally, the proposed subdivision would comply with the City's Landscape Design Guidelines.
- The proposed Project will comply with the mandatory requirements of California Building Standards Code Title 24 Part 6 (Energy Code) and Title 24 Part 11 (CAL Green).
- The proposed Project will comply with the mandatory requirements of City of San Jacinto/CalRecycle's residential recycling program.

The future homeowner's association will encourage residents and landscape maintenance crews to use electric landscaping equipment, such as lawn mowers and leaf blowers. Therefore, the proposed Project will not conflict with an applicable plan, policy, or regulation for the purpose of reducing the emissions of greenhouse gases and the impact is considered less than significant.

#### *SB 32/2017 Scoping Plan Consistency*

The 2017 Scoping Plan Update reflects the 2030 target of a 40% reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. Table VIII-3 summarizes the Project's consistency with the 2017 Scoping Plan. As summarized, the proposed Project will not conflict with any of the provisions of the Scoping Plan and in fact supports seven of the action categories.

**Table VIII-3  
2017 SCOPING PLAN CONSISTENCY SUMMARY**

Action	Responsible Parties	Consistency
Implement SB 350 by 2030		
Increase the Renewables Portfolio Standard to 50% of retail sales by 2030 and ensure grid reliability.	CPUC, CEC, CARB	Consistent. This measure is not directly applicable to development projects, but the proposed Project would use energy from Southern California Edison, which has committed to diversify its portfolio of energy sources by increasing energy from wind and solar sources. Additionally, as the future structures are less than 4-stories, they would be required to install solar PV systems to increase renewable energy availability for the Project.
Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.		Consistent. Although this measure is directed towards policymakers, the proposed Project would be designed consistent with Title 24 2019, which increases in overall energy efficiency from Title 24 2016.
Reduce GHG emissions in the electricity sector through the implementation of the above measures and other actions as modeled in Integrated Resource Planning (IRP) to meet GHG emissions reductions planning targets in the IRP process. Load-serving entities and publicly- owned utilities meet GHG emissions reductions planning targets through a combination of measures as described in IRPs.		Not applicable. This measure is not within the purview of this Project.
Implement Mobile Source Strategy (Cleaner Technology and Fuels)		
At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025.	CARB, California State Transportation Agency (CalSTA), Strategic Growth Council (SGC), California Department of Transportation (Caltrans), CEC, OPR, Local Agencies	No conflict. These are CARB enforced standards; vehicles that access the Project that are required to comply with the standards will comply with the strategy.
At least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030.		No conflict. These are CARB enforced standards; vehicles that access the Project that are required to comply with the standards will comply with the strategy.
Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean cars regulations.		No conflict. These are CARB enforced standards; vehicles that access the Project that are required to comply with the standards will comply with the strategy.
Medium- and Heavy-Duty GHG Phase 2.		No conflict. These are CARB enforced standards; vehicles that access the Project that are required to comply with the standards will comply with the strategy.
Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20% of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100% of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NO <sub>x</sub> standard.		Not applicable. This measure is not within the purview of this Project.

Action	Responsible Parties	Consistency
<p>Last Mile Delivery: New regulation that would result in the use of low NO<sub>x</sub> or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5% of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10% in 2025 and remaining flat through 2030.</p>		<p>Not applicable. This Project is not responsible for implementation of SB 375 and would therefore not conflict with this measure.</p>
<p>Further reduce VMT through continued implementation of SB 375 and regional Sustainable Communities Strategies; forthcoming statewide implementation of SB 743; and potential additional VMT reduction strategies not specified in the Mobile Source Strategy but included in the document “Potential VMT Reduction Strategies for Discussion.”</p>		<p>No conflict. This Project is not responsible for implementation of SB 375 and would therefore not conflict with this measure.</p>
<p>Increase stringency of SB 375 Sustainable Communities Strategy (2035 targets).</p>	<p>CARB</p>	<p>Not applicable. The Project is not within the purview of SB 375 and would therefore not conflict with this measure.</p>
<p>By 2019, adjust performance measures used to select and design transportation facilities</p>		
<p>Harmonize project performance with emissions reductions and increase competitiveness of transit and active transportation modes (e.g., via guideline documents, funding programs, project selection, etc.).</p>	<p>CalSTA, SGC, OPR, CARB, Governor’s Office of Business and Economic Development (GO Biz), California Infrastructure and Economic Development Bank, Department of Finance, California Transportation Commission (CTC), Caltrans</p>	<p>Not applicable. Although this is directed towards CARB and Caltrans, the proposed Project would be designed to promote and support pedestrian activity on-site and in the project site area.</p>
<p>By 2019, develop pricing policies to support low-GHG transportation (e.g., low-emission vehicle zones for heavy duty, road user, parking pricing, transit discounts).</p>	<p>CalSTA, Caltrans, CTC, OPR, SGC, CARB</p>	<p>Not applicable. Although this measure is directed towards policymakers, the proposed Project would comply with AB 939, which sets a statewide policy that not less than 65% of solid waste generated be source reduced, recycled, or composted.</p> <p>Additionally, the proposed Project would be required to participate in the City of San Jacinto recycling program and recycling collection. During future construction activities, the proposed Project shall recycle and reuse construction and demolition waste per City of Whittier solid waste procedures.</p>

Action	Responsible Parties	Consistency
<b>Implement California Sustainable Freight Action Plan</b>		
Improve freight system efficiency.	CalSTA, CalEPA, CNRA, CARB, Caltrans, CEC, GO-Biz	Not applicable. This measure is not within the purview of this Project.
Deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.		Not applicable. This measure is not within the purview of this Project.
Adopt a Low Carbon Fuel Standard with a Carbon Intensity reduction of 18%.	CARB	No conflict. This measure would apply to all fuel purchased and used by the proposed Project in the state.
<b>Implement the Short-Lived Climate Pollutant Strategy by 2030</b>		
40% reduction in methane and hydrofluorocarbon emissions below 2013 levels.	CARB, CalRecycle, CDFA, SWRCB, Local Air Districts	Not applicable. This measure is not within the purview of this Project.
50% reduction in black carbon emissions below 2013 levels.		Not applicable. This measure is not within the purview of this Project.
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	CARB, CalRecycle, CDFA, SWRCB, Local Air Districts	Not applicable. This measure is not within the purview of this Project.
Implement the post-2020 Cap-and-Trade Program with declining annual caps.	CARB	Not applicable. This measure is not within the purview of this Project.
<b>By 2018, develop Integrated Natural and Working Lands Implementation Plan to secure California's land base as a net carbon sink</b>		
Protect land from conversion through conservation easements and other incentives.	CNRA, Departments Within CDFA, CalEPA, CARB	Not applicable. This measure is not within the purview of this Project.
Increase the long-term resilience of carbon storage in the land base and enhance sequestration capacity		Not applicable. This measure is not within the purview of this Project.
Utilize wood and agricultural products to increase the amount of carbon stored in the natural and built environments		Not applicable. This measure is not within the purview of this Project.
Establish scenario projections to serve as the foundation for the Implementation Plan		Not applicable. This measure is not within the purview of this Project.
Establish a carbon accounting framework for natural and working lands as described in SB 859 by 2018	CARB	Not applicable. This measure is not within the purview of this Project.
Implement Forest Carbon Plan	CNRA, California Department of Forestry and Fire Protection, CalEPA and Departments Within	Not applicable. This measure is not within the purview of this Project.
Identify and expand funding and financing mechanisms to support GHG reductions across all sectors.	State Agencies & Local Agencies	Not applicable. This measure is not within the purview of this Project.

As shown above, the proposed Project would not conflict with any of the 2017 Scoping Plan elements as any regulations adopted would apply directly or indirectly to the Project. Further, recent studies show that the State's existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40% below 1990 levels by 2030.

Conclusion

As shown, the proposed Project does not directly conflict with any applicable plans or policies adopted for the purpose of reducing GHG emissions. Additionally, the proposed Project would not exceed the SCAQMD threshold of 3,000 MT CO<sub>2</sub>e. Therefore, future Project-related emissions would be less than significant relative to GHG reduction plans.

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

**SUBSTANTIATION**

Project Description

The proposed Project includes the subdivision of one 18.5-acre parcel via a tentative tract map (TTM 38339), the future construction of 76 single-family detached residences, internal roadways, and a detention basin, as shown in Figure 3, the Site Plan. Impacts related to Hazards and Hazardous Materials resulting from construction and operation of the proposed Project, as described herein, are presented below.



Impact Analysis

a&b. *Less Than Significant With Mitigation Incorporated* – The proposed Project may create a significant hazard to the public or the environment if it would result in unregulated routine transport, use, or disposal of hazardous materials; or if it would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. During construction of the proposed Project, there are activities that can expose the public to significant hazards from accidental circumstances. The first pathway occurs when petroleum products are accidentally released from construction equipment or storage facilities. For example, vandalism can cause a release from stored fuels, or a hydraulic hose may break on a large piece of construction equipment. This type of impact is readily mitigated by immediately stopping the construction activity; controlling the accidental release; and carrying out remediation of the area contaminated by the spill. The following mitigation measure addresses this circumstance, and with implementation of this measure, no residual contamination would remain:

**HAZ-1** *Prior to and during grading and construction, should an accidental release of a hazardous material occur, the following actions will be implemented: construction activities in the immediate area will be immediately stopped; appropriate regulatory agencies will be notified; immediate actions will be implemented to limit the volume and area impacted by the contaminant; the contaminated material, primarily soil, shall be collected and removed to a location where it can be treated or disposed of in accordance with the regulations in place at the time of the event; any transport of hazardous waste from the property shall be carried out by a registered hazardous waste transporter; and testing shall be conducted to verify that any residual concentrations of the accidentally released material are below the regulatory remediation goal at the time of the event. All of the above sampling or remediation activities related to the contamination will be conducted under the oversight of Riverside County Certified Unified Program Agency (CUPA) Site Mitigation Unit (SMU). All of the above actions shall be documented and made available to the appropriate regulatory agencies prior to closure (a determination of the regulatory agency that a site has been remediated to a threshold that poses no hazard to humans) of the contaminated area.*

Roadways adjacent to the project site are public roads that can be used by any common carrier to or from the local area. For such transporters, the existing regulatory mandates ensure that the hazardous materials and any hazardous wastes transported to and from the project site will be properly managed. These regulations are codified in Titles 8, 22, and 26 of the California Code of Regulations. For example, maintenance trucks for construction equipment must transport their hazardous materials in appropriate containers, such as tanks or other storage devices. In addition, the haulers must comply with all existing applicable federal, state and local laws and regulations regarding transport, use, disposal, handling and storage of hazardous wastes and material, including storage, collection and disposal. Compliance with these laws and regulations related to transportation will minimize potential exposure of humans or the environment to significant hazards from transport of such materials and wastes once the proposed subdivision is ultimately developed.

During future construction activities, another possible reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment could result from the soils within the project site containing contaminants that are presently unknown. This is because the project site has served as grazing land for goats, and thus may have residual soil contamination, including methane sequestration, present within the project site. Thus, though the potential for methane to be present in unsafe levels at the site, in an abundance of caution, the following mitigation measure shall be required to protect the future residents at the project site:

**HAZ-2** *A soil/methane sampling program with a minimum of one sample location per 2 acres of land shall be conducted by the developer. If the contaminant concentrations above the DTSC hazard levels occur on the project site, the exact dimensions, including volume, of soil containing this contamination shall be documented. A report verifying that the contaminated soil can be effectively blended (and how this will be accomplished on the project site) with other uncontaminated onsite soil shall be provided to the City by the developer. If there is insufficient soil for blending at the site, the contaminated soil shall be collected and disposed of at a properly licensed facility. This shall be completed prior to initiating mass grading of the site and records documenting proper management of the contaminated soil shall be provided to the City by the developer.*

Operation of the proposed Project would not involve the use of a substantial amount of hazardous materials. Household cleaning supplies would be used in small quantities to support the future residences, which are not typically capable of generating significant hazardous emissions or involve the use of acutely hazardous materials that could pose a significant threat to the environment. Compliance with all Federal, State, and local regulations governing the storage and use of hazardous materials is required, and will ensure that the proposed Project operates in a manner that poses no substantial hazards to the public or the environment. No further mitigation is required.

- c. *Less Than Significant Impact* – The nearest schools to the project site are located more than one-mile northeast of the project site; the Monte Vista Middle School is located at 425 North Lyon Avenue. It is not anticipated that the proposed Project would emit hazardous emissions or handle large quantities of hazardous materials or substances that would cause a significant impact to a local school. Hazardous materials associated with the proposed Project would be used in such limited quantity that its use would not generate significant hazardous air emissions or involve the use of acutely hazardous materials that could pose a significant threat to the environment or human health. As such, the proposed Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste during construction or operation in a quantity that would pose any danger to people adjacent to, or in the general vicinity of, the project site. No impacts are anticipated and no mitigation is required.
- d. *Less Than Significant Impact* – The project site is currently occupied by an existing residence, accessory structures, and grazing land support structures with much of the open space on the site consisting of compacted dirt and minimal vegetation. The project site is not included on a list of hazardous materials sites that are currently under remediation. According to the California State Water Board's GeoTracker website (consistent with Government Code Section 65962.5), which provides information regarding Leaking Underground Storage Tanks (LUST) and other types of clean-up sites, there are no open LUST, Cleanup Program, Military, or Department of Toxic Substances Control (DTSC) clean-up sites within 2,500 feet of the project site (Figure IX-1). The California DTSC EnviroStor database also indicates that there are no hazardous waste generators in close proximity to the project site, and ultimately the safe operations of area hazardous waste sites are permitted, and must comply with Federal, State, and local regulations governing the storage and use of hazardous materials, and as such would not pose a hazard to the occupancy of the Project site by future residents. Therefore, the proposed Project will not create a significant hazard to the population or to the environment from their implementation. No mitigation is required.
- e. *No Impact* – The project site is not located within two miles of an airport or private airstrip. The closest airports the Hemet-Ryan Airport, approximately 4 miles southwest of the project site, Banning Municipal Airport, approximately 12 miles northeast of the project site, and the Perris Valley Airport located approximately 15 miles west of the project site. Therefore, there is no potential for the proposed Project result in a safety hazard for people residing or working in the project area as a result of being located near an airport or private airstrip. No impacts are anticipated and no mitigation is required.

- f. *Less Than Significant With Mitigation Incorporated* – According to the City’s General Plan, the City’s Emergency Preparedness Plan is intended to enable response to emergency situations with a coordinated system of emergency service providers and facilities. The City of San Jacinto adopted its Emergency Operations Plan (EOP) in May 2021. The EOP addresses the planned response to extraordinary situations associated with natural disasters and/or human caused incidents. The City’s General Plan Environmental Impact Report (GPEIR) indicates that Policy PS-5.7 directs the City to work with Riverside County Fire Department and Riverside County Sheriff Department to maintain, update, and regularly exercise emergency access, protocols, and evacuation routes to assess their effectiveness under a range of emergency scenarios. Additionally, The City of San Jacinto adopted Resolution 3738 on September 18, 2018 approving the City of San Jacinto Local Hazard Mitigation Plan Annex from the Riverside County Operational Area Jurisdictional Local Hazard Mitigation Plan (LHMP), therefore allowing the City to utilize the County LHMP. While, no evacuation routes have specifically been identified by the LHMP, the LHMP would enable evacuation measures would be implemented based on the specific emergency and area affected. Effectively Highway 74 to the south and Ramona Boulevard/Ramona Expressway/Highway 79 to the northeast would be considered evacuation routes within the City and region.

The proposed Project will occur within the boundaries of the project site, but may require some improvements to and construction within the adjacent sidewalk and roadways. The project site is bound by Kirby Street to the west, Ivy Crest Drive to the east, and partially by Oostdam Drive to the south. It is not anticipated that future development of the project site would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan because the future construction activities will be confined within the site boundaries, and improvements to the adjacent roadways would be temporary as the improvements would occur for a limited duration during construction. Additionally, the construction activities would be subject to Section 503 of the California Fire Code (Title 24, California Code of Regulations, Part 9), which would ensure emergency access during construction. During the construction phase, the City would require an encroachment permit for any temporary activities that would affect a public right-of-way. Additionally, MM **TRAN-1** would address traffic disruption and emergency access issues through the implementation of a Traffic Management Plan, and is included in Section XVII, Transportation. The Traffic Management Plan prepared for the proposed Project would include procedures for emergency responses.

Furthermore, the onsite parking and circulation plans will be reviewed by the local Fire Department and City Engineering Department to ensure that ingress/egress are adequate for accommodating emergency vehicles. Therefore, there is a less than significant potential for the future development of the proposed Project to physically interfere with any adopted emergency response plans, or evacuation plans.

- g. *No Impact* – According to the CAL FIRE Fire Hazard Severity Zone Viewer map (Figure XX-1), the proposed Project is not located in a high or very high fire hazard zone. Given the proposed Project’s location removed from the nearby San Jacinto Mountain Range to the east/northeast, Lakeview Mountains, Badlands to the north, Santa Rosa Hills to the south where the high and very high fire hazard severity zones are located, Project implementation would not result and a potential to expose people or structures to fire hazards. No impacts are anticipated and no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>X. HYDROLOGY AND WATER QUALITY:</b> Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) result in substantial erosion or siltation onsite or offsite?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(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,	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION: The analysis below is supported by two technical studies: (1) the *“Infiltration Testing for On-Site Storm Water Management”* prepared by Sladden Engineering, dated February 23, 2022 is provided as Appendix 6a, and (2) the *“Preliminary Hydrology Study for Tentative Tract No. 38339,”* dated January 31, 2022 is provided as Appendix 6b.

Project Description

The proposed Project includes the subdivision of one 18.5-acre parcel via a tentative tract map (TTM 38339), the future construction of 76 single-family detached residences, internal roadways, and a detention basin, as shown in Figure 3, the Site Plan. Impacts related to Hydrology and Water Quality from construction and operation of the proposed Project, as described herein, are presented below.

Impact Analysis

- a. *Less Than Significant With Mitigation Incorporated* – The proposed Project is located within the planning area of the Santa Ana Regional Water Quality Control Board (RWQCB). The project site

would be supplied with water by Eastern Municipal Water District (Eastern) that uses a mix of groundwater and imported surface water to meet customer demand.

For a developed area, the only three sources of potential violation of water quality standards or waste discharge requirements are from generation of municipal wastewater, stormwater runoff, and potential discharges of pollutants, such as accidental spills. Municipal wastewater is delivered to one of Eastern's five regional water reclamation facilities which treat 46 million gallons of wastewater per day. Eastern is responsible for the collection, transmission, treatment, and disposal of wastewater within its service area, which includes the City of San Jacinto, California.

To address stormwater and accidental spills within this environment, any new project must ensure that site development implements an SWPPP and a National Pollutant Discharge Elimination System (NPDES) to control potential sources of water pollution that could violate any standards or discharge requirements during construction and a Water Quality Management Plan (WQMP) to ensure that future post-development surface runoff meets discharge requirements over the short- and long-term. The WQMP would specify stormwater runoff permit BMPs requirements for capturing, retaining, and treating on site stormwater once the residential units have been occupied. Because the project site consists of pervious surfaces, the proposed Project has identified onsite drainage that will generally be directed to the additional lettered lot, at which a bioretention basin that will be developed. The SWPPP would specify the BMPs that the proposed Project would be required to implement during construction activities to ensure that all potential water pollutants of concern are prevented, minimized, and/or otherwise appropriately treated prior to being discharged from the subject property. With implementation of these mandatory Plans and their BMPs, as well as MM HAZ-1 above, the future development of the proposed Project will not cause a violation of any water quality standards or waste discharge requirements.

- b. *Less Than Significant Impact* – Implementation of the proposed Project will not deplete groundwater supplies that would substantially affect the water availability for existing or planned land uses or biological resources. It is anticipated that, based on previous studies at the project site (refer to the Geotechnical Investigation provided as Appendix 4a), the potential to intercept groundwater during grading of both the project site and offsite roadways is considered to be less than significant. The groundwater basin would not be physically altered or impacted as a result of the proposed Project. Furthermore, the utilization of the project site in support of the proposed Project would reduce the potential for any groundwater contamination from the grazing use that formerly occurred onsite. The design of the drainage and retention facilities of the proposed Project would encourage groundwater recharge.

The proposed Project is a proposed subdivision that would ultimately result in the development of 76 single-family residences. The project site would be supplied with water by Eastern Municipal Water District that uses imported surface water to meet primary customer demand. Using imported surface water helps prevent overdraft of local groundwater basins. Eastern's 2020 Urban Water Management Plan (UMWP) identifies sufficient water resources to meet demand in its service area. The total retail water supply for Eastern in 2020 for retail customers, was 124,314 acre-feet per year (AFY) inclusive of both potable and recycled water, while the demand for both potable and recycled water was 115,916 AFY. According to Eastern, single-family uses accounted for 61.6% of the overall potable water demand in 2020, equal to 52,162 AFY. Eastern served a population of 603,950 persons in 2015, given that the average household size in the City of San Jacinto is 3.45 persons (according to SCAG 2020 Local Profile for the City of San Jacinto<sup>6</sup>), the proposed Project is anticipated to house a population of about 263 persons. According to Eastern's UWMP, Eastern's actual 2020 per capita use is 125 gallons per capita per day (GPCD). Based on the above, the population generated by the proposed Project would demand 32,875 gallons per day (GPD)(263 x 125 = 32,875 GPD) equal to about 36.9 AFY of water from Eastern. Based on the projected water demand for single-family residential units within Eastern's retail service area in 2025 at 8,500 AFY, and in 2045 at 10,600 AFY,

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<sup>6</sup> [https://scag.ca.gov/sites/main/files/file-attachments/2021\\_local\\_profiles\\_dataset.xlsx?1661892901](https://scag.ca.gov/sites/main/files/file-attachments/2021_local_profiles_dataset.xlsx?1661892901)

it is anticipated that the 36.9 AFY demand by the proposed Project can be accommodated into the future, particularly given that the overall available total gross water use is anticipated to be 145,930 AFY in 2025, and 187,100 AFY in 2045. The anticipated available water supply within Eastern's retail service area is anticipated to be greater than the demand for water in the future, which indicates that Eastern has available capacity to serve the proposed Project without significant adverse impacts on area groundwater basins.

While future development of the project site may result in a reduction in the amount of surface runoff recharge associated with natural runoff, this reduction is expected to be off-set/replaced by infiltration from the onsite bioretention basin, as well as the required onsite landscaping. The future development of the project site will, therefore, not substantially interrupt the existing percolation of the site, or any flow of groundwater under the project site. No significant adverse impacts to groundwater resources are forecast to occur from implementing the proposed Project. No mitigation is required.

c. i. Result in substantial erosion or siltation onsite or offsite?

*Less Than Significant With Mitigation Incorporated* – The proposed Project is not anticipated to significantly change the volume of flows downstream of the project site, and would not be anticipated to change the amount of surface water in any water body in an amount that could initiate a new cycle of erosion or sedimentation downstream of the project site. The future onsite drainage system will capture the incremental increase in runoff from the project site associated with future project development. Onsite flows will be directed to and captured by the proposed site bioretention basin. These systems will be designed to capture any excess runoff from the project site after development. Refer to the data contained in Appendix 6a, which contains the Infiltration Testing for On-Site Storm Water Management prepared by Sladden Engineering, dated February 23, 2022, which determined that the infiltration rates at the project site represent an appropriate safety factor should be incorporated into the design to account for long-term saturation and potential silting of the surface soils. This measure will be incorporated into the design of the proposed Project and enforced by the following mitigation measure:

**HYD-1** *The developer shall incorporate an appropriate safety factor into the design of the retention basin that accounts for long-term saturation and potential silting of surface soils. The safety factor shall be determined with consideration of other factors considered in the storm water retention system design—specifically storm water volume estimates—and the safety factors associated with the related design components.*

Treated surface runoff will be discharged in conformance with Riverside County and City of San Jacinto requirements. The downstream drainage system will not be altered given the control of future surface runoff from the project site; thus, the potential for downstream erosion or sedimentation will be controlled to a less than significant impact level with the implementation of MM **HYD-1**.

c. ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite?

*Less Than Significant With Mitigation Incorporated* – The proposed Project will alter the existing drainage courses or patterns onsite but control of future discharges from the future site development through the bioretention basin, which would prevent flooding onsite or offsite from occurring. Onsite flows will be directed to and captured by the proposed site bioretention basin. Refer to the data contained in Appendix 6a, which contains the Infiltration Testing for On-Site Storm Water Management prepared by Sladden Engineering, dated February 23, 2022, which determined that the infiltration rates at the project site represent an appropriate safety factor should be incorporated into the future design to account for long-term saturation and potential silting of the surface soils. This will be incorporated into the design of the proposed Project and enforced by MM **HYD-1**, above. The City will require these and the BMPs identified in the WQMP to be implemented as conditions of the

Project's approval. Thus, the implementation of onsite drainage improvements and applicable requirements included in the WQMP and recommendations provided in the Infiltration Report—enforced through MM **HYD-1**. This will ensure that stormwater runoff will not substantially increase the rate or volume of runoff in a manner that would result in substantial flooding on- or off-site. Impacts under this issue are considered less than significant with the implementation of mitigation.

- c. 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?

*Less Than Significant With Mitigation Incorporated* – The proposed Project will alter the site such that stormwater runoff within the site will be increased, but control future discharges from the site. This would prevent the proposed Project from exceeding the capacity of existing or planned stormwater drainage systems and from providing substantial additional sources of polluted runoff. The drainage throughout the project site will be captured and treated in the proposed bioretention basin. Onsite flows will be directed to and captured by the proposed site bioretention basin. These systems will be designed to capture the flows above the peak 100-year flow runoff from the project site without development or otherwise be detained on site and discharged in conformance with Riverside County requirements. The future development would be required to treat surface water runoff prior to its discharge to meet Regional Water Quality Control Board (RWQCB) water quality requirements and provide safeguards that surface water runoff would not provide sources of polluted runoff. Varying amounts of urban pollutants, such as motor oil, antifreeze, gasoline, pesticides, detergents, trash, animal wastes, and fertilizers, could be introduced into downstream stormwater. However, the proposed Project is not anticipated to generate discharges that would require pollution controls beyond those already designed into the Project and/or required by the City as a standard operating procedure to meet water quality management requirements from the RWQCB. As such, the proposed Project is not anticipated to result in a significant adverse impact to water quality or flows downstream of the project site with implementation of mitigation outlined below.

The City and County have adopted stringent best management practices designed to control discharge of non-point source pollution that could result in a significant adverse impact to surface water quality. The City has identified BMPs that when implemented, can ensure that neither significant erosion and sedimentation, nor other water quality degrading impacts will occur as a result of developing the proposed Project. Although BMPs are mandatory for the proposed Project to comply with established pollutant discharge requirements, the following mitigation measure is designed to establish a performance standard to ensure that the degree of water quality control is adequate to ensure the proposed Project does not contribute significantly to downstream water quality degradation.

***HYD-2 The developer will select best management practices from the range of practices identified by the City and reduce future non-point source pollution in surface water runoff discharges from the site to the maximum extent practicable, both during construction and following development. The Storm Water Pollution Prevention Plan (SWPPP) and Water Quality Management Plan (WQMP) shall be submitted to the City for review and approval prior to ground disturbance and the identified BMPs installed in accordance with schedules contained in these documents.***

Compliance will also be ensured through fulfilling the requirements of a SWPPP and WQMP monitored by the City and the RWQCB. The SWPPP must incorporate the BMPs that meet the performance standard established in MM **HYD-2** for both construction and occupancy stages of the proposed Project. Thus, the implementation of onsite drainage improvements enforced through MM **HYD-1** and **HYD-2**, in addition to applicable requirements will ensure that that drainage and stormwater will not create or contribute runoff that would exceed the capacity of existing or planned offsite stormwater drainage systems or provide substantial additional sources of polluted runoff. Impacts under this issue are considered less than significant with mitigation required.

c. iv. Impede or redirect flood flows?

*Less Than Significant Impact* – As shown on the Federal Emergency Management Agency (FEMA) Federal Insurance Rate Map (FIRM) #06065C1490H provided as Figure X-1, the project site is located within zone X, which is an area of minimal flood hazard. The future development of this site would continue to be elevated, thus remaining outside of the 100-year floodplain, and is not anticipated to redirect or impede flood flow at the project site, particularly given that surface flows onsite will be directed to the onsite drainage features which will be capable of intercepting the peak 100-year flow rate from the project site or otherwise be detained on site and discharged in conformance with Riverside County requirements. Therefore, impacts under this issue are considered less than significant and no mitigation is required.

d. *Less Than Significant Impact* – Implementation of the project will not expose people or structures to a significant risk of inundation by seiche, tsunami, or other flood hazards. The City General Plan does not identify any dam inundation hazards, as no dams are located within the vicinity of the City. As the proposed Project would be developed in an area without a potential for dam rupture, no significant potential to expose people or structures to a significant risk of flood hazard due to dam inundation exists. Furthermore, the project site is located at a higher elevation than the Little Lake Reservoir in Hemet, which would reduce the potential for seiche risk at the project site. Additionally, the project site is located about 45 miles from the Pacific Ocean, and is separated by the Peninsular Range, as well as by an elevation of 1,425 feet above mean sea level (amsl) from the Ocean, thus limiting the risk for tsunami at the project site. Therefore, the potential to expose people or structures to a significant risk of flood hazard due to dam inundation, tsunami, or seiche as a result of Project implementation and future build out would be less than significant. No mitigation is required.

e. *Less Than Significant Impact* – The project site is underlain by the San Jacinto groundwater basin.<sup>7</sup> The project site will be served with water supply by Eastern. Eastern's local supplies include groundwater, desalinated groundwater, and recycled water. Groundwater is pumped from the Hemet/San Jacinto and West San Jacinto areas of the San Jacinto Groundwater Basin. However, Eastern utilizes imported water for a large portion of its water supply. The San Jacinto Groundwater Basin is considered high priority by the Sustainable Groundwater Management Act (SGMA) and Department of Water Resources (DWR)<sup>8</sup>. The San Jacinto Groundwater Basin is deemed a high priority basin, but not critically overdrafted, by DWR, and the Groundwater Sustainability Agency (GSA) is required to develop by 2022 and implement by 2042 a Groundwater Sustainability Plan (GSP). The GSP will document basin conditions and basin management will be determined through measurable objectives and minimum thresholds defined to prevent significant and unreasonable impacts to the sustainability indicators defined in the GSP. This document has not been drafted yet; however, the developer and future residents and will be required to comply with the water consumption reduction measures, and other sustainability measures once the GSP has been adopted and implementation measures have been identified. Water consumption and the effects thereof in nearby basins indicates that the proposed Project's water demand is considered to be less than significant. By controlling water quality during construction and operations through implementation of both short- (SWPPP) and long- (WQMP) term best management practices at the project site, no potential for conflict or obstruction of the Regional Board's water quality control plan has been identified.

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<sup>7</sup> <https://gis.water.ca.gov/app/bp-dashboard/final/>

<sup>8</sup> [https://www.emwd.org/post/sustainable-groundwater-management-act#:~:text=The%20San%20Jacinto%20Groundwater%20Basin%20is%20deemed%20a%20high%20priority,Groundwater%20Sustainability%20Plan%20\(GSP\).](https://www.emwd.org/post/sustainable-groundwater-management-act#:~:text=The%20San%20Jacinto%20Groundwater%20Basin%20is%20deemed%20a%20high%20priority,Groundwater%20Sustainability%20Plan%20(GSP).)



	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>XI. LAND USE AND PLANNING:</b> Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION**

Project Description

The proposed Project includes the subdivision of one 18.5-acre parcel via a tentative tract map (TTM 38339), the future construction of 76 single-family detached residences, internal roadways, and a detention basin, as shown in Figure 3, the Site Plan. Land Use and Planning impacts from construction and operation of the proposed Project, as described herein, are presented below.

Impact Analysis

- a. *No Impact* – Refer to the aerial photos provided as Figures 1 and 2, which depict the Project’s regional and site-specific location. The project site would occur within a site zoned for Residential, Low Density (RL) development. The project site is currently occupied by an existing residence, accessory structures, and grazing land support structures with much of the open space on the site consisting of compacted dirt and minimal vegetation. The site is located in an area that is surrounded by residential uses, as well as some undeveloped adjacent vacant land. The proposed Project would be consistent with both the uses surrounding the project site and the surrounding land use designations and zoning classifications. Consequently, the future development of the project site will not divide any established community in any manner. Therefore, no significant impacts under this issue are anticipated and no mitigation is necessary.
- b. *Less Than Significant Impact* – The project site encompasses about 18.5 acres, and it is zoned for Residential, Low Density (RL) development. The proposed Project proposes to subdivide the lot to enable the future development of 76 single-family residential homes at a density of 3.80 dwelling units per acre (DU/A). With approval of the entitlements to enable the subdivision and future development of the project site, the proposed Project will be fully consistent the General Plan Land Use Map. A review of the 2022 San Jacinto General Plan Land Use Element Goals indicates that the proposed Project is consistent with Land Use Goals LU 1, LU 2, LU 3, and LU 5. All other Land Use Element Goals are not applicable to the proposed Project.

A review of all other General Plan Element Goals (Economic Development, Mobility, Public Safety, Resource Management, Environmental Justice, and Housing) indicates that the proposed Project is consistent with all applicable Goals, often with mitigation, as demonstrated by the findings in the pertinent sections of this Initial Study. The proposed Project can be implemented without significant effects on the circulation system; all infrastructure exists at or can be extended to the site to support the proposed Project; it can support a safe and sustainable transportation system in the City; it can be developed with no conflicts with the Resource Management Element issues (open space; agricultural lands; natural resources such as mineral resources, water resources and biological resources; scenic resources; hillsides; cultural resources; air quality; and energy use); it will contribute development impact fees (DIF) to ensure that the City can meet recreation needs meeting the Community Services and Facilities Element goals and policies by contributing to a cohesive neighborhood; it will not generate significant air emissions or GHG emissions; it will meet noise compatibility requirements with mitigation; it can meet all Public Safety Element requirements with no

conflicts with the Public Safety Element issues (Seismic and Geologic Hazards, Fire Safety, Flooding, Hazardous Waste and Materials, Emergency Operations, Noise, and, Climate Change and Resiliency Planning); and it implements the City’s Housing Element, specifically Goal 2, which states:

- *GOAL 2: Provide adequate sites for new residential construction to meet the needs of all segments of the community while promoting the character of the City.*
  - *Policy 2.1: Maintain adequate capacity to accommodate the City’s unmet Regional Housing Needs Allocation (RHNA) for all income categories throughout the planning period*

Furthermore, according to the SCAG RHNA 2020, the City’s regional housing needs are as follows:

**Table XI-1  
REGIONAL HOUSING NEEDS: CITY OF SAN JACINTO<sup>9</sup>**

<b>Total</b>	<b>Very Low Income</b>	<b>Low Income</b>	<b>Moderate Income</b>	<b>Above Moderate Income</b>
3,385	798	464	559	1,564

The proposed subdivision would ultimately result in the contribution of 76 single-family residential dwelling units to the SCAG identified 3,385 dwelling unit deficit within the City at present, thus meeting the City’s Housing Element Policy 2.1. Therefore, the implementation of the proposed Project is consistent with the City’s plans and policies. Based on the preceding information, implementation of the proposed Project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, zone classification, or the City’s Municipal Code) adopted for the purpose of avoiding or mitigating an environmental effect. No adverse impacts are anticipated under this issue and no mitigation is required.

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<sup>9</sup> <https://scag.ca.gov/sites/main/files/file-attachments/rhna-draft-allocations-090320-updated.pdf?1602188695>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>XII. MINERAL RESOURCES:</b> Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**SUBSTANTIATION**

Project Description

The proposed Project includes the subdivision of one 18.5-acre parcel via a tentative tract map (TTM 38339), the future construction of 76 single-family detached residences, internal roadways, and a detention basin, as shown in Figure 3, the Site Plan. Mineral Resources impacts from construction and operation of the proposed Project, as described herein, are presented below.

Impact Analysis

a&b. *No Impact* – The proposed Project would be installed within a site zoned for Residential, Low Density (RL) development, which does not support any mining uses. The project site is currently occupied by an existing residence, accessory structures, and grazing land support structures with much of the open space on the site consisting of compacted dirt and minimal vegetation. The site is, therefore, disturbed and is surrounded by residential development. The recently adopted San Jacinto General Plan and GPEIR do not identify any areas containing mineral resources within the City; however, the General Plan provides Resource Management Goals (Goal 3) that stipulate that the City wishes to prevent incompatible development in areas that should be preserved for mineral extraction. Due to the current use of the project site, and the suburban area in which it is located, the proposed Project is not anticipated to result in the loss of mineral resource values to the region or residents of the state, nor would it result in the loss of any locally important mineral resources identified in the City of San Jacinto General Plan. No impacts would occur under this issue. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>XIII. NOISE:</b> Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of a project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**SUBSTANTIATION**

Project Description

The proposed Project includes the subdivision of one 18.5-acre parcel via a tentative tract map (TTM 38339), the future construction of 76 single-family detached residences, internal roadways, and a detention basin, as shown in Figure 3, the Site Plan. The project site is currently occupied by an existing residence, accessory structures, and grazing land support structures with much of the open space on the site consisting of compacted dirt and minimal vegetation. The site is, therefore, disturbed and is surrounded by residential development. The project area is residential in nature, and thus the proposed Project is located in an area containing sensitive receptors to noise generating activities. Furthermore, the nearest sensitive receptor is about 25 feet from the boundaries of the project site, which is the closest area at which future construction activities will occur. The proposed Project site is located in a low-to-moderate background level environment as a result of the neighborhood residential nature of the project area.

Background

Noise is generally described as unwanted sound. The unit of sound pressure ratio to the faintest sound detectable to a person with normal hearing is called a decibel (dB). Sound or noise can vary in intensity by over one million times within the range of human hearing. A logarithmic loudness scale, similar to the Richter scale for earthquake magnitude, is therefore used to keep sound intensity numbers at a convenient and manageable level. The human ear is not equally sensitive to all sound frequencies within the entire spectrum. Noise levels at maximum human sensitivity from around 500 to 2,000 cycles per second are factored more heavily into sound descriptions in a process called "A-weighting," written as "dBA."

Leq is a time-averaged sound level; a single-number value that expresses the time-varying sound level for the specified period as though it were a constant sound level with the same total sound energy as the time-varying level. Its unit is the decibel (dB). The most common averaging period for Leq is hourly. The State of California has established guidelines for acceptable community noise levels that are based on the Community Noise Equivalent Level (CNEL) rating scale (a 24-hour integrated noise measurement scale). The guidelines rank noise land use compatibility in terms of "normally acceptable," "conditionally acceptable," and "clearly unacceptable" noise levels for various land use types. The State Guidelines, Land Use Compatibility for Community Noise Exposure, single-family homes are "normally acceptable" in exterior noise environments up to 60 dB CNEL and "conditionally acceptable" up to 70 dB CNEL based on this scale. Multiple family residential uses are "normally acceptable" up to 65 dB CNEL and "conditionally

acceptable" up to 70 CNEL. Schools, libraries and churches are "normally acceptable" up to 70 dB CNEL, as are office buildings and business, commercial and professional uses with some structural noise attenuation.

*City of San Jacinto Noise Standards*

The City of San Jacinto General Plan Maximum Allowable Noise Exposure from Mobile Noise Sources standards is outlined below.

**Table XII-1  
MAXIMUM ALLOWABLE NOISE EXPOSURE FROM MOBILE NOISE SOURCES**

Land Use	Noise Standards <sup>1</sup>	
	Exterior	Interior
Residential – single-family, multi-family, duplex and mobile home	65 dB(A)	45 dB(A)
Residential – transient lodging, hotels, motels, nursing homes, hospitals, assisted care facilities	65 dB(A)	45 dB(A)
Private offices, churches, libraries, theaters, concert halls, meeting halls, schools	65 dB(A)	45 dB(A)
General commercial, office, retail, reception, restaurant	65 dB(A)	45 dB(A)
Light industrial <sup>2</sup>	---	---
Parks and playgrounds <sup>3</sup>	65 dB(A)	50 dB(A)
Golf courses, outdoor spectator sports	70 dB(A)	---

<sup>1</sup> In Community Noise Level Equivalent (CNEL).

<sup>2</sup> Noise standards do not apply to Light Industrial areas.

<sup>3</sup> Outdoor environment limited to playground areas, picnic areas and other areas of frequent human use.

The City of San Jacinto General Plan Maximum Allowable Exterior Noise Exposure from Stationary Sources standards is outlined below.

**Table XII-2  
ALLOWABLE EXTERIOR NOISE LEVEL DUE TO STATIONARY NOISE SOURCES<sup>1</sup>**

Land Use	Allowed Equivalent Noise Level, dBA Leq <sup>2</sup>	
	7 AM to 10 PM	10 PM to 7 AM
All single-family residential properties	65	45
All multifamily residential properties and mobile home parks	65	50
All commercial property	65	60
The residential portion of mixed-use properties	70	70
All manufacturing or industrial properties and all other uses	70	70

Source: City of San Jacinto Municipal Code 8.40.040

Notes:

1. If the ambient noise level exceeds the resulting standard, the ambient noise level shall be the standard.
2. Measurements for compliance are made on the affected property pursuant to Municipal Code Section 8.40.160.
3. It is unlawful for any person at any location within the incorporated area of the city to create noise, or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, which noise causes the noise level, when measured at any location on any other property, to exceed either of the following:
  - a. The noise standard for the applicable zone for any fifteen (15) minute period;
  - b. A maximum instantaneous (single instance) noise level equal to the value of the noise standard plus twenty (20) dBA for any period of time (measured using A-weighted slow response).
4. In the event the ambient noise level exceeds the noise standard, the maximum allowable noise level under such category shall be increased to reflect the maximum ambient noise level.
5. The residential portion of mixed-use properties standard shall apply to that portion of residential property falling within one hundred (100) feet of a commercial property or use if the noise originates from that commercial property or use.
6. If the measurement location is on a boundary between two different types of land uses, the lower noise level standard applicable to types of land uses shall apply.

The City of San Jacinto General Plan Maximum Allowable Interior Noise Exposure from Stationary Sources standards is outlined below.

**Table XII-3  
ALLOWABLE INTERIOR NOISE LEVEL DUE TO STATIONARY NOISE SOURCES<sup>1</sup>**

Land Use	Allowed Equivalent Noise Level, dBA Leq <sup>2</sup>	
	7 AM to 10 PM	10 PM to 7 AM
All single-family residential properties	45	40
All multifamily residential properties and mobile home parks	45	40
All commercial property	45	40
Residential portion of mixed-use properties	45	40

Notes:

1. If the ambient noise level exceeds the resulting standard, the ambient noise level shall be the standard.
2. Measurements for compliance are made on the affected property pursuant to Municipal Code Section 8.40.160.
3. It is unlawful for any person at any location within the incorporated area of the city to create noise, or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, which noise causes the noise level, when measured at any location on any other property, to exceed either of the following:
  - a. The noise standard for the applicable zone for any fifteen (15) minute period;
  - b. A maximum instantaneous (single instance) noise level equal to the value of the noise standard plus twenty (20) dBA for any period of time (measured using A-weighted slow response).
4. In the event the ambient noise level exceeds the noise standard, the maximum allowable noise level under such category shall be increased to reflect the maximum ambient noise level.
5. The Residential portion of mixed-use standard shall apply to that portion of residential property falling within one hundred (100) feet of a commercial property or use if the noise originates from that commercial property or use.
6. If the measurement location is on a boundary between two different types of land uses, the lower noise level standard applicable to the types of land uses shall apply.

The City of San Jacinto General Plan requires all construction activity to comply with the limits (maximum noise levels, hours and days of allowed activity) established in the City noise regulations (Title 24 California Code of Regulations, Noise Ordinance). The City of San Jacinto Noise Ordinance states the following in regards to Noise regulations pertaining to construction activities:

- 8.40.060 D: Noise sources associated with construction, repair, remodeling, demolition or grading of any real property. Such activities shall instead be subject to the provisions of Section 8.40.090;
- 8.40.090 A: Weekdays and Saturdays. No person shall engage in construction, remodeling, digging, grading, demolition or any other related building activity, nor shall operate any tool, equipment or machine, on any weekday or Saturday except between the hours of seven a.m. and seven p.m.; and,
- 8.40.090 B: Sundays and Holidays. No person shall engage in construction, remodeling, grading, demolition or other related building activity, nor shall operate any tool, equipment or machine, on any Sunday or any federal holiday.
- 8.40.090 D. Exceptions:
  - 1. The provisions of this section shall not apply to emergency construction work performed by a private party when authorized by the city manager or his or her designee;

Impact Analysis

- a. *Less Than Significant With Mitigation Incorporated* – The project site is located within a suburban residential area of the City of San Jacinto. The proposed subdivision would ultimately result in the development of 76 single-family residences within the City of San Jacinto. The project site is currently occupied by an existing residence, accessory structures, and grazing land support structures with much of the open space on the site consisting of compacted dirt and minimal vegetation. The proposed Project is situated in an area surrounded by existing residential development and experiences low to moderate background noise due to the traffic and other activities that are the primary sources of noise generation in suburban settings and that would occur on the surrounding

roadways. The nearest area in which construction will occur within the project site as part of the future development of the proposed subdivision is only about 25 feet from the nearest residential structures.

*Short Term Noise*

According to the City of San Jacinto General Plan, the City requires all construction activity to comply with the limits (maximum noise levels, hours and days of allowed activity) established in the City noise regulations (Title 24 California Code of Regulations, Noise Ordinance). The proposed Project would be constructed during the hours in which construction is exempt from the City's Noise Performance Standards. Construction equipment generates noise that ranges between approximately 75 and 90 dBA at a distance of 50 feet. Refer to Table XIII-4, which shows construction equipment noise levels at 25, 50 and 100 feet from the noise source.

**Table XII-4  
NOISE LEVELS OF CONSTRUCTION EQUIPMENT AT  
25, 50 AND 100 FEET (in dBA Leq) FROM THE SOURCE**

<b>Equipment</b>	<b>Noise Levels at 25 feet</b>	<b>Noise Levels at 50 feet</b>	<b>Noise Levels at 100 feet</b>
<b>Earthmoving</b>			
Front Loader	85	79	73
Backhoes	86	80	74
Dozers	86	80	74
Tractors	86	80	74
Scrapers	91	85	79
Trucks	91	85	79
<b>Material Handling</b>			
Concrete Mixer	91	85	79
Concrete Pump	88	82	76
Crane	89	83	77
Derrick	94	88	82
<b>Stationary Sources</b>			
Pumps	82	79	70
Generator	84	78	72
Compressors	87	81	75
Other			
Saws	84	78	72
Vibrators	82	76	70

Source: U.S. Environmental Protection Agency "Noise"

Receptors located in the vicinity of the Project shown on Figure 2, which depicts the site and adjacent residences on an aerial map. These sensitive receptors may experience increased noise levels during construction; however, the proposed Project will comply with the City's restrictions on night-time construction activity. Therefore, through compliance with the City's noise standards, construction would not result in the generation of a substantial temporary or permanent noise levels in the vicinity of a project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. However, mitigation is provided below to further reduce construction noise levels at residences and/or minimize or address complaints from local sensitive noise receptors during the future construction activities. The short-term noise impacts associated with construction activities are forecast to be less than significant through implementing the following

measures. As future construction activities may be a nuisance to nearby residents, the following mitigation is recommended:

- NOI-1** *No construction activities shall occur during the hours of 7 PM through 7 AM Monday through Saturday, and no construction activities shall occur on Sunday unless emergency construction work must be performed and is authorized by the City manager or his or her designee.*
- NOI-2** *No radios or other sound equipment shall be used at this site unless required for emergency response by the contractor.*
- NOI-3** *The City shall require the developer to require that all construction equipment be operated with mandated noise control equipment (mufflers or silencers). Enforcement will be accomplished by random field inspections by applicant personnel during construction activities.*
- NOI-4** *Equipment not in use for five minutes shall be shut off.*
- NOI-5** *Equipment shall be maintained and operated such that loads are secured from rattling or banging.*
- NOI-6** *Construction employees shall be trained in the proper operation and use of equipment consistent with these mitigation measures, including no unnecessary revving of equipment.*
- NOI-7** *The City shall require the developer to establish a noise complaint response program and shall respond to any noise complaints received for this Project by measuring noise levels at the affected receptor site. If the noise level exceeds an Ldn of 60 dBA exterior or an Ldn of 45 dBA interior at the receptor, the developer will implement adequate measures (which may include portable sound attenuation walls, use of quieter equipment, shift of construction schedule to avoid the presence of sensitive receptors, etc.) to reduce noise levels to the greatest extent feasible.*
- NOI-8** *All residential units located within 500 feet of the construction site shall be sent a notice regarding the construction schedule of the proposed Project. A sign, legible at a distance of 50 feet shall also be posted at the construction site. All notices and the signs shall indicate the dates and duration of construction activities, as well as provide a telephone number where residents can inquire about the construction process and register complaints.*

#### *Long-Term Noise*

The long term or permanent change in noise from the proposed Project would be consistent with the surrounding uses. The primary noise sources associated with the proposed Project would include the typical residential noise sources such as heating, ventilating, and air conditioning (HVAC) units, as well as off-site traffic noise from the additional vehicles that would be driving to and from the project area to access the proposed residential use. The proposed Project would result in modest additional traffic on adjacent roadways since the Project would generate traffic to and from each of the 76 single-family residences. Thus, it is not anticipated, given the setting within which the proposed Project would be developed—surrounded by existing single-family residential uses—that it would generate significant vehicular noise within the project area. The noise attributable to the proposed Project would follow the City's limit of 65 dBA for the exterior of sensitive uses, or 45 dBA for the interior of sensitive uses surrounding the project area. Based on the existing noise levels in the area surrounding the project site from adjacent residential uses, and due to the fact that the new



permanent noise generating activities would be similar to those that already exist in the neighborhood, future occupancy of the proposed Project would not result in the generation of a substantial temporary or permanent noise levels in the vicinity of a project site in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

- b. *Less Than Significant With Mitigation Incorporated* – Vibration is the periodic oscillation of a medium or object. The rumbling sound caused by vibration of room surfaces is called structure borne noises.<sup>10</sup> Sources of groundborne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous or transient. Vibration is often described in units of velocity (inches per second), and discussed in decibel (dB) units in order to compress the range of numbers required to describe vibration. Vibration impacts related to human development are generally associated with activities such as train operations, construction, and heavy truck movements.

The Federal Transit Authority (FTA) Noise and Vibration Assessment<sup>11</sup> states that in contrast to airborne noise, ground-borne vibration is not a common environmental problem. Although the motion of the ground may be noticeable to people outside structures, without the effects associated with the shaking of a structure, the motion does not provoke the same adverse human reaction to people outside. Within structures, the effects of ground-borne vibration include noticeable movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. The FTA Assessment further states that it is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. However, some common sources of vibration are trains, trucks on rough roads, and construction activities, such as blasting, pile driving, and heavy earth-moving equipment. The FTA guidelines identify a level of 80 VdB for sensitive land uses. This threshold provides a basis for determining the relative significance of potential Project related vibration impacts, as the City has not adopted a specific vibration threshold.

Due to the distance at which the majority of construction would occur in relation to nearby structures, the proposed Project is unlikely to expose people to significant generation of excessive groundborne vibration or groundborne noise levels. Groundborne vibration is normally perceptible to humans at approximately 65 VdB, while 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible. Construction activity can result in varying degrees of groundborne vibration; in the short term, construction from installing the Project is in close enough proximity to the adjacent residences (within 25-200 feet) has the potential to create some groundborne vibration to the nearest sensitive receptors at some sites within the proposed Project footprint. However, any short-term impacts to the nearest sensitive receptors would be considered less than significant through implementing the following mitigation measure:

***NOI-9 During future initiation of construction activities with heavy equipment within 200 feet of occupied residences, vibration field tests shall be conducted at the nearest occupied residences upon receipt. If vibrations exceed 72 VdB (just below the level at which vibration becomes distinctly perceptible at 75 VdB per the FTA Noise and Vibration Assessment), the construction activities shall be revised (smaller equipment, reduced activity) to reduce vibration below this threshold.***

With implementation of the above mitigation measure, significant vibration impacts from future construction activities would be prevented from occurring. Therefore, impacts from proposed Project related vibration would be considered less than significant with implementation of mitigation. No further mitigation is required.

<sup>10</sup>[https://planning.lacity.org/eir/8150Sunset/References/4.G.%20Noise/N.05\\_%20FTA%20Noise%20and%20Vibration%20Impact%20Assessment%20Chapter%207\\_1995.pdf](https://planning.lacity.org/eir/8150Sunset/References/4.G.%20Noise/N.05_%20FTA%20Noise%20and%20Vibration%20Impact%20Assessment%20Chapter%207_1995.pdf)

<sup>11</sup> [https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA Noise and Vibration Manual.pdf](https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA%20Noise%20and%20Vibration%20Manual.pdf)

- c. *No Impact* – The project site is not located within two miles of any public or public use airports. According to a review of Google Maps (July 26, 2022), the closest public airports to the project site are the Hemet-Ryan Airport, approximately 4 miles southwest of the project site, Banning Municipal Airport, approximately 15 miles northeast of the project site, and the Perris Valley Airport located approximately 20 miles west of the project site. Based on this information, the proposed Project will have no potential to expose people residing or working in the project area to excessive noise levels generated by nearby aircraft or airport operations. No impact will occur and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>XIV. POPULATION AND HOUSING:</b> Would the project:				
a) Induce substantial 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION**

Project Description

The proposed Project includes the subdivision of one 18.5-acre parcel via a tentative tract map (TTM 38339), the future construction of 76 single-family detached residences, internal roadways, and a detention basin, as shown in Figure 3, the Site Plan. Population and Housing impacts from construction and operation of the proposed Project, as described herein, are presented below.

Impact Analysis

- a. *Less Than Significant Impact* – The project site contains one single-family residence on grazing land, designated for single-family residential use and the Project would propose 76 single-family dwelling units in place of the existing site use. The project site is located within the City of San Jacinto within the City’s Low Density Residential land use designation. The Southern California Association of Government (SCAG) 2020 Local Profile for the City of San Jacinto indicates that the 2020 population was 50,207.<sup>12</sup> The SCAG Connect SoCal Demographics and Growth Forecast (2020) projects an estimated City population of 69,900 by the year 2045.<sup>13</sup> The SCAG 2020 Local Profile for the City of San Jacinto indicates that the average household size is 3.45 persons. The future development of 76 residential dwellings at the project site, would house a total of 263 persons. Given that the current population of the City of San Jacinto is over 20,000 persons less than the projected 2045 population, the potential for an additional 263 residents within the City of San Jacinto is considered less than significant as the proposed Project would represent only about 1.3% of the potential growth anticipated between the present population and the City’s projected build-out population.

Additionally, the SCAG Connect SoCal Demographics and Growth Forecast (2020) projects that the total number of households within the City by 2045 will be 25,000, while the SCAG 2019 Local Profile for the City indicates that the total number of households within the City is 13,753. As such, the

<sup>12</sup> [https://scag.ca.gov/sites/main/files/file-attachments/2021\\_local\\_profiles\\_dataset.xlsx?1661892901](https://scag.ca.gov/sites/main/files/file-attachments/2021_local_profiles_dataset.xlsx?1661892901)

<sup>13</sup> [https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocial\\_demographics-and-growth-forecast.pdf?1606001579](https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocial_demographics-and-growth-forecast.pdf?1606001579)

addition of 76 new residential units, in place of the one existing residential unit within the project site, would be well within the projected number of households that would be anticipated to be developed in the next 20+ years. These units would contribute to the housing needs within the City, which, as determined by the SCAG 6<sup>th</sup> Cycle Regional Housing Needs Assessment (RHNA) Allocation Plan,<sup>14</sup> and as stated under Subsection XI, Land Use, above, was determined to be 3,385 units.<sup>15</sup> Given the above, the proposed Project would not induce population growth beyond that which has been planned for in the City General Plan or SCAG planning documents, or that can be accommodated by the proposed project and the City. Therefore, impacts would be less than significant. No mitigation is required.

- b. *Less Than Significant Impact* – The proposed Project would require the removal of one existing single-family residence within the project site. The proposed Project would eliminate one residential unit within the City, but would ultimately replace the existing residence with 76 single-family residential dwelling units. This would convert the existing single-family residential use to a subdivision that would enable the development of 76 single-family lots. The proposed site use would conform with the City’s land use designation that the City has selected as the appropriate use for the site. As such, implementation of the proposed Project will not displace substantial numbers of existing housing or persons, necessitating the construction of replacement housing elsewhere beyond that which would ultimately be installed. Impacts would be less than significant and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>XV. PUBLIC SERVICES:</b> Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION**

Project Description

The proposed Project includes the subdivision of one 18.5-acre parcel via a tentative tract map (TTM 38339), the future construction of 76 single-family detached residences, internal roadways, and a detention

<sup>14</sup> According to SCAG, “the RHNA does not necessarily encourage or promote growth, but rather allows communities to anticipate growth, so that collectively the region and subregion can grow in ways that enhance quality of life, improve access to jobs, promotes transportation mobility, and addresses social equity, fair share housing needs.”; The intent of the future needs allocation by income groups is to relieve the undue concentration of very low and low-income households in a single jurisdiction and to help allocate resources in a fair and equitable manner.

<sup>15</sup> <http://www.scag.ca.gov/Documents/5thCyclePFinalRHNAplan.pdf>;

basin, as shown in Figure 3, the Site Plan. Impacts related to Public Services from construction and operation of the proposed Project, as described herein, are presented below.

### Impact Analysis

- a. *Less Than Significant Impact* – The project site is served by the Riverside County Fire Department, which provides fire protection and emergency medical services to the City of San Jacinto. The closest fire station to the project site is Station 78, which is located just to the west of the project site at 2450 Cottonwood Ave, San Jacinto, CA 92582. According to the City of San Jacinto General Plan FEIR, the Fire Department’s average response time is 3.9 minutes, which is below their target time of 5 minutes. The proposed Project would not include the use or storage of highly flammable materials as it consists of residential uses. The future development of new single-family residences would incrementally add to the existing demand for fire protection services. The future development would be required to adhere to the California Fire Code, as included in the City of San Jacinto Municipal Code Chapter 8.16. Additionally, the Project plans would be reviewed by both the City’s Building and Safety Department and the Riverside County Fire Department to ensure that the plans meet the fire protection requirements. Cumulative contributions to the need for fire protection as a result of new development are mitigated through the payment of the Development Impact Fee (DIF), which includes a fire facilities component. Therefore, through payment of the DIF and compliance with the County Fire and City’s Municipal Code design requirements, the potential impacts on fire protection as a result of the proposed Project would be less than significant.
- b. *Less Than Significant Impact* – As noted in the preceding discussion regarding fire protection, the area surrounding the project site is located in a suburban residential area, and at present contains one single-family home on a parcel that is also utilized for grazing land. The City of San Jacinto contracts with the Riverside County Sheriff’s Department for police services. The San Jacinto Police Department is located at 160 West Sixth Street, San Jacinto, CA 92583. The project site is located within existing patrol routes and future calls can be responded to within the identified priority call target response times. According to the City’s GPEIR, the average response time for Priority 1 calls was just over six minutes between the years of 2019 and 2020. Given the small size of the proposed Project and that San Jacinto requires any construction or alteration requiring a building permit and meeting specific conditions to pay DIF fees prior to issuance of the building permit, the proposed Project’s contribution to demands for police services would be accommodated through existing funding mechanisms. New or expanded police facilities associated with the cumulative development within the City would be mitigated through the payment of the DIF, which contains a police facilities component that provides financing for police protection services and facilities thereof. Furthermore, the proposed Project plans would be reviewed by both the City’s Building and Safety Department and the San Jacinto Police Department to ensure that the plans meet the police protection requirements. Given the above, the proposed Project would not cause a significant additional demand on police protection services. Thus, implementation of the proposed Project would not substantially increase the demand for law enforcement services within the City. Thus, impacts to the existing police protection system would be less than significant. No mitigation is required.
- c. *Less Than Significant Impact* – The City of San Jacinto is located within the area served by San Jacinto Unified School District (SJSD) and Hemet Unified School District (HUSD), which is depicted in the 2012 City of San Jacinto General Plan School District Map (Figure XV-1). As stated under Population and Housing, the proposed Project is anticipated to increase population within the City of San Jacinto by approximately 263 persons beyond that which exists within the City at present. The SJSD has developed a facility’s plan and a School Fee Justification Study that identifies funding from new development that would provide for new school facilities as needed throughout the school district. The estimated school generation rates for the proposed Project are as follows based on the generation rates included in the San Jacinto Unified School District School Fee Justification Study (2022)<sup>16</sup>:

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<sup>16</sup> <https://4.files.edl.io/b666/05/10/22/222903-290081e6-1256-4f89-90d9-c599445fbf8f.pdf>

- The proposed Project would generate between about 25 K-5 students at a student generation rate for single-family detached of 0.3219.
- The proposed Project would generate between about 12 Middle School students at a student generation rate for single-family detached of 0.1620.
- The proposed Project would generate between about 16 High School students at a student generation rate for single-family detached of 0.2073.

As required by Government Code Section 65995, the proposed Project would be required by state law pay the required DIF towards the cost to offset impacts from the students that would be generated by the future development of the project site, which requires a mitigation payment per square foot of residential development. The DIF mitigation program of the SJSJ and HUSD adequately mitigate the impacts of the proposed Project in accordance with current state law. Since this is a mandatory requirement, no additional mitigation measures are required to reduce school impacts to a less than significant level.

- d. *Less Than Significant Impact* – The proposed Project would add to the existing demand on local recreational facilities. The project site is located just south of Cutting Park, which is within a walkable distance to the project site at 250 Ivy Crest Drive, San Jacinto, CA 92582. This park is 2.83 acres and contains open green space, walking paths, benches, pavilion with picnic tables, water fountain, and playground. The City's GPEIR described that the City had established a parkland standard of five acres per 1,000 residents. The City of San Jacinto GPEIR concluded that Buildout of San Jacinto would result in the need of additional parks, and new development would be required to fund its fair share for required parkland but would not make up for existing system deficiencies. The City currently provides approximately 3.39 acres of parkland for every 1,000 people. The existing deficit in park land is currently being offset with the recreational opportunities available in two golf courses, the San Jacinto River Park, the Diamond Valley Lake recreational area, and other nearby regional parks, shown on the City of San Jacinto General Plan Parks and Open Space map (Figure XV-2). The City's Municipal Code Section 16.40.040 states that the parkland dedication requirement for single-family residences is 0.015 acres per unit, or otherwise the developer must provide payment of an in-lieu fee dedicated to park uses. The City assesses DIF for Park and Open Space Facilities under three separate fees on a per dwelling unit basis: Park Facility Improvements, Park Land Acquisitions, and Park Land Improvements. The developer of the proposed Project will contribute the applicable and commensurate in lieu fee to offset the incremental increased demand for parks generated by future development of the proposed subdivision. Thus, implementation of the proposed Project would not cause a substantial adverse physical impact to any parks within the City. Impacts are considered less than significant and no mitigation is required.
- e. *Less Than Significant Impact* – The City of San Jacinto contracts with the Riverside County Public Library System and provides library services at several area libraries including the San Jacinto Public Library at 595 S. San Jacinto Avenue. The City's 2022 GPEIR indicates that developers must pay library fees to offset incremental impacts to the Riverside County Library System. Further, the 2022 General Plan Update includes policies and actions to ensure that library services are adequately funded, are coordinated between the City and the Riverside County Public Library System, and that new development funds its fair share of services. As the DIF contains a component dedicated to library services, the proposed Project would be subject to payment to these library funding mechanisms, which is deemed adequate to offset the incremental increase in demand for library services.

In regards to healthcare facilities, the Office of Statewide Health Planning and Development (OSHPD) suggests that new healthcare facilities are developed in response to perceived market demand by free enterprise. Thus, only when demand for new healthcare facilities is evident to healthcare providers and developers of healthcare facilities would such facilities be developed. As such, the proposed Project may contribute additional residents with the City population, but only once demand is perceived by those entities within the market or field of healthcare development would such facilities be constructed. The project area is served by various urgent care facilities, healthcare providers, and

hospitals, including the Valley Hospital about 3 miles east of the project site. Given the above, the proposed Project would not result in a demand for new or expanded healthcare facilities. As such, impacts under this issue are less than significant and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>XVI. RECREATION:</b>				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION**

Project Description

The proposed Project includes the subdivision of one 18.5-acre parcel via a tentative tract map (TTM 38339), the future construction of 76 single-family detached residences, internal roadways, and a detention basin, as shown in Figure 3, the Site Plan. Recreation impacts from construction and operation of the proposed Project, as described herein, are presented below.

Impact Analysis

- a. *Less Than Significant Impact* – As addressed in the discussion under XIV, Population and Housing, and XV(d), Public Services, above, the proposed Project would subdivide an existing residential parcel to enable the future development of 76 single-family residences. As such, the proposed Project may induce population, though not substantially. As stated in the discussion under Population and Housing, an estimated total of 263 persons may reside within the project site as a result of the proposed Project, while at present the site contains an estimated 3 residents. The City’s Municipal Code Section 16.40.040 states that the parkland dedication requirement for single-family residences is 0.015 acres per unit, or otherwise the developer must provide payment of an in-lieu fee dedicated to park uses. The City assesses DIF for Park and Open Space Facilities under three separate fees on a per dwelling unit basis: Park Facility Improvements, Park Land Acquisitions, and Park Land Improvements. As stated under XV(d), Public Services, above, the developer of the proposed Project will contribute the applicable and commensurate in lieu fee to offset the incremental increased demand for parks and recreation facilities generated by future development of the proposed Project. Thus, while the proposed Project would generate new residents that could increase the use of existing neighborhood and regional parks or other recreational facilities, any potential for the proposed Project to result in a substantial deterioration of any park or recreational facilities or for an acceleration of physical deterioration of any park or recreational facilities would be minimized through the payment of in lieu fees by the developer. Implementation of the proposed Project would not cause a substantial adverse physical impact to any parks or recreational facilities within the City. Impacts are considered less than significant and no mitigation is required.
  
- b. *Less Than Significant Impact* – The proposed Project consists of the subdivision of an existing parcel containing one single-family residence into 76 single family lots with one additional lot dedicated to water quality management in the City of San Jacinto. As such, the proposed Project will not include any recreational facilities. The site does not contain any existing recreational facilities on the project

site, and is designated for single-family residential use. As described throughout this Initial Study, the construction of the proposed Project would not cause a significant adverse physical effect on the environment under any issue. As a result, no recreational facilities beyond the minor facilities proposed to be provided for resident use only are required to serve the proposed Project, thus any impacts under this issue are considered less than significant. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>XVII. TRANSPORTATION:</b> Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION:** The following information utilized in this section of the Initial Study was obtained from the *Kirby Street Residential (Tentative Tract Map No. 38339) Traffic Analysis Scoping Agreement (TA)* prepared by Urban Crossroads dated May 25, 2022. This TA is provided as Appendix 7a to this Initial Study. Additionally, Urban Crossroads prepared the *Kirby Street TTM 38339 Vehicle Miles Traveled (VMT) Screening Evaluation* for this Project, it dated May 27, 2022 and provided as Appendix 7b.

Project Description

The proposed Project includes the subdivision of one 18.5-acre parcel via a tentative tract map (TTM 38339), the future construction of 76 single-family detached residences, internal roadways, and a detention basin, as shown in Figure 3, the Site Plan. Transportation impacts from construction and operation of the proposed Project, as described herein, are presented below.

Impact Analysis

- a. *Less Than Significant Impact* – The proposed Project is anticipated to have an Opening Year of 2025. According to the TA prepared by Urban Crossroads and provided as Appendix 7a, the proposed Project is estimated to generate a total of 718 trip-ends per day on a typical weekday with approximately 53 AM peak hour trips and 71 PM peak hour trips.

*TA Findings*

Per the City’s Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment (dated June 16, 2020, referred to as City Guidelines), projects that have fewer than 100 single family residential lots generally do not require a Traffic Study that includes Level of Service (LOS) operations analysis. This is because projects that generate less than 100 peak hour trips typically do not affect LOS significantly once distributed to the local roadway network. The proposed Project would result in the development of 76 single family detached residential lots which would generate fewer than 100 peak hour trips. As such, additional traffic analysis beyond this scoping agreement is not necessary.

#### *Alternative Modes of Transportation Analysis*

The project site is located in an area served by existing sidewalk and bike lanes. As shown on Figure 2, pedestrian facilities are built out at the following locations in the vicinity of the project site: along the west side of Kirby Street, along the east side of Kirby Street north of the project site, along the east side of Ivy Crest Drive, along the west side of Ivy Crest Drive north of the project site, and along a small stretch of the westernmost portion of Ootsdam Drive. The proposed Project will be required to improve the adjacent sidewalk/curb/gutter to City Standards, which will ensure that future development will not adversely impact pedestrian facilities.

The City of San Jacinto existing and proposed bicycle facilities are shown on Figure XVII-1, which has been extracted from the City of San Jacinto General Plan. As shown on Figure XVII-1, there are planned Class III Bike Route along Kirby Street, but no bike lanes or routes exist within the vicinity of the project site at present. The only major Class I bikeway in the City is located along the Ramona Expressway. Thus, bike paths are not anticipated to be interrupted by the construction of any off-site improvement. The project area is currently served by Riverside Transit Agency (RTA). The nearest stop in the vicinity of the project site is at the intersection of Kirby Street and Whispering Bells Road about 0.4 mile from the southwest corner of the project site, which connects the project area with other routes in the region available through RTA. The transit routes within the City are illustrated on Figure XVII-2. Transit service is reviewed and updated by RTA periodically to address ridership, budget, and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate. The proposed Project is not anticipated to create a significant new demand for transit service. Furthermore, the proposed Project would not impact existing transit routes. As such, it is not anticipated that the proposed Project will result in a significant increase in demand for alternative transportation systems, and will be adequately served by existing systems in the vicinity of the project site. Finally, the Project will involve site improvements and improvements to the adjacent sidewalk and roadway.

#### *Construction*

During construction, there is a potential to conflict with circulation in the project area as a result of the addition of construction traffic on area roadways. While this impact is temporary—only for the 10-month duration of construction—implementation of the proposed Project would require implementation of a traffic management plan to ensure that site access and City circulation would not be adversely impacted. Thus, the proposed Project shall be required to implement the following mitigation measure to ensure that the circulation within the City and project area is not adversely impacted by construction traffic:

***TRAN-1 The construction contractor will provide adequate traffic management resources, as determined by the City. The City shall require a construction traffic management plan that complies with the Work Area Traffic Control Handbook, or other applicable standard, to provide adequate traffic control and safety during construction. The traffic management plan shall be prepared and approved by the City prior to initiation of construction. At a minimum this plan shall include how to minimize the amount of time spent on construction activities; how to minimize disruption of vehicle and alternative modes of transport traffic at all times, but particularly during periods of high traffic volumes as directed by the City; how to maintain safe traffic flow on local streets affected by construction at all times, including through the use of adequate signage, protective devices, flag persons or police assistance to ensure that traffic can flow adequately during construction; the identification of alternative routes that can meet the traffic flow requirements of a specific area, including communication (signs, webpages, etc.) with drivers and neighborhoods where construction activities will occur; designating parking and construction staging areas that would not conflict with the City's operations nor prevent access to adjacent roadways; adopting an emergency response and evacuation plan applicable to the***



***duration of construction; and, at the end of each construction day the site and adjacent roadways shall be prepared for continued utilization without any significant roadway hazards remaining.***

### Conclusion

With the implementation of the above mitigation measure, the proposed Project would not conflict with any adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities, with the implementation of MM **TRAN-1**, above.

Thus, the proposed Project is anticipated to have a less than significant potential to conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. Impacts are therefore considered less than significant.

- b. *Less Than Significant With Mitigation Incorporated* – Senate Bill 743 mandates that California Environmental Quality Act (CEQA) guidelines be amended to provide an alternative to Level of Service for evaluating transportation impacts. The amended CEQA guidelines, specifically Section 15064.3, recommend the use of Vehicle Miles Traveled (VMT) for transportation impact evaluation. For the purposes of this analysis the recommended VMT analysis methodology and thresholds identified within the Technical Advisory and the City’s new analysis methodology have been used to model VMT impacts. This statewide mandate went into effect July 1, 2020. To aid in this transition, the Governor’s Office of Planning and Research (OPR) released a *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December of 2018) (Technical Advisory). Based on OPR’s Technical Advisory, the City of San Jacinto has prepared their *City of San Jacinto Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment* (June 2020) (City Guidelines). This analysis has utilized the City Guidelines for the review of applicable VMT screening criteria.

### *VMT Screening*

The City’s Guidelines list standardized screening methods for Project level VMT analysis that can be used to identify when a proposed land use development project is anticipated to result in a less than significant impact thereby eliminating the need to conduct a full VMT analysis. The City of San Jacinto utilizes the Western Riverside Council of Governments (WRCOG) VMT Screening Tool (Screening Tool). The Screening Tool allows users to select an assessor’s parcel number (APN) to determine if a project’s location meets one or more of the screening thresholds for land use projects identified in the City Guidelines. The City of San Jacinto VMT screening types, as described within the City Guidelines, which are listed below and analyzed on the basis of applicability for this Project. A land use project need only to meet one of the screening thresholds, described below, to result in a less than significant impact.

- **Step 1: Transit Priority Area (TPA) Screening**

- The Technical Advisory and City Guidelines describe those projects located within a Transit Priority Area (TPA) (i.e., within 1/2 mile of an existing “major transit stop” or an existing stop along a “high-quality transit corridor”) may be presumed to have a less than significant impact absent substantial evidence to the contrary. However, the presumption may not be appropriate if a project:
  - Has a Floor Area Ratio (FAR) of less than 0.75;
  - Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);
  - Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization); or
  - Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

- The Screening Tool was utilized to locate the project site and its proximity to a TPA. Results as shown in Attachment A identify the project site is not located within 1/2 mile of an existing major transit stop, or along a high-quality transit corridor.
- *TPA screening threshold is not met.*
- **Step 2: Low VMT Area Screening**
  - The City Guidelines state that, “residential and office projects located within a low VMT-generating area may be presumed to have a less than significant impact absent substantial evidence to the contrary. In addition, other employment-related and mixed-use land use projects may qualify for the use of screening if the project can reasonably be expected to generate VMT per resident, per worker, or per service population that is similar to the existing land uses in the low VMT area.” The Screening Tool uses the sub-regional Riverside County Model (RIVCOM) to measure VMT performance within individual traffic analysis zones (TAZ’s) within the WRCOG region. The project’s physical location is evaluated in the Screening Tool to determine VMT generated by the existing TAZ as compared to the City Guidelines’ recommended impact threshold of project generated VMT per service population below the WRCOG Subregional VMT per service population. The WRCOG Subregional VMT per service population was calculated using RIVCOM travel demand model resulting in a WRCOG Subregional average 34.62 VMT per service population.

The parcel containing the proposed Project was selected and the Screening Tool was run for the Origin-Destination VMT per service population measure of VMT. Based on the Screening Tool results (see Attachment A), the Project TAZ is shown to generate a VMT per service population of 15.9. The Project is located in a low VMT area below the WRCOG Subregional VMT per service population.

- *Low VMT Area screening criteria is met.*
- **Step 3: Project Type Screening**
  - The City Guidelines indicates for small projects that generate low traffic volumes (i.e., fewer than 500 daily trips) and by association low greenhouse gas (GHG) emissions are also assumed to cause a less than significant impact. Trips generated by the Project’s proposed land use have been estimated based on trip generation rates collected by the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition, 2021. The Project is estimated to generate 718 vehicle trip-ends per day. The Project exceeds the 500 daily trip thresholds.

Also, the City Guidelines identify that local serving retail buildings with less than 50,000 square feet or other local serving essential services (e.g., day care centers, public schools, religious assembly uses, etc.) are presumed to have a less than significant impact absent substantial evidence to the contrary. The proposed Project does not intend to develop any local serving uses.

- *Project Type screening criteria is not met.*

### Conclusion

In summary, the proposed Project was evaluated consistent with the available screening criteria. The proposed Project was found to meet the Low VMT Area screening criteria. The proposed Project would thus result in a less than significant impact for VMT and therefore would have a less than significant potential to conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).

- c. *Less Than Significant Impact* – The proposed Project will occur entirely within the project site boundaries, as site access is already provided along Kirby Street in support of the existing residential and grazing land. Large trucks delivering equipment or removing small quantities of excavated dirt or debris can enter the site without major conflicts with the flow of traffic on the roadways used to access the site. Primary access to the site, in future, will occur along Ivy Crest Drive, and new entrances along Ootsdam Drive and Kirby Street. Internal roadways will be developed once the

proposed subdivision is approved and the site is developed. The future design of driveways, internal roadways, and intersections will be based on City Code, which sets the standard for such design. As the proposed Project will be designed to avoid impacting major roadways, site access has been designed such that no increase in hazards due to a geometric design feature or incompatible uses would occur, and as such future construction traffic is not anticipated to result in any conflicts with the surrounding roadways. Additionally, the proposed Project would be required to comply with all applicable fire code and ordinance requirements for construction and access to the site. Emergency response and evacuation procedures would be coordinated with the City and the County, as well as the police and fire departments. In the long term, impacts to any hazards or incompatible uses in existing or planned roadways are anticipated to be less than significant. Operation of the proposed Project would be similar to the surrounding uses, and the design of the proposed Project would not create any hazards to surrounding roadways. Thus, any impacts are considered less than significant without the need for added mitigation.

- d. *Less Than Significant With Mitigation Incorporated* – Project site access will be designed in accordance with all applicable design and safety standards required by adopted fire codes, safety codes, and building codes established by the City’s Engineering and Fire Departments. In future, primary access to the site will occur along Ivy Crest Drive, and new entrances along Oostdam Drive and Kirby Street. The proposed Project will require some offsite improvements, including sidewalks, improved roadway pavement along Kirby Street, Ivy Crest Drive and Oostdam Drive. Additionally, offsite utility improvements would ultimately include a new storm drain located within Oostdam Drive and Ivy Crest Drive along the site boundaries, as well as a new sewer connection and pipeline that will connect to an existing sewer pipeline within Ivy Crest Drive, and will travel along the project site boundary within Oostdam Drive. Additionally, existing power poles along Kirby Street would be removed and cables under 66kv, including communication cables, would be undergrounded as part of future development. Construction within and adjacent to these roadways may require partial lane closure; however, the developer will be required to ensure that each roadway can still operate during future construction activities. In order to accomplish this, the proposed Project will require implementation of a traffic management plan in order to comply with the City of San Jacinto and the County of Riverside. As such, to mitigate the potential impacts to traffic flow and adequate emergency access, MM **TRAN-1**, provided under issue XVII(a), above, would be required. Ultimately, access to the site must comply with the MM **TRAN-1**, and additionally, access to the site must comply with all City design standards, and would be reviewed by the City to ensure that inadequate design features or incompatible uses do not occur. The proposed Project would be required to comply with all applicable fire code and ordinance requirements for construction and access to the site. Emergency response and evacuation procedures would be coordinated with the City, as well as the police and fire departments. Thus, because of the lack of adverse impact on local circulation there is a less than significant potential to impact emergency access during future construction or operation of the proposed Project with the implementation of mitigation. No further mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>XVIII. TRIBAL CULTURAL RESOURCES:</b> Would the project cause a substantial change in the significance of tribal cultural resources, 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 the California Native American tribe, and that is:				
a) 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	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION: Please refer to the discussion under Subsection V, Cultural Resources.

Project Description

The proposed Project includes the subdivision of one 18.5-acre parcel via a tentative tract map (TTM 38339), the future construction of 76 single-family detached residences, internal roadways, and a detention basin, as shown in Figure 3, the Site Plan. Impacts to Tribal Cultural Resources from construction and operation of the proposed Project, as described herein, are presented below.

Tribal Cultural Resources: Definition

A Tribal Resource is defined in the Public Resources Code section 21074 and includes the following:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are either of the following: included or determined to be eligible for inclusion in the California Register of Historical Resources or included in a local register of historical resources as defined in subdivision (k) of Section 5020.1;
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purpose of this paragraph, the lead agency shall consider the significance of the resources to a California American tribe;
- A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape;
- A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a “non-unique archaeological resource” as defined in subdivision (h) of Section 21083.2 may also be a tribal resource if it conforms with the criteria of subdivision (a).

Impact Analysis

a&b. *Less Than Significant With Mitigation Incorporated* – The City of San Jacinto initiated AB 52 consultation with the seven tribes that have requested to be notified of future projects within the City pursuant to AB 52: Soboba Band of Luiseño Indians, Torres Martinez Desert Cahuilla Indians, San Manuel Band of Mission Indians, Morongo Band of Mission Indians, Pechanga Band of Mission Indians, Rincon Band of Luiseño Indians, and the Agua Caliente Band of Cahuilla Indians. Notification of the proposed Project was provided to the tribes and the only tribe the requested consultation under AB 52 was the Soboba Band of Luiseño Indians. The Soboba Band of Luiseño Indians have requested the inclusion of MM **CUL-2**, outlined in the Subsection V, Cultural Resources, in addition to MM **TRC-1**, below. Thus, as a result of the consultation with the tribes, the following mitigation measure has been agreed to by the City of San Jacinto:

**TRC-1** *Prior to grading permit issuance, the developer shall enter into a Treatment and Disposition Agreement (TDA) with the Soboba Band of Luiseño Indians to address treatment and disposition of archaeological, or Tribal Cultural Resources and human remains associated with the Soboba Band of Luiseño Indians that may be uncovered or otherwise discovered during ground-disturbing activities related to the Project, if monitoring deemed necessary by Soboba Band of Luiseño Indians. The TDA will establish provisions for tribal monitoring and shall be submitted to the Planning Division once it has been executed.*

Please refer to MM **CUL-2** for the additional mitigation requested by the Soboba Band of Luiseño Indians. With the incorporation of these mitigation measures, the proposed Project has a less than significant potential to cause a substantial change in the significance of tribal cultural resources, 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 the California Native American tribe and that is either **a)** 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 **b)** A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. No further mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>XIX. UTILITIES AND SERVICE SYSTEMS:</b> Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION**

Project Description

The proposed Project includes the subdivision of one 18.5-acre parcel via a tentative tract map (TTM 38339), the future construction of 76 single-family detached residences, internal roadways, and a detention basin, as shown in Figure 3, the Site Plan. Utilities and Service Systems impacts from construction and operation of the proposed Project, as described herein, are presented below.

Impact Analysis

a. Water

*Less Than Significant Impact* – Water will be provided by Eastern. Water service is available through a connection located adjacent to the project site. As previously stated under Section X, Hydrology and Water Quality, Eastern's Urban Water Management Plan (2020) identifies sufficient water resources to meet demand in its service area. The anticipated available water supply within Eastern's retail service area is anticipated to be greater than the demand for water in the future, which indicates that Eastern has available capacity to serve the proposed Project without requiring the construction of new water facilities beyond those that would be developed in future within the site to serve future residences. Given that the proposed Project would not result in any significant and unavoidable impacts under any issue, the future development of internal water supply infrastructure is considered to be standard, and would not result in any significant impacts. As no other water infrastructure is anticipated to be required to serve the proposed Project, no significant environmental effects related to the relocation or construction of new or expanded water facilities would result. Impacts are less than significant.

### Wastewater

*Less Than Significant Impact* – Wastewater collection will be provided by Eastern Municipal Water District and the project site will be connected to the sewer main adjacent to the project site. Municipal wastewater is delivered to one of Eastern’s five regional water reclamation facilities which treat 46 million gallons of wastewater per day. Eastern is responsible for the collection, transmission, treatment, and disposal of wastewater within its service area, which includes portions of the City of San Jacinto. As such, the proposed Project would connect to Eastern’s existing wastewater collection system within the adjacent roadway, and would install an internal wastewater collection system to treat sewage generated by future residents, the development of which is not anticipated to cause a significant impact. This is because Eastern’s San Jacinto Valley Regional Water Reclamation Facility (SJVRWRF) treats approximately 7 MGD of wastewater and has capacity of 14 MGD. As the proposed Project is estimated to generate approximately 46,779 gallons per day of wastewater (refer to the discussion under issue XIX(c), below), which represents less than about 0.67 percent of the 7 MGD available wastewater treatment capacity at the SJVRWRF, the proposed Project is anticipated to be served with adequate capacity by Eastern’s existing wastewater treatment system. Therefore, the proposed Project would not result in a significant environmental effect related to the relocation or construction of new or expanded wastewater facilities. Impacts are less than significant.

### Stormwater

*Less Than Significant Impact* – The surface runoff from the site, nonpoint source storm water runoff, will be managed in accordance with the WQMP as discussed in the Hydrology and Water Quality Section (Section X) of this Initial Study. Onsite flows will be collected at the northwestern corner of the project site within the planned retention basin developed within the site. This system will be designed to capture the peak 100-year flow runoff from the project site or otherwise be detained on site and discharged in conformance with Riverside County requirements. The proposed Project includes the installation of a storm drain to connect to the City’s existing infrastructure (shown on Figure 3). Therefore, surface water will be adequately managed through the installation of an internal stormwater collection system, the future development of which is not anticipated to cause a significant impact. Thus, the proposed Project would not result in a significant environmental effect related to the relocation or construction of new or expanded stormwater facilities. Impacts are less than significant.

### Electric Power

*Less Than Significant Impact* – SCE will provide electricity to the site and the power distribution system located adjacent to the site will be able to supply sufficient electricity. The effort to connect to the existing electrical system, and to install electricity connections within the project site to serve future residents with electricity is not anticipated to result in significant impacts, as evidenced by the discussions in preceding sections. Therefore, the proposed Project would not result in a significant environmental effect related to the relocation or construction of new or expanded electric power facilities. Impacts are less than significant.

### Natural Gas

*Less Than Significant Impact* – Natural gas, if required, will be supplied by Southern California Gas. The site will connect to the existing natural gas line adjacent to the project site. The effort to connect to the existing gas line within the adjacent roadway, and to install natural gas lines within the site to serve future residents of the project site with natural gas, should it be determined to be required, is not anticipated to result in significant impacts, as evidenced by the discussions in preceding sections. Therefore, the proposed Project would not result in a significant environmental effect related to the relocation or construction of new or expanded natural gas facilities. Impacts are less than significant.

Telecommunications

*Less Than Significant Impact* – The proposed Project would require a connection to telecommunication services, such as wireless internet service and phone service. This can be accomplished through connection to existing services that are available to the developer at the project site. Additionally, telecommunication service is available at the project site at present in service of the existing single-family residences. Therefore, the proposed Project would not result in a significant environmental effect related to the relocation or construction of new or expanded telecommunications facilities. Impacts are less than significant.

- b. *Less Than Significant Impact* – Please refer to the discussion under Hydrology, Section X(b) above. The Project proposes the subdivision of an 18.5-acre parcel to enable the development of 76 single-family residences within the City of San Jacinto. The proposed single-family residential Project that will consist of 76 dwelling units, is anticipated to demand about 36.9 AFY of water from Eastern. The available water supply within Eastern’s retail service area is anticipated to be greater than the demand for water in the future, which indicates that Eastern has available capacity to serve the proposed Project. As such, given that Eastern’s 2020 Urban Water Management Plan indicates that the District anticipates sufficient water supply will be available to serve the proposed Project’s daily/annual demand, the proposed Project would have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years. Impacts under this issue are considered less than significant.
- c. *Less Than Significant Impact* – Municipal wastewater is delivered to the one of Eastern’s five regional water reclamation facilities which treat 46 million gallons of wastewater per day (MGD). Eastern is responsible for the collection, transmission, treatment, and disposal of wastewater within its service area, which includes portions of the City of San Jacinto, California. Eastern’s SJVRWRF treats approximately 7 MGD of wastewater and has capacity of 14 MGD. Based on a sewer generation rate of 179.92 gallons per day per capita<sup>17</sup>, the Project is estimated to generate approximately 47,319 gallons per day of wastewater ( $263 \times 179.92 = 47,319$  GPD) beyond that which is generated by the present single-family residential use within the site. This represents less than about 0.67 percent of the 7 MGD available wastewater treatment capacity at the SJVRWRF. Furthermore, given that there are commercial and industrial uses served by Eastern for wastewater collection, the consideration of wastewater generated on gallons per capita per day basis tends to overestimate demand for residential uses. Regardless, given the available capacity at the SJVRWRF, it is anticipated that the Eastern has available capacity to accommodate the anticipated wastewater generated from the future residences to be developed on the site. As such, it is anticipated that there will be available capacity to accommodate the demand generated by the proposed Project. Impacts under this issue are less than significant.
- d&e. *Less Than Significant Impact* – The proposed Project will generate demand for solid waste service system capacity and has a potential to contribute to potentially significant cumulative demand impacts on the solid waste system. According to the California Department of Resources and Recycling (CalRecycle) Jurisdiction Per Capita Disposal Trend Profile for the City of San Jacinto (2016-2021),<sup>18</sup> San Jacinto residents generated an average of about 4.04 pounds of waste per resident per day between 2016 and 2021. It is estimated that the 76 single-family residences that would be developed as part of the proposed Project would generate about 1,062.5 pounds per day or 193.9 tons per year ( $4.04 \times 263 \times 365 = 387,820$  pounds per year / 2,000 = 193.9 tons per year) beyond that which is generated by the existing residential use at the project site. The proposed Project also must comply with the City’s mandatory source reduction and recycling program, while mandates 50% of solid waste be diverted and recycled per the state’s solid waste diversion requirements under AB 939. Additionally, as this Project would be developed after 2022, future residents would be required to comply with SB1383, otherwise known as “California’s Short-Lived Climate Pollutant Reduction” law, often called SB 1383, which establishes methane reduction targets for California. California SB 1383

<sup>17</sup> <https://www.emwd.org/wastewater-service>

<sup>18</sup> <https://www2.calrecycle.ca.gov/LGCentral/AnnualReporting/ReviewReports>



sets goals to reduce disposal of organic waste in landfills, including edible food.<sup>19</sup> The bill's purpose is to reduce greenhouse gas emissions, such as methane, and address food insecurity in California. This requires jurisdictions to implement mandatory organic waste collection and recycling in a statewide effort to divert organic waste from landfills with goals to:

- Reduce organic waste disposal 50% by 2020 and 75% by 2025
- Recover at least 20% of currently disposed surplus edible food by 2025

As such, much of the waste generated by future residents of the proposed Project will be required to be diverted from landfills, and as such, the amount of waste generated by the proposed Project that would end up in landfills is at least half of the tonnage quoted above. Descriptions of the primary disposal facilities to which waste generated within the City would be hauled and their capacity are summarized below.

El Sobrante Sanitary Landfill is located at 10910 Dawson Canyon Road east of Interstate 15 in the Gavilan Hills. According to the State of California's Solid Waste Information System, the landfill is active and permitted with a projected closure date of August 1, 2047. The site is currently permitted to a capacity of 6,229,670 cubic yards with a remaining capacity of 3,834,470 cubic yards and permitted throughput of 400 tons per day.<sup>20</sup>

Badlands disposal site is located at 31125 Ironwood Ave, Moreno Valley 92373. According to the State of California's Solid Waste Information System, the landfill is active and permitted with a projected closure date of January 1, 2059. The site is currently permitted to a capacity of 82,300,000 cubic yards with a remaining capacity of 7,800,000 cubic yards and permitted throughput of 5,000 tons per day.<sup>21</sup>

Lamb Canyon disposal site is located on Lamb Canyon Road three miles south of Beaumont 92223. According to the State of California's Solid Waste Information System, the landfill is active and permitted with a projected closure date of April 1, 2032. The site is currently permitted to a capacity of 39,681,513 cubic yards with a remaining capacity of 19,242,950 cubic yards and permitted throughput of 5,000 tons per day.<sup>22</sup>

In addition to operational waste, the proposed Project would generate construction waste from the demolition of the existing structures onsite, and the adjacent concrete and asphalt. Any construction and demolition (C&D) waste will be recycled to the maximum extent feasible and any residual materials will be delivered to one of several C&D disposal sites in the area surrounding the project site. Many of these C&D materials can be reused or recycled, thus prolonging the supply of natural resources and potentially saving money in the process. The proposed Project would require demolition that is anticipated to generate C&D waste. As such, it is assumed that about 300 15-yard dumpsters or about 115 40-yard dumpsters would be required in a given year in support of the construction and demolition efforts anticipated to be required to develop the Kirby Street Project. Construction waste reduction/diversion would be the focus of recycling/reuse. Because of increased construction recycling efforts resulting from CalGreen and other regulations, opportunities for construction recycling are becoming easier to find as there are many located within the County of Riverside according to CalRecycle. These facilities accept materials such as: appliances, cardboard, metals, wood, asphalt, concrete, soil, block rock, brick, carpet and padding, concrete with rebar, drywall, gravel, rock, roof tile, and tile. The facilities that accept C&D materials, combined with the landfills in the surrounding area, have adequate capacity to serve the proposed Project construction and operation. Solid waste will be disposed of in accordance with existing regulations at an existing licensed landfill, such as the Lamb Canyon Landfill.

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<sup>19</sup> <https://reducewaste.sccgov.org/food-recovery/understand-senate-bill-sb-1383#3925188384-318395615>

<sup>20</sup> <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2256?siteID=2402>

<sup>21</sup> <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2245?siteID=2367>

<sup>22</sup> <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2246?siteID=2368>

Any hazardous materials collected on the project site during either construction or operation of the Project will be transported and disposed of by a permitted and licensed hazardous materials service provider. Therefore, the proposed Project is expected to comply with all regulations related to solid waste under federal, state, and local statutes. To further reduce potential impacts to solid waste facilities due to the large scale of the materials that may require disposal or recycling, the following mitigation measure will be implemented:

***UTIL-1 The contract with demolition and construction contractors shall include the requirement that all materials that can be recycled shall be salvaged and recycled. This includes, but is not limited to, wood, metals, concrete, road base, and asphalt. The developer shall submit a recycling plan to the City for review and approval prior to the start of demolition/construction activities to accomplish this objective.***

Therefore, with the above mitigation measure, the proposed Project is expected to comply with all regulations related to solid waste under federal, state, and local statutes and be served by a landfill(s) with sufficient permitted capacity to accommodate the future development's solid waste disposal needs. No further mitigation is necessary.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>XX. WILDFIRE:</b> 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION**

Project Description

The proposed Project includes the subdivision of one 18.5-acre parcel via a tentative tract map (TTM 38339), the future construction of 76 single-family detached residences, internal roadways, and a detention basin, as shown in Figure 3, the Site Plan. Wildfire impacts from construction and operation of the proposed Project, as described herein, are presented below.

Impact Analysis

- a. *Less Than Significant Impact* – The project site is not located within a Very High Fire Hazard Severity Zone in a Local Responsibility Area (LRA) or State Responsibility Area (SRA), shown on Figure XX-1. Please review the discussion under Subchapter IX(g), Hazards and Hazardous Materials. The project site is located within an area containing residential uses, and vacant land adjacent to the project site. The project site is not located in a Wildland Fire Protection Agreement Area and it does not contain a heavy fuel load at present because the site currently contains an existing residence that supports grazing use. Thus, vegetation within the project site is minimal beyond that which is in place in support of the grazing land and landscaping within the project site. Refer to the aerial view of the project site provided as Figure 2 for a review of the vegetation within the project site.

The City of San Jacinto, in addition to the Riverside County Fire Department, review all proposed Projects and provides conditions of approval for setbacks; building and fire sprinkler requirements; roofing design and material and construction requirements, fuel modification; and other measures, as appropriate, to reduce the risk to the development and surrounding uses to fire hazards. Furthermore, given the suburban residential setting within which the project site is located and the separation from the mountains by both development and local roadways, it is not anticipated that future development within the project site would substantially impair an adopted emergency response or evacuation plan. Furthermore, the proposed Project would improve surrounding roadways to provide access to the project site, which would enhance emergency access in the project area.

- b. *Less Than Significant Impact* – The project site is characterized by essentially flat topography that has been disturbed by the existing and past use of the site in support of the existing residential and grazing uses at the site. The project site is currently occupied by an existing residence, accessory structures, and grazing land support structures with much of the open space on the site consisting of compacted dirt and minimal vegetation. The potential for significant exposure of site occupants to pollutant concentrations from a wildfire would be minimal. The site itself is not anticipated to be exposed to wildfire, particularly once developed because the site will be cleared, which will minimize fire risk, and furthermore, the site is not located within a high or very high fire hazard severity zone. Based on the site location set away from the nearby mountains and hills where fire risk within and adjacent to the City is greatest, and the condition of the site and surrounding area, the proposed Project will have a less than significant potential to exacerbate wildfire risks, and thereby expose future site occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire. No mitigation is required.
- c. *Less Than Significant Impact* – The proposed Project will require infrastructure in support of the future residential development as follows: a potable water connection to the Eastern Municipal Water District's service area; a wastewater connection to the sewer main; electricity provided by SCE will require a connection to power lines in the adjacent roadway; a connection to the City stormwater system through a new storm water collection line; and, a possible connection to the existing natural gas line in the roadways adjacent to the project site. This portion of the City of San Jacinto is developed, but contains some adjacent vacant land. Generally, the site is surrounded by residential development in all directions except for a few vacant parcels located directly adjacent to the project site. Therefore, the proposed Project would not have a significant potential to exacerbate wildfire risk or to result in temporary or ongoing impacts to the environment. Impacts under this issue are considered less than significant.
- D. *Less Than Significant Impact* – The discussion under Section VII, Geology and Soils, concluded that the proposed Project would not have a significant potential to experience landslides or slope instability. Once constructed, the project site will remain essentially flat, and the drainage will be managed in an efficient manner that would not expose people or structures to significant risk. Furthermore, as discussed under Section X, Hydrology and Water Quality, the project is not located in an area containing a significant flood hazard, and the project site is anticipated to remain stable should a wildfire occur at or near the project site. As discussed above, the project site is not anticipated to be exposed to substantial fire risk because of the lack of fuel to spread wildfire surrounding the site. Therefore, the future development of the proposed Project at this site is anticipated to have a less than significant potential to 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. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>XXI. MANDATORY FINDINGS OF SIGNIFICANCE:</b>				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION:** The analysis in this Initial Study and the findings reached indicate that the proposed Project can be implemented without causing any new Project specific or cumulatively considerable unavoidable significant adverse environmental impacts. Mitigation is required to control certain potential environmental impacts of the proposed Project to a less than significant impact level. The following findings are based on the detailed analysis contained within this Initial Study of all environmental topics and the implementation of the mitigation measures identified in the previous text and summarized following this section.

Project Description

The proposed Project includes the subdivision of one 18.5-acre parcel via a tentative tract map (TTM 38339), the future construction of 76 single-family detached residences, internal roadways, and a detention basin, as shown in Figure 3, the Site Plan. Cumulative impacts to which the proposed Project, as described herein, may contribute, are presented below.

Impact Analysis

- a. *Less Than Significant With Mitigation Incorporated* – The proposed Project has no potential to cause a significant impact on any biological or cultural resources. The proposed Project has been identified as having no potential to degrade the quality of the natural environment, substantially reduce habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal. Construction of the proposed Project requires mitigation to address BUOW preconstruction surveys and to protect nesting birds, which is anticipated to ensure that impacts occurring as a result of implementation of the proposed Project would be less than significant. Based on the historic disturbance of the site, and its current disturbed condition, the potential for impacting cultural resources is low. The Cultural Resources Report (Appendix 3) determined that no cultural resources of importance were found at the project site, so it is not anticipated that any resources could be affected by the proposed Project because no cultural resources are known to exist within the project site. However, because it is not known what could be

accidentally unearthed upon any excavation activities, contingency mitigation measures are provided to ensure that, in the unlikely event that any resources are found, they are protected from any potential impacts. Please see biological and cultural sections of this Initial Study.

- b. *Less Than Significant With Mitigation Incorporated* – Based on the analysis in this Initial Study, the proposed Project has the potential to cause impacts that are individually or cumulatively considerable. The proposed Project would result in the ultimate development of 76 single-family residential units that would contribute to cumulative impacts as a result of the resources required to support the demands of the future residents of the site. However, the proposed Project's contribution to such cumulative impacts would not be cumulatively considerable. The issues of Air Quality, Biology, Cultural Resources, Energy, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, Tribal Cultural Resources, and Utilities and Service Systems require the implementation of mitigation measures to reduce impacts to a less than significant level and ensure that cumulative effects are not cumulatively considerable. All other environmental issues were found to have no significant impacts without implementation of mitigation. The potential cumulative environmental effects of implementing the proposed Project have been determined to be less than considerable and thus, would result in a less than significant cumulative impact.
- c. *Less Than Significant With Mitigation Incorporated* – The proposed Project includes activities that have a potential to cause direct substantial adverse effects on humans. The issues of Air Quality, Geology and Soils, Hazards and Hazardous Materials, and Noise require the implementation of mitigation measures to reduce human impacts to a less than significant level. All other environmental issues were found to have no significant impacts on humans without implementation of mitigation. The potential for direct human effects from implementing the proposed Project have been determined to be less than significant with mitigation.

### Conclusion

This document evaluated all CEQA issues contained in the Initial Study Checklist form. The evaluation determined that either no impact or less than significant impacts would be associated with the issues of Aesthetics, Agricultural and Forestry Resources, Greenhouse Gas Emissions, Land Use and Planning, Mineral Resources, Population/Housing, Public Services, Recreation, and Wildfire. The issues of Air Quality, Biology, Cultural Resources, Energy, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, Tribal Cultural Resources, and Utilities and Service Systems require the implementation of mitigation measures to reduce impacts to a less than significant level. The required mitigation has been proposed in this Initial Study to reduce impacts for these issues to a less than significant impact.

Based on the findings in this Initial Study, the City of San Jacinto proposes to adopt a Mitigated Negative Declaration (MND) for the Kirby Street Project: TTM No. 38339. A Notice of Intent to Adopt a Mitigated Negative Declaration (NOI) will be issued for this Project by the City. The Initial Study and NOI will be circulated for 30 days of public comment. At the end of the 30-day review period, a final MND package will be prepared and it will be reviewed by the City for possible adoption at a future Council/Planning Commission meeting, the date for which has yet to be determined. If you or your agency comments on the MND/NOI for this Project, you will be notified about the meeting date in accordance with the requirements in Section 21092.5 of CEQA (statute).

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Note: Authority cited: Sections 21083 and 21083.05, Public Resources Code. Reference: Section 65088.4, Gov. Code; Sections 21080(c), 21080.1, 21080.3, 21083, 21083.05, 21083.3, 21093, 21094, 21095, and 21151, Public Resources Code; *Sundstrom v. County of Mendocino*, (1988) 202 Cal.App.3d 296; *Leonoff v. Monterey Board of Supervisors*, (1990) 222 Cal.App.3d 1337; *Eureka Citizens for Responsible Govt. v. City of Eureka* (2007) 147 Cal.App.4th 357; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656.

Revised 2019

Authority: Public Resources Code sections 21083 and 21083.09

Reference: Public Resources Code sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3/ 21084.2 and 21084.3

## SUMMARY OF MITIGATION MEASURES

### Air Quality

- AQ-1 The development of the project site shall be required to comply with South Coast Air Quality Management District Rule 403 – Fugitive Dust. This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust. Applicable dust suppression requirements from Rule 403 are summarized below.
- Nontoxic chemical soil stabilizers shall be applied according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).
  - Active sites shall be watered at least twice daily. (Locations where grading is to occur will be thoroughly watered prior to earthmoving.)
  - All trucks hauling dirt, sand, soil, or other loose materials shall be covered, or at least 0.6 m (2 ft) of freeboard (vertical space between the top of the load and top of the trailer) maintained in accordance with the requirements of California Vehicle Code (CVC) Section 23114.
  - Construction access roads shall be paved at least 30 m (100 ft) onto the site from the main road.
  - Traffic speeds on all unpaved roads shall be reduced to 15 mph or less.
- AQ-2 Exhaust Emissions Control. The following measures shall be incorporated into project plans and specifications for implementation:
- Utilize off-road construction equipment that has met or exceeded the maker's recommendations for vehicle/equipment maintenance schedule.
  - Contactors shall utilize Tier 4 or better heavy equipment.
  - Enforce 5-minute idling limits for both on-road trucks and off-road equipment.
- AQ-3 Development of the project site shall be required to use electric or alternative fueled construction equipment where technically feasible and/or commercially available, where the electric or alternatively fueled equipment can perform adequately when compared to gasoline or diesel fueled equipment.
- AQ-4 Development of the project site shall be required to utilize "Super-Compliant" low VOC paints which have been reformulated to exceed the regulatory VOC limits put forth by SCAQMD's Rule 1113. Super-Compliant low VOC paints shall be no more than 10g/L of VOC. Alternatively, Future AGSP Development may utilize building materials that do not require the use of architectural coatings. This measure will apply to all future projects
- AQ-5 Development of the project site shall be required to sweep all streets at least once a day using SCAQMD Rule 1186 certified street sweepers if visible soil materials are carried to adjacent streets.
- AQ-6 The contract with demolition and construction contractors shall include the requirement that all materials that can be recycled shall be salvaged and recycled. This includes, but is not limited to, wood, metals, concrete, road base, and asphalt. The developer shall submit a recycling plan to the City for review and approval prior to the start of demolition/construction activities to accomplish this objective.
- AQ-7 The developer shall require that all building structures meet or exceed 2020 Title 24, Part 6 Standards and meet Green Building Code Standards.
- AQ-8 The developer shall require that all faucets, toilets and showers installed in the proposed structures utilize low-flow fixtures that would reduce indoor water demand by 20% per CalGreen Standards.

- AQ-9 The developer shall require that a water-efficient irrigation system be installed that conforms to the requirements of City codes.
- AQ-10 The developer shall require that ENERGY STAR-compliant appliances are installed on-site.
- AQ-11 The developer shall require that high-efficiency lighting be installed that is at least 34% more efficient than standard lighting.
- AQ-12 No wood burning devices shall be installed in any dwelling units, consistent with SCAQMD Rule 445.

**Biological Resources**

- BIO-1 Pre-construction surveys for BUOW should be conducted no more than 3 days prior to commencement of Project-related ground disturbance to verify that BUOW remain absent from the project area.
- BIO-2 If burrowing owl are discovered within the project footprint during construction activities, a site-specific BUOW protection and/or passive relocation plan shall be prepared to determine suitable buffers and/or artificial burrow construction locations to minimize impacts to this species. If a BUOW is found on-site at the time of construction, all activities likely to affect the animal(s) shall cease immediately and regulatory agencies shall be contacted to determine appropriate management actions.
- BIO-3 The State of California prohibits the “take” of active bird nests. To avoid an illegal take of active bird nests, any grubbing, brushing or tree removal should be conducted outside of the State identified nesting season (typically February 1 through September 1). Alternatively, nesting bird surveys shall be conducted by a qualified avian biologist no more than three (3) days prior to vegetation clearing or ground disturbance activities. Preconstruction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the preconstruction nesting bird surveys, a Nesting Bird Plan (NBP) shall be prepared and implemented by the qualified avian biologist. At a minimum, the NBP shall include guidelines for addressing active nests, establishing buffers, ongoing monitoring, establishment of avoidance and minimization measures, and reporting. The size and location of all buffer zones, if required, shall be based on the nesting species, individual/pair’s behavior, nesting stage, nest location, its sensitivity to disturbance, and intensity and duration of the disturbance activity. To avoid impacts to nesting birds, any grubbing or vegetation removal should occur outside peak breeding season (typically February 1 through September 1).

**Cultural Resources**

- CUL-1 In the event that cultural resources are discovered during future project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find. Work on the other portions of the project outside of the buffered area may continue during this assessment period. The archaeological professional shall assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act.
- CUL-2 If human remains, grave goods, ceremonial items, and/or sacred items are encountered, work will immediately halt within the immediate area and any nearby area reasonably suspected to overlie adjacent remains, and a 100-foot environmentally sensitive area (ESA) boundary will be



established to protect the find from impact, and the Soboba Band of Luiseno Indians and the City of San Jacinto Planning Division shall be immediately notified.

In accordance with Section 7050.5 of the California Health and Safety Code and State CEQA Guidelines Section 15064.5(e), if human remains are found, the Riverside County Coroner's office shall be notified by the permittee within 24 hours of the discovery. County Coroner's determination regarding the origin of the remains and any required notification is described in Section 7050.5 of the California Health and Safety Code and State CEQA Guidelines Section 15064.5(e). No further excavation or disturbance of the potential human remains, or any area reasonably suspected to overlie additional remains, shall occur until a determination has been made, any notifications have been sent and received, and the Riverside County Coroner's Office has cleared the site.

### **Geology and Soils**

- GEO-1 Based upon the geotechnical investigation (Appendix 4a of this document), all of the recommended design parameters identified in Appendix 4a (beginning on Page 6) shall be implemented by the developer. Implementation of these specific measures will address all of the identified geotechnical constraints identified at project site, including remediation to address liquefaction.
- GEO-2 Stored backfill material shall be covered with water resistant material during periods of heavy precipitation to reduce the potential for rainfall erosion of stored backfill material. If covering is not feasible, then measures such as the use of straw bales or sandbags shall be used to capture and hold eroded material on the project site for future cleanup.
- GEO-3 All exposed, disturbed soil (trenches, stored backfill, etc.) shall be sprayed with water or soil binders twice a day, or more frequently if fugitive dust is observed migrating from the project site during future construction activities.
- GEO-4 Based upon the geotechnical investigation (Appendix 4a of this document), all of the recommended design measures identified in Appendix 4a (listed on pages 7-12) shall be implemented by the developer. Implementation of these specific measures will address all of the geotechnical constraints identified at project site.
- GEO-5 Should any paleontological resources be encountered during construction, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection should be performed immediately by a qualified paleontologist. Responsibility for making this determination shall be with the City's onsite inspector. The paleontological professional shall assess the find, determine its significance, and determine appropriate mitigation measures within the guidelines of the California Environmental Quality Act that shall be implemented to minimize any impacts to a paleontological resource.

### **Hazards and Hazardous Materials**

- HAZ-1 Prior to and during grading and construction, should an accidental release of a hazardous material occur, the following actions will be implemented: construction activities in the immediate area will be immediately stopped; appropriate regulatory agencies will be notified; immediate actions will be implemented to limit the volume and area impacted by the contaminant; the contaminated material, primarily soil, shall be collected and removed to a location where it can be treated or disposed of in accordance with the regulations in place at the time of the event; any transport of hazardous waste from the property shall be carried out by a registered hazardous waste transporter; and testing shall be conducted to verify that any residual concentrations of the accidentally released material are below the regulatory remediation goal at the time of the event. All of the above sampling or remediation activities related to the contamination will be conducted

under the oversight of Riverside County Certified Unified Program Agency (CUPA) Site Mitigation Unit (SMU). All of the above actions shall be documented and made available to the appropriate regulatory agencies prior to closure (a determination of the regulatory agency that a site has been remediated to a threshold that poses no hazard to humans) of the contaminated area.

- HAZ-2 A soil/methane sampling program with a minimum of one sample location per 2 acres of land shall be conducted by the developer. If the contaminant concentrations above the DTSC hazard levels occur on the project site, the exact dimensions, including volume, of soil containing this contamination shall be documented. A report verifying that the contaminated soil can be effectively blended (and how this will be accomplished on the project site) with other uncontaminated onsite soil shall be provided to the City by the developer. If there is insufficient soil for blending at the site, the contaminated soil shall be collected and disposed of at a properly licensed facility. This shall be completed prior to initiating mass grading of the site and records documenting proper management of the contaminated soil shall be provided to the City by the developer.

### **Hydrology and Water Quality**

- HYD-1 The developer shall incorporate an appropriate safety factor into the design of the retention basin that accounts for long-term saturation and potential silting of surface soils. The safety factor shall be determined with consideration of other factors considered in the storm water retention system design—specifically storm water volume estimates—and the safety factors associated with the related design components.
- HYD-2 The developer will select best management practices from the range of practices identified by the City and reduce future non-point source pollution in surface water runoff discharges from the site to the maximum extent practicable, both during construction and following development. The Storm Water Pollution Prevention Plan (SWPPP) and Water Quality Management Plan (WQMP) shall be submitted to the City for review and approval prior to ground disturbance and the identified BMPs installed in accordance with schedules contained in these documents.

### **Noise**

- NOI-1 No construction activities shall occur during the hours of 7 PM through 7 AM Monday through Saturday, and no construction activities shall occur on Sunday unless emergency construction work must be performed and is authorized by the City manager or his or her designee.
- NOI-2 No radios or other sound equipment shall be used at this site unless required for emergency response by the contractor.
- NOI-3 The City shall require the developer to require that all construction equipment be operated with mandated noise control equipment (mufflers or silencers). Enforcement will be accomplished by random field inspections by applicant personnel during construction activities.
- NOI-4 Equipment not in use for five minutes shall be shut off.
- NOI-5 Equipment shall be maintained and operated such that loads are secured from rattling or banging.
- NOI-6 Construction employees shall be trained in the proper operation and use of equipment consistent with these mitigation measures, including no unnecessary revving of equipment.
- NOI-7 The City shall require the developer to establish a noise complaint response program and shall respond to any noise complaints received for this Project by measuring noise levels at the affected receptor site. If the noise level exceeds an Ldn of 60 dBA exterior or an Ldn of 45 dBA interior at the receptor, the developer will implement adequate measures (which may include

portable sound attenuation walls, use of quieter equipment, shift of construction schedule to avoid the presence of sensitive receptors, etc.) to reduce noise levels to the greatest extent feasible.

- NOI-8 All residential units located within 500 feet of the construction site shall be sent a notice regarding the construction schedule of the proposed Project. A sign, legible at a distance of 50 feet shall also be posted at the construction site. All notices and the signs shall indicate the dates and duration of construction activities, as well as provide a telephone number where residents can inquire about the construction process and register complaints.
- NOI-9 During future initiation of construction activities with heavy equipment within 200 feet of occupied residences, vibration field tests shall be conducted at the nearest occupied residences upon receipt. If vibrations exceed 72 VdB (just below the level at which vibration becomes distinctly perceptible at 75 VdB per the FTA Noise and Vibration Assessment), the construction activities shall be revised (smaller equipment, reduced activity) to reduce vibration below this threshold.

### **Transportation**

- TRAN-1 The construction contractor will provide adequate traffic management resources, as determined by the City. The City shall require a construction traffic management plan that complies with the Work Area Traffic Control Handbook, or other applicable standard, to provide adequate traffic control and safety during construction. The traffic management plan shall be prepared and approved by the City prior to initiation of construction. At a minimum this plan shall include how to minimize the amount of time spent on construction activities; how to minimize disruption of vehicle and alternative modes of transport traffic at all times, but particularly during periods of high traffic volumes as directed by the City; how to maintain safe traffic flow on local streets affected by construction at all times, including through the use of adequate signage, protective devices, flag persons or police assistance to ensure that traffic can flow adequately during construction; the identification of alternative routes that can meet the traffic flow requirements of a specific area, including communication (signs, webpages, etc.) with drivers and neighborhoods where construction activities will occur; designating parking and construction staging areas that would not conflict with the City's operations nor prevent access to adjacent roadways; adopting an emergency response and evacuation plan applicable to the duration of construction; and, at the end of each construction day the site and adjacent roadways shall be prepared for continued utilization without any significant roadway hazards remaining.

### **Tribal Cultural Resources**

- TRC-1 Prior to grading permit issuance, the developer shall enter into a Treatment and Disposition Agreement (TDA) with the Soboba Band of Luiseño Indians to address treatment and disposition of archaeological, or Tribal Cultural Resources and human remains associated with the Soboba Band of Luiseño Indians that may be uncovered or otherwise discovered during ground-disturbing activities related to the Project, if monitoring deemed necessary by Soboba Band of Luiseño Indians. The TDA will establish provisions for tribal monitoring and shall be submitted to the Planning Division once it has been executed.

### **Utilities and Service Systems**

- UTIL-1 The contract with demolition and construction contractors shall include the requirement that all materials that can be recycled shall be salvaged and recycled. This includes, but is not limited to, wood, metals, concrete, road base, and asphalt. The developer shall submit a recycling plan to the City for review and approval prior to the start of demolition/construction activities to accomplish this objective.

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<http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-1st-look-up-tables.pdf?sfvrsn=2>

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**FIGURES**

**Kirby Street Project: TTM No. 38339**  
Regional Location



**FIGURE 1**

**Regional Location Map**

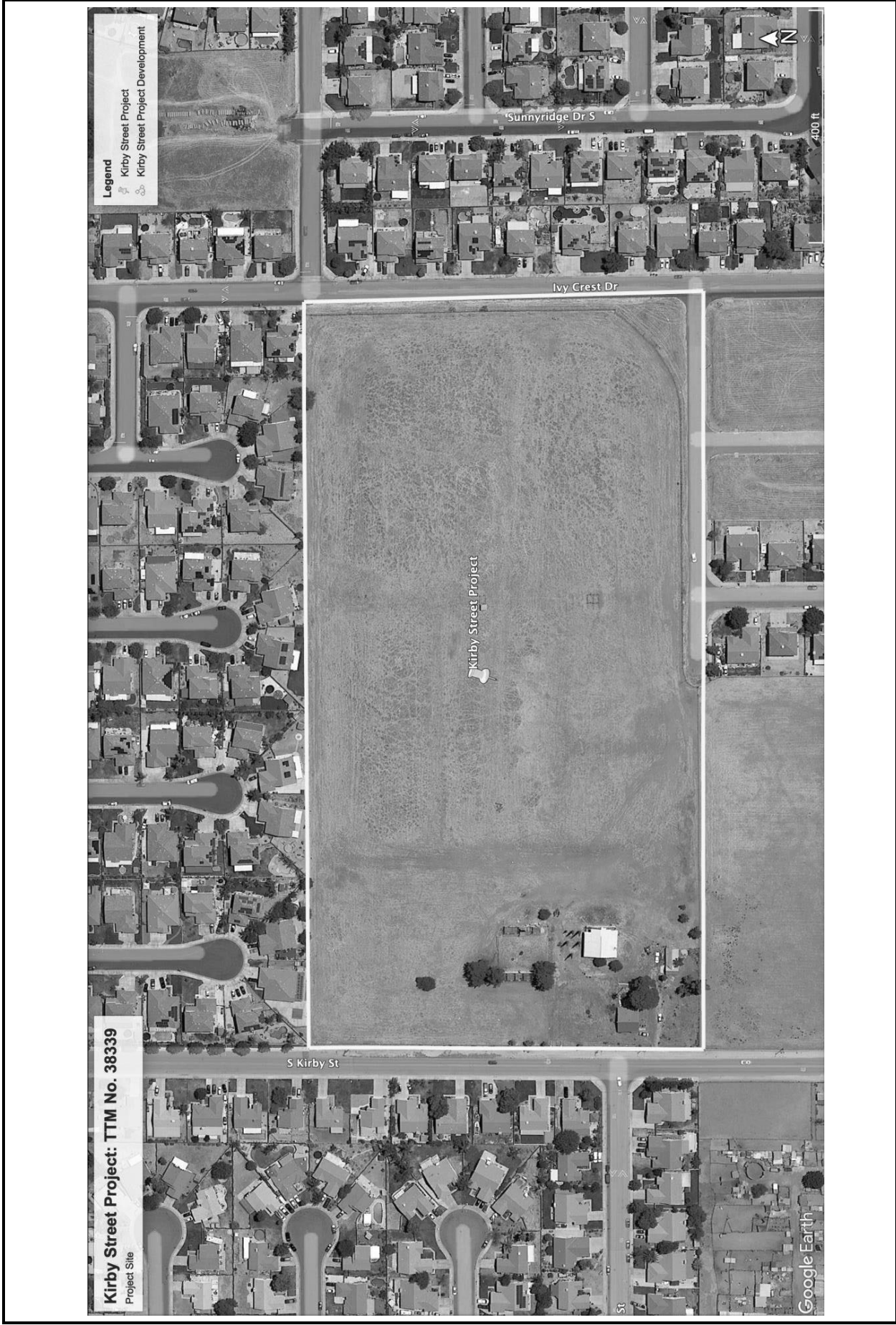


FIGURE 2

**Site Location Map**





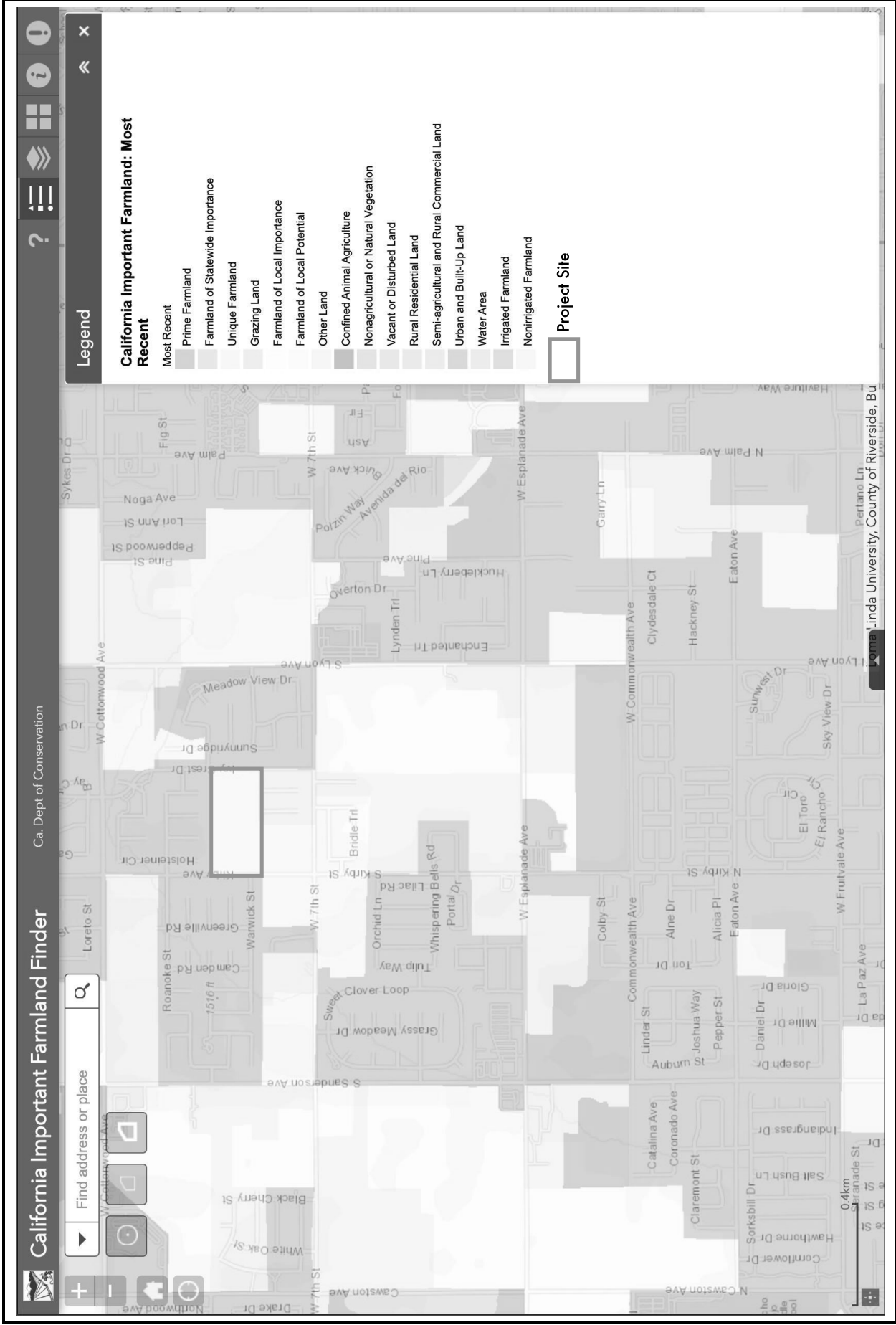
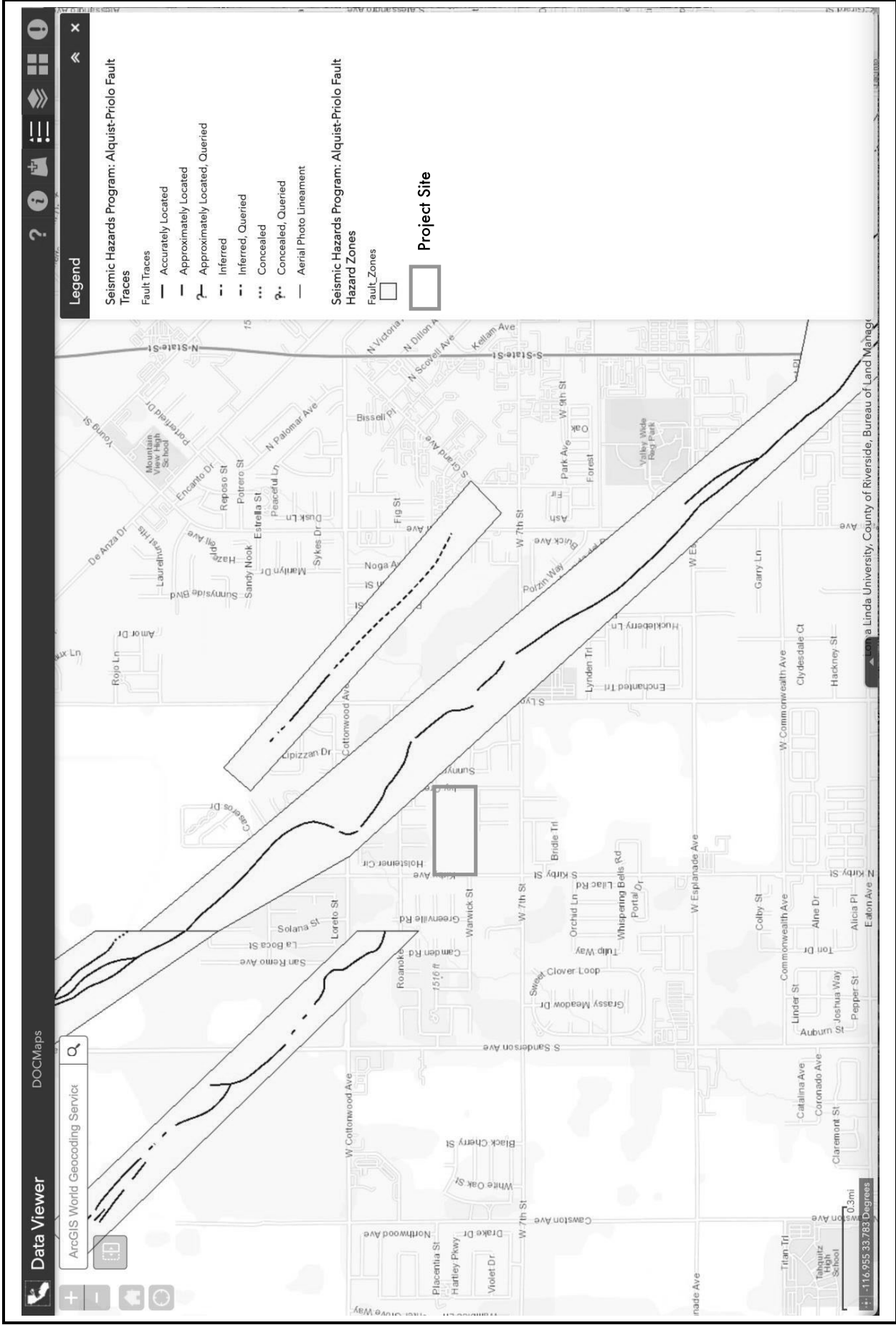


FIGURE II-1

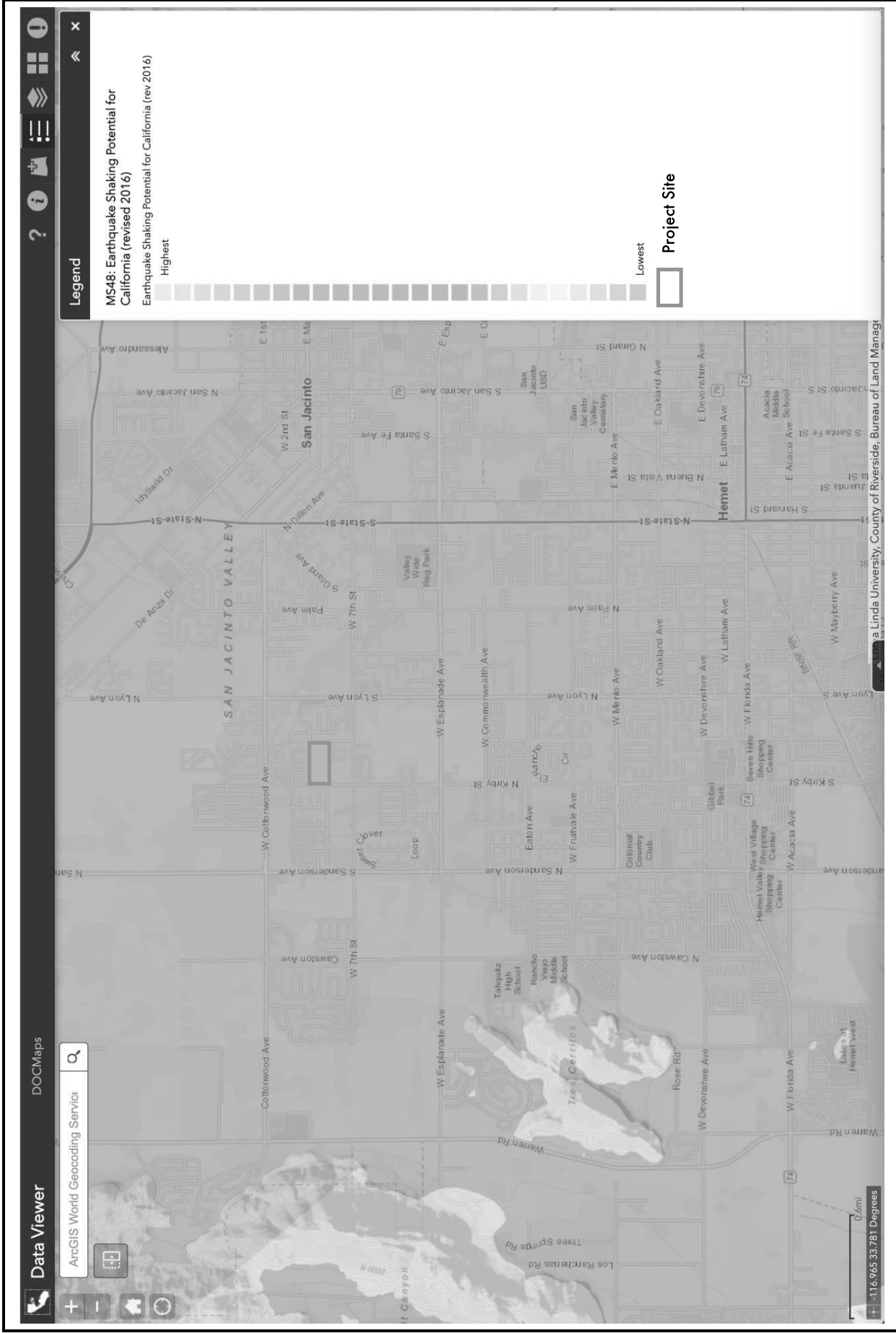
**Farmland Map**



**FIGURE VII-1**

**Alquist-Priolo Fault Hazard Zones**

**Tom Dodson & Associates**  
Environmental Consultants

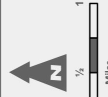
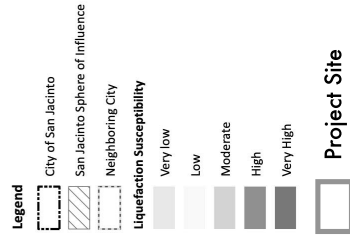


**FIGURE VII-2**

**Earthquake Shaking Potential**

Figure 5.7-2.

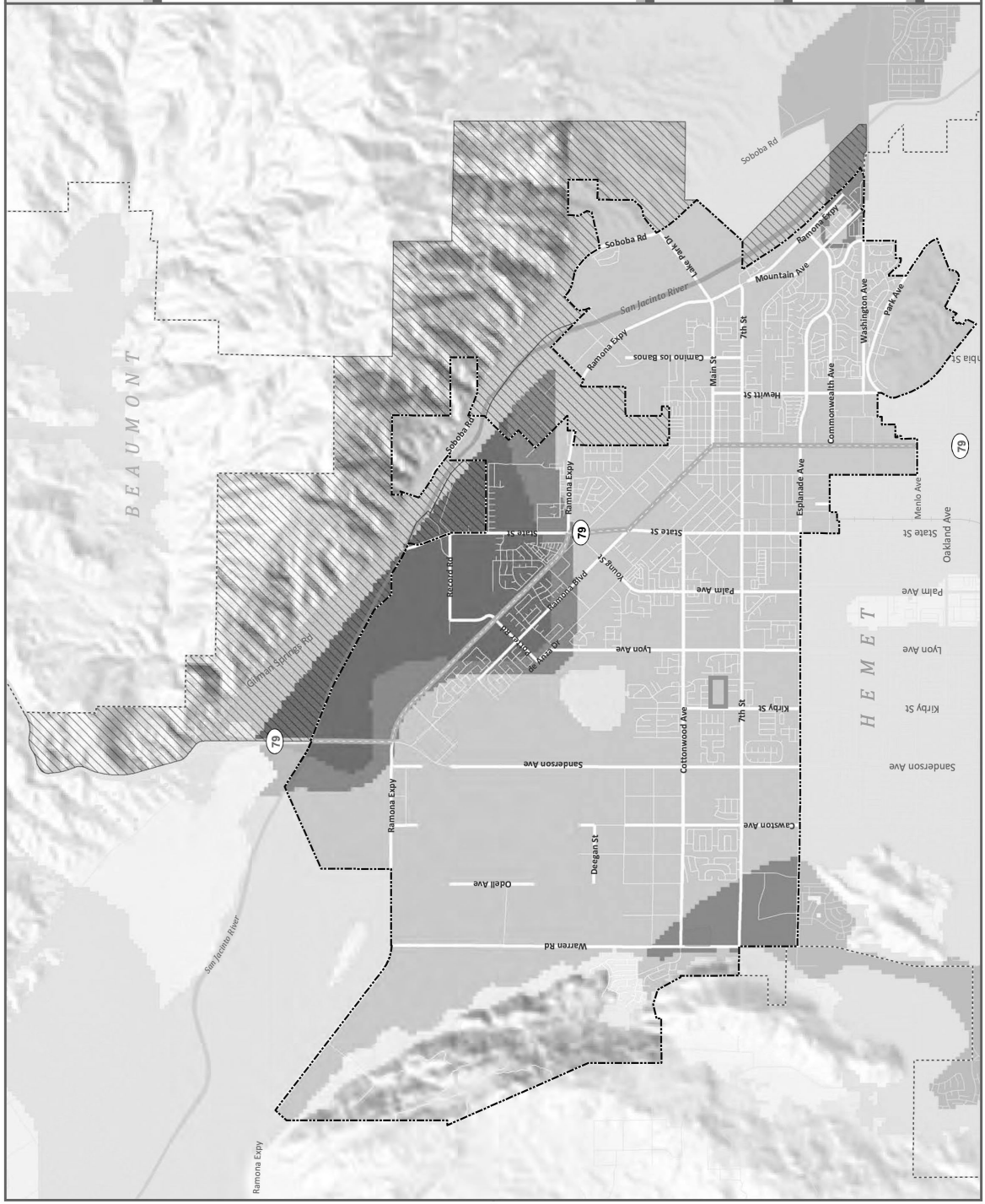
Liquefaction Susceptibility



Source: Riverside County Office of Emergency Services, Earthquake Consultants International, City of San Jacinto, Riverside County. Map date: February 26, 2018.



De Novo Planning Group  
A Land Use Planning, Design, and Environmental Firm



SOURCE: City of San Jacinto General Plan (2022)

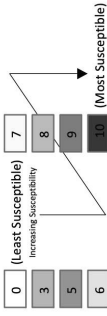
FIGURE VII-2

Figure 5.7-5.  
Landslide Susceptibility

**Legend**

- Project Site
- City of San Jacinto
- San Jacinto Sphere of Influence
- Neighboring City

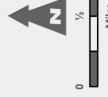
**Landslide Susceptibility Class**



**Landslide Susceptibility Class Matrix\***

Slope Classification	Rock Strength		
	Strong	Intermediate	Weak
Flat	0	0	0
Increasing Slope	0	5	7
	3	8	9
	7	9	10
Very Steep	8	9	10

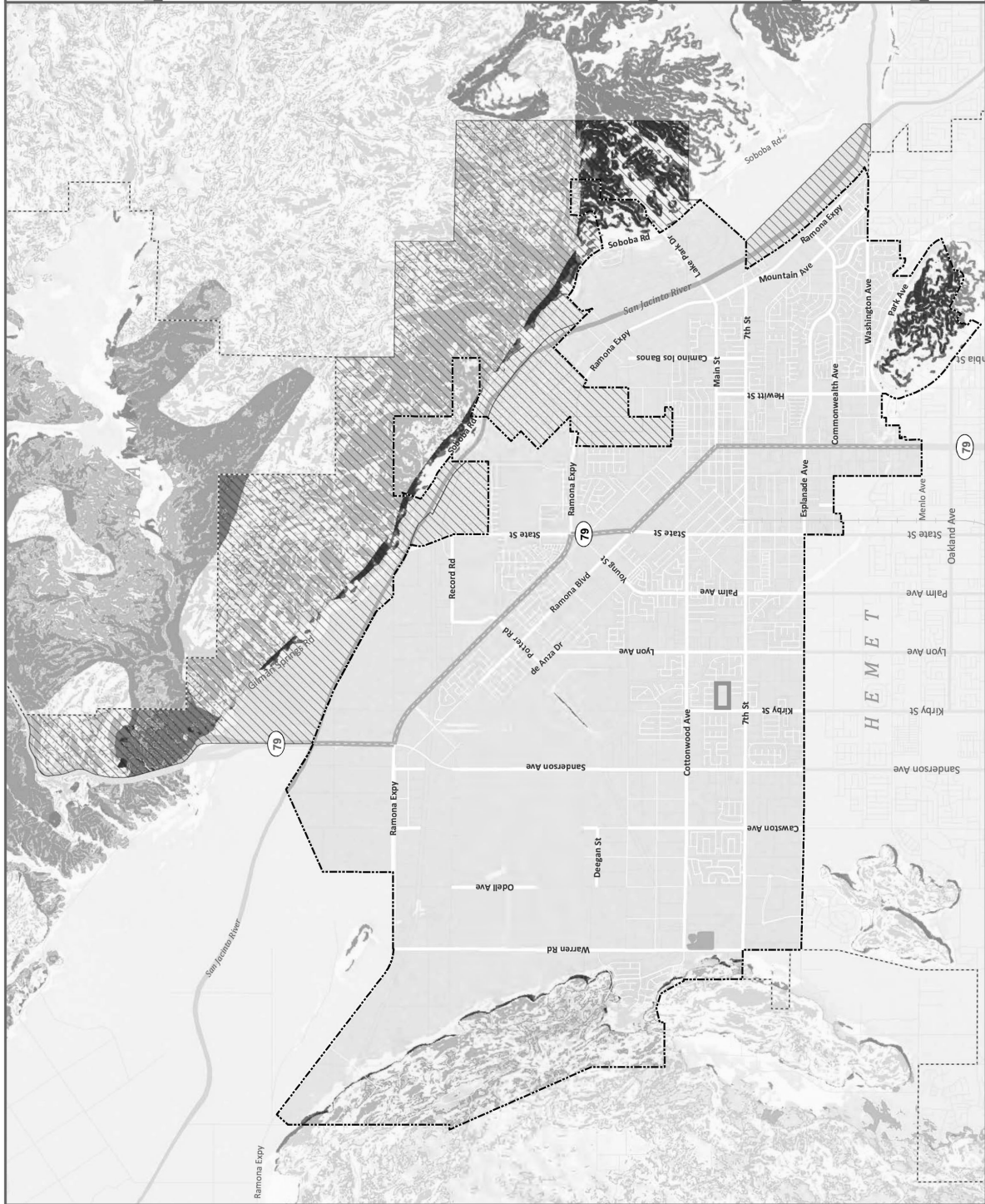
\* On the most basic level, weak rocks and steep slopes are most likely to generate landslides. This map shows the relative likelihood of deep-seated landsliding based on regional estimates of rock strength and steepness of slopes.



Sources: California Geological Survey, Susceptibility of Deep-Seated Landslides in California (MSCE), 2002; City of San Bernardino, Hazardous Geology, Wildland Interface, 2001.



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SOURCE: City of San Bernardino

FIGURE VII-4



FIGURE IX-1

# National Flood Hazard Layer FIRMette

117°00'12"W 33°47'11"N



0 250 500 1,000 1,500 2,000 Feet  
 1:6,000  
 Basemap: USGS National Map: Orthoimagery; Data refreshed October, 2020

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

**SPECIAL FLOOD HAZARD AREAS**

- Without Base Flood Elevation (BFE)  
Zone A, V, A99
- With BFE or Depth Zone AE, AO, AH, VE, AR
- Regulatory Floodway

0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X

Future Conditions 1% Annual Chance Flood Hazard Zone X

Area with Reduced Flood Risk due to Levee. See Notes. Zone X

Area with Flood Risk due to Levee Zone D

**OTHER AREAS OF FLOOD HAZARD**

- NO SCREEN Area of Minimal Flood Hazard Zone X
- Effective LOWRS
- Area of Undetermined Flood Hazard Zone D

**OTHER AREAS**

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

**GENERAL STRUCTURES**

- 20.2 Cross Sections with 1% Annual Chance
- Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

**OTHER FEATURES**

- Digital Data Available
- No Digital Data Available
- Unmapped

**MAP PANELS**

- Digital Data Available
- No Digital Data Available
- Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/25/2022 at 7:32 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and undetermined areas cannot be used for regulatory purposes.

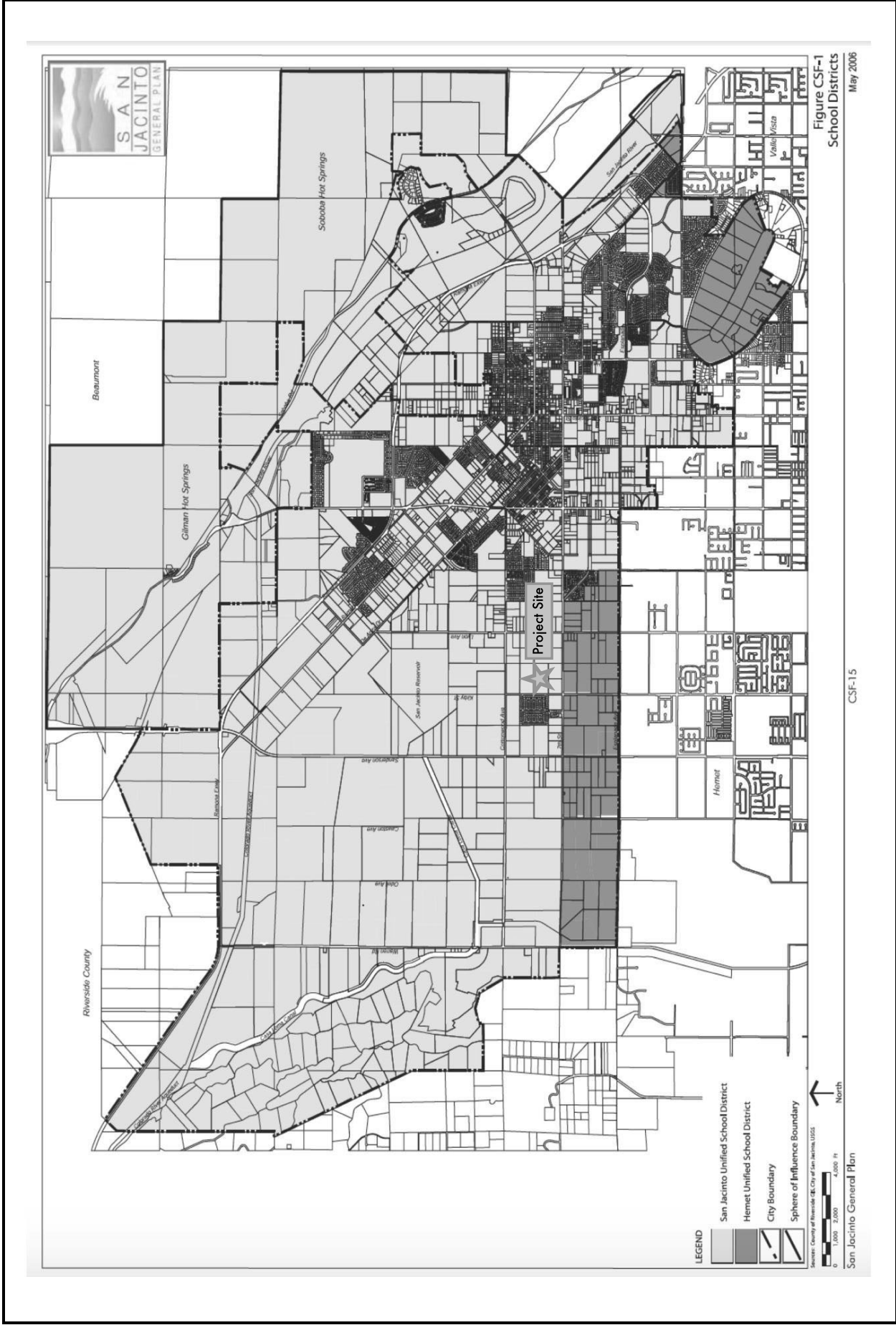
SOURCE: FEMA (2022)

**Tom Dodson & Associates**  
 Environmental Consultants

FIGURE X-1

## FEMA (FIRMette Map)





SOURCE: San Jacinto General Plan

**FIGURE XV-1**

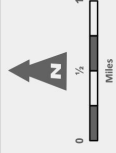
**Tom Dodson & Associates**  
Environmental Consultants

**School District**

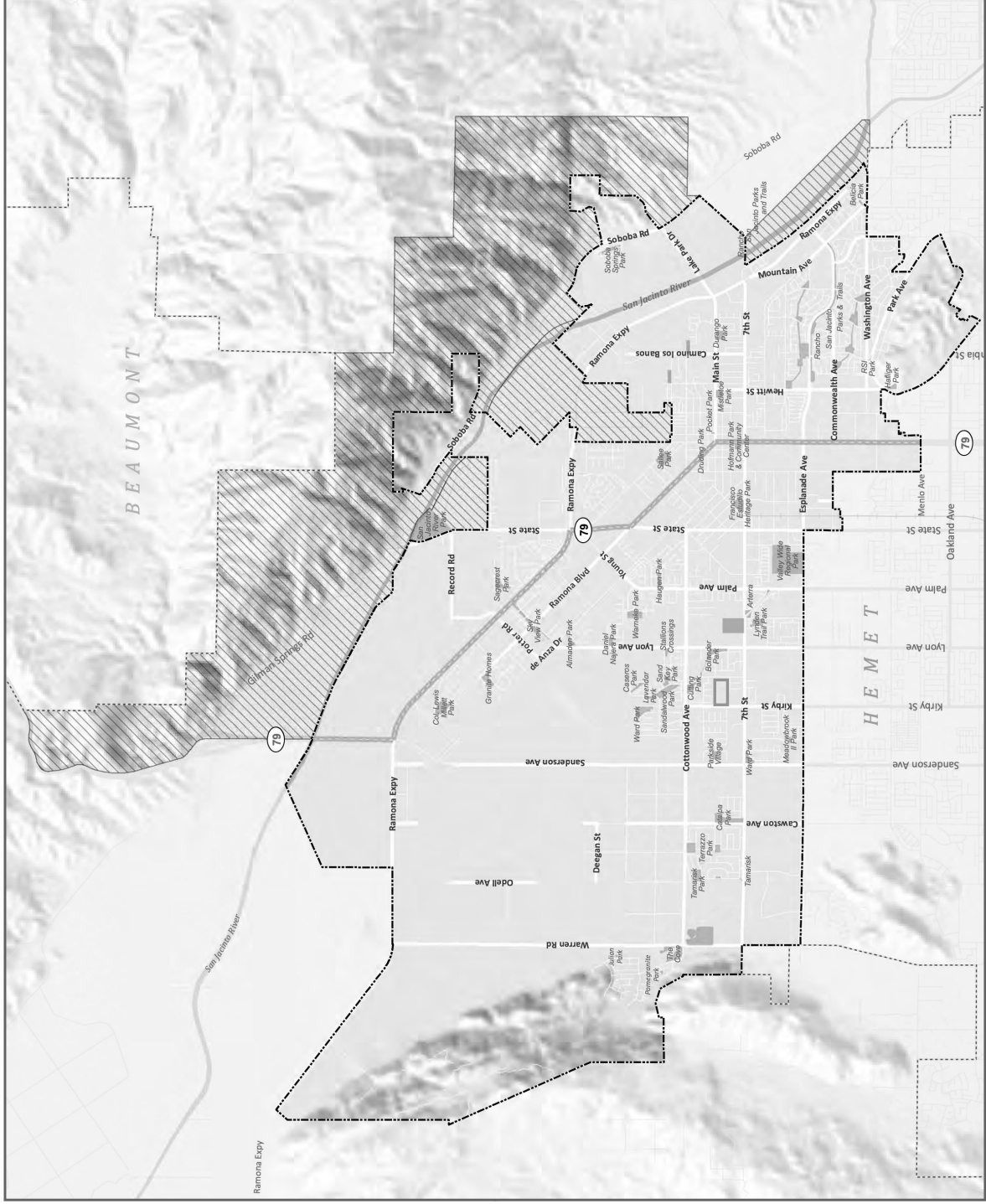
Figure 5.16-1.

Parks and Open Space

- Legend**
- City of San Jacinto
  - San Jacinto Sphere of Influence
  - Neighboring City
- Parks**
- City Park or Open Space
  - Future Park
  - Regional Park
- Project Site



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SOURCE: City of San Jacinto General Plan (2022)

FIGURE XV-2

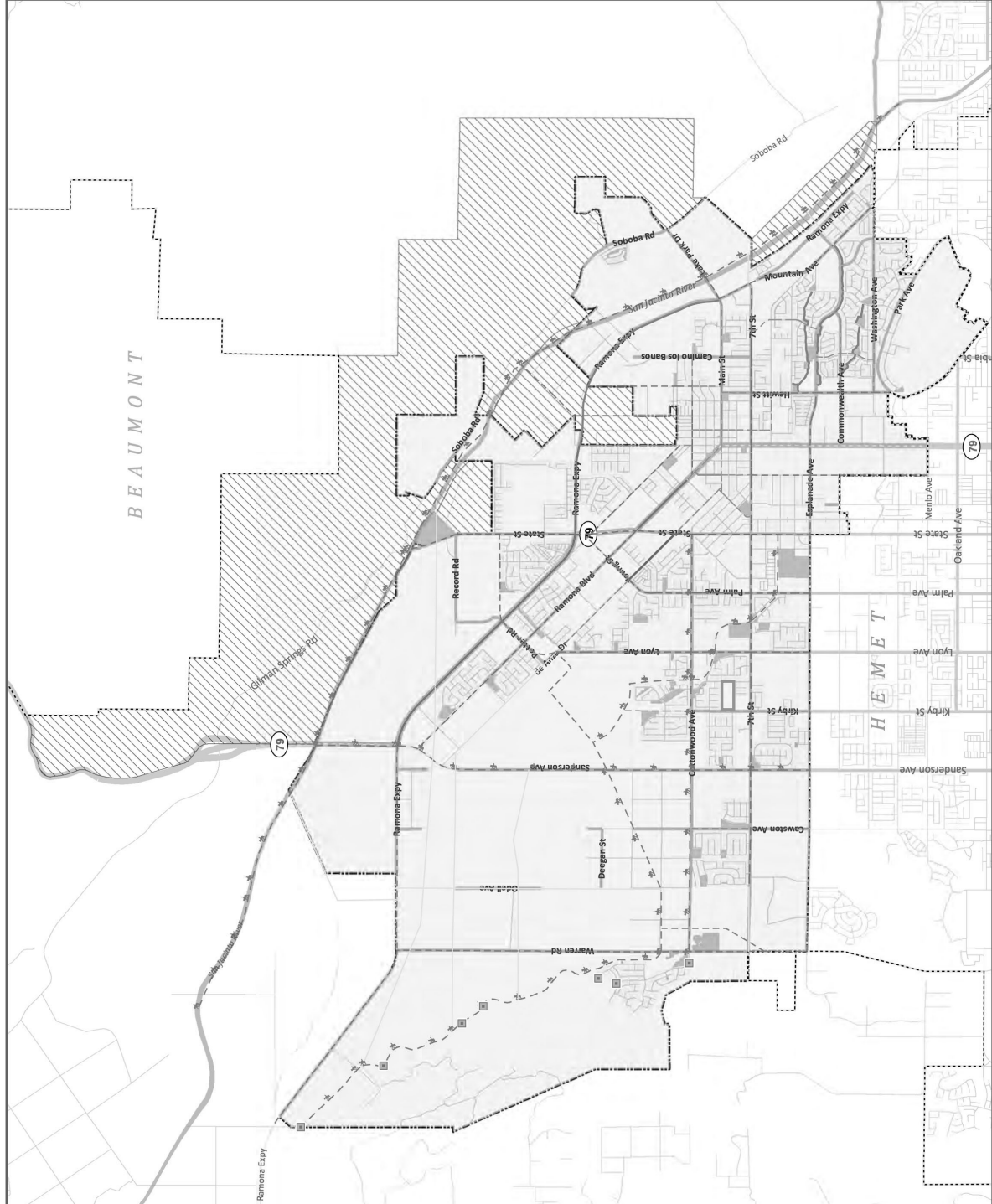
CITY OF SAN JACINTO  
GENERAL PLAN 2040  
Figure 5.17-4.  
TMP Proposed Bicycle  
Facilities

- Legend**
- Neighboring City
  - Waterbodies
  - City Park
  - San Jacinto Sphere of Influence
  - City of San Jacinto
  - TMP Proposed Trailhead
- Proposed Bicycle Improvements**
- Class I: Multi-use Path
  - Class IE: Multi-use & Equestrian Path
  - Class II: Bike Lane/Buffered Bike Lane
  - Class III: Bike Route
  - Future Opportunity
- Existing Bikeways**
- Class 1: Multi-Use Path
  - Class 2: Bike Lane
  - Class 2B: Buffered Bike Lane
  - Class 3: Bike Route
- Project Site

0 0.5 1  
Miles  
Source: City of San Jacinto, Harris County, Map Date: January 23, 2019.

**SAN JACINTO**

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SOURCE: City of San Jacinto General Plan (2022)

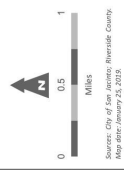
FIGURE XVII-1

**Tom Dodson & Associates**  
Environmental Consultants

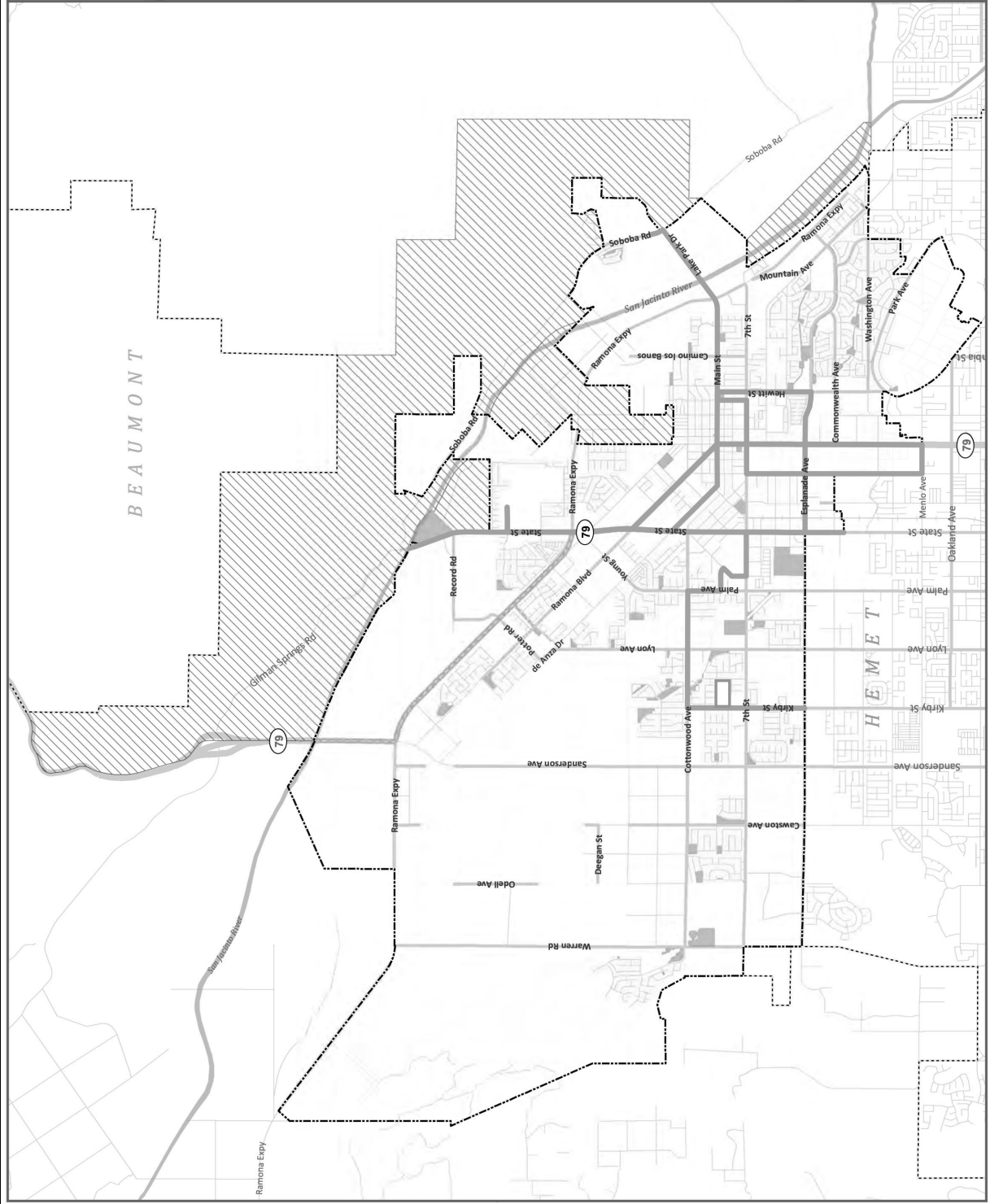
**Proposed Bicycle Facilities**

Figure 5.17-2.  
Existing Transit Routes

- Legend**
-  Riverside Transit Agency Routes
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  -  Neighboring City
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  -  City Park
  -  Waterbodies
  -  Project Site



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SOURCE: City of San Jacinto General Plan (2022)

FIGURE XVII-2



**FIGURE XX-1**

**Very High FHSZ in LRA and SRA**

**APPENDIX 1**

# Kriby Street Detailed Report

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# 1. Basic Project Information

## 1.1. Basic Project Information

Data Field	Value
Project Name	Kriby Street
Lead Agency	City of San Jacinto
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	22.4
Location	33.78314181302258, -116.99628683120757
County	Riverside-South Coast
City	San Jacinto
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	6828
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

## 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
Single Family Housing	76.0	Dwelling Unit	18.5	228,000	200,000	—	266	Low Density Residential Subdivision



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

Sector	#	Measure Title
Construction	C-1-A	Use Electric or Hybrid Powered Equipment
Construction	C-9	Use Dust Suppressants
Construction	C-10-B	Water Active Demolition Sites
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads
Construction	C-12	Sweep Paved Roads
Construction	C-13	Use Low-VOC Paints for Construction
Energy	E-2	Require Energy Efficient Appliances
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power
Water	W-4	Require Low-Flow Water Fixtures
Water	W-5	Design Water-Efficient Landscapes
Waste	S-4*	Recycle Demolished Construction Material

\* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

## 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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.18	4.19	50.5	39.6	0.11	1.98	7.73	9.71	1.83	3.35	5.18	14,876	0.39	1.53	15,363
Mit.	5.18	4.19	50.5	39.6	0.11	1.98	7.73	9.71	1.83	3.35	5.18	14,876	0.39	1.53	15,363
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Unmit.	1.67	71.5	12.3	15.1	0.03	0.56	0.43	0.98	0.51	0.10	0.62	3,022	0.12	0.07	0.07	3,046								
Mit.	1.67	71.5	12.3	15.1	0.03	0.56	0.43	0.98	0.51	0.10	0.62	3,022	0.12	0.07	0.07	3,046								
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.03	2.64	8.64	8.89	0.02	0.36	0.61	0.97	0.33	0.22	0.55	2,018	0.07	0.11	0.11	2,052								
Mit.	1.03	2.64	8.64	8.89	0.02	0.36	0.60	0.96	0.33	0.22	0.55	2,018	0.07	0.11	0.11	2,052								
% Reduced	—	—	—	—	—	—	1%	1%	—	1%	< 0.5%	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.19	0.48	1.58	1.62	< 0.005	0.07	0.11	0.18	0.06	0.04	0.10	334	0.01	0.02	0.02	340								
Mit.	0.19	0.48	1.58	1.62	< 0.005	0.07	0.11	0.18	0.06	0.04	0.10	334	0.01	0.02	0.02	340								
% Reduced	—	—	—	—	—	—	1%	1%	—	1%	< 0.5%	—	—	—	—	—	—	—	—	—	—	—	—	—

### 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	5.18	4.19	50.5	39.6	0.11	1.98	7.73	9.71	1.83	3.35	5.18	14,876	0.39	1.53	15,363
2024	1.44	1.20	11.2	13.1	0.02	0.50	0.39	0.89	0.46	0.10	0.56	2,398	0.10	0.02	2,406
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2023	1.67	1.40	12.3	15.1	0.03	0.56	0.43	0.98	0.51	0.10	0.62	3,022	0.12	0.07	3,046
2024	1.44	71.5	11.2	13.1	0.02	0.50	0.39	0.89	0.46	0.10	0.56	2,398	0.10	0.02	2,406
2025	0.15	71.5	0.88	1.14	< 0.005	0.03	0.07	0.09	0.03	0.02	0.04	134	0.01	< 0.005	134
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.03	0.86	8.64	8.09	0.02	0.36	0.61	0.97	0.33	0.22	0.55	2,018	0.07	0.11	2,052
2024	0.97	2.64	7.57	8.89	0.02	0.34	0.26	0.59	0.31	0.06	0.37	1,606	0.07	0.01	1,612
2025	< 0.005	2.24	0.03	0.04	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	4.18	< 0.005	< 0.005	4.20
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.19	0.16	1.58	1.48	< 0.005	0.07	0.11	0.18	0.06	0.04	0.10	334	0.01	0.02	340
2024	0.18	0.48	1.38	1.62	< 0.005	0.06	0.05	0.11	0.06	0.01	0.07	266	0.01	< 0.005	267
2025	< 0.005	0.41	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.69	< 0.005	< 0.005	0.69

### 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	5.18	4.19	50.5	39.6	0.11	1.98	7.73	9.71	1.83	3.35	5.18	14,876	0.39	1.53	15,363
2024	1.44	1.20	11.2	13.1	0.02	0.50	0.39	0.89	0.46	0.10	0.56	2,398	0.10	0.02	2,406
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.67	1.40	12.3	15.1	0.03	0.56	0.43	0.98	0.51	0.10	0.62	3,022	0.12	0.07	3,046
2024	1.44	71.5	11.2	13.1	0.02	0.50	0.39	0.89	0.46	0.10	0.56	2,398	0.10	0.02	2,406
2025	0.15	71.5	0.88	1.14	< 0.005	0.03	0.07	0.09	0.03	0.02	0.04	134	0.01	< 0.005	134
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2023	1.03	0.86	8.64	8.09	0.02	0.36	0.60	0.96	0.33	0.22	0.55	2,018	0.07	0.11	2,052
2024	0.97	2.64	7.57	8.89	0.02	0.34	0.26	0.59	0.31	0.06	0.37	1,606	0.07	0.01	1,612
2025	< 0.005	2.24	0.03	0.04	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	4.18	< 0.005	< 0.005	4.20
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.19	0.16	1.58	1.48	< 0.005	0.07	0.11	0.18	0.06	0.04	0.10	334	0.01	0.02	340
2024	0.18	0.48	1.38	1.62	< 0.005	0.06	0.05	0.11	0.06	0.01	0.07	266	0.01	< 0.005	267
2025	< 0.005	0.41	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.69	< 0.005	< 0.005	0.69

### 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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.26	8.34	2.63	9.52	0.01	0.16	< 0.005	0.17	0.16	< 0.005	0.16	3,370	1.45	0.07	3,428
Mit.	3.26	8.34	2.63	9.52	0.01	0.16	< 0.005	0.17	0.16	< 0.005	0.16	3,350	1.45	0.07	3,407
% Reduced	—	—	—	—	—	—	—	—	—	—	—	1%	< 0.5%	—	1%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.62	7.72	2.62	5.96	0.01	0.16	< 0.005	0.16	0.16	< 0.005	0.16	3,360	1.46	0.07	3,418
Mit.	2.62	7.72	2.62	5.96	0.01	0.16	< 0.005	0.16	0.16	< 0.005	0.16	3,339	1.46	0.07	3,398
% Reduced	—	—	—	—	—	—	—	—	—	—	—	1%	< 0.5%	—	1%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.39	6.57	1.09	5.49	0.01	0.06	< 0.005	0.07	0.07	< 0.005	0.07	1,790	1.36	0.03	1,836
Mit.	1.39	6.57	1.09	5.49	0.01	0.06	< 0.005	0.07	0.07	< 0.005	0.07	1,770	1.36	0.03	1,815

% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1%	< 0.5%	—	1%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.25	1.20	0.20	1.00	< 0.005	0.01	< 0.005	0.01	< 0.005	0.01	< 0.005	0.01	< 0.005	0.01	0.01	296	0.23	0.01	304
Mit.	0.25	1.20	0.20	1.00	< 0.005	0.01	< 0.005	0.01	< 0.005	0.01	< 0.005	0.01	< 0.005	0.01	293	0.23	0.01	301	
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1%	< 0.5%	1%	—	1%

### 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.61	2.56	0.64	4.40	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	151	0.11	0.05	170
Area	0.56	5.74	1.30	4.83	0.01	0.10	—	0.10	0.10	—	0.10	1,612	0.03	< 0.005	1,613
Energy	0.08	0.04	0.68	0.29	< 0.005	0.06	—	0.06	0.06	—	0.06	1,544	0.14	0.01	1,551
Water	—	—	—	—	—	—	—	—	—	—	—	0.38	0.01	< 0.005	0.65
Waste	—	—	—	—	—	—	—	—	—	—	—	11.6	1.16	0.00	40.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.63
Vegetation	—	—	—	—	—	—	—	—	—	—	—	51.4	—	—	51.4
Total	3.26	8.34	2.63	9.52	0.01	0.16	< 0.005	0.17	0.16	< 0.005	0.16	3,370	1.45	0.07	3,428
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.39	2.33	0.68	5.14	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	152	0.12	0.06	172
Area	0.15	5.34	1.26	0.54	0.01	0.10	—	0.10	0.10	—	0.10	1,600	0.03	< 0.005	1,602
Energy	0.08	0.04	0.68	0.29	< 0.005	0.06	—	0.06	0.06	—	0.06	1,544	0.14	0.01	1,551
Water	—	—	—	—	—	—	—	—	—	—	—	0.38	0.01	< 0.005	0.65

Waste	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.6	1.16	0.00	40.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.63
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	—	—	51.4	—	—	51.4
Total	2.62	7.72	2.62	5.96	0.01	0.16	< 0.005	0.16	0.16	< 0.005	0.16	< 0.005	0.16	3,360	1.46	0.07	0.07	3,418
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.01	0.99	0.29	2.22	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	65.1	0.05	0.02	0.02	73.5
Area	0.29	5.55	0.12	2.98	< 0.005	0.01	—	0.01	0.01	—	0.01	—	0.01	118	< 0.005	< 0.005	< 0.005	118
Energy	0.08	0.04	0.68	0.29	< 0.005	0.06	—	0.06	0.06	—	0.06	—	0.06	1,544	0.14	0.01	0.01	1,551
Water	—	—	—	—	—	—	—	—	—	—	—	—	—	0.38	0.01	< 0.005	< 0.005	0.65
Waste	—	—	—	—	—	—	—	—	—	—	—	—	—	11.6	1.16	0.00	0.00	40.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.63
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	—	51.4	—	—	—	51.4
Total	1.39	6.57	1.09	5.49	0.01	0.06	< 0.005	0.07	0.07	< 0.005	0.07	< 0.005	0.07	1,790	1.36	0.03	0.03	1,836
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.19	0.18	0.05	0.40	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	10.8	0.01	< 0.005	< 0.005	12.2
Area	0.05	1.01	0.02	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	19.5	< 0.005	< 0.005	< 0.005	19.5
Energy	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	0.01	256	0.02	< 0.005	< 0.005	257
Water	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	< 0.005	< 0.005	< 0.005	0.11
Waste	—	—	—	—	—	—	—	—	—	—	—	—	—	1.92	0.19	0.00	0.00	6.73
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.27
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	—	8.51	—	—	—	8.51
Total	0.25	1.20	0.20	1.00	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	< 0.005	0.01	296	0.23	0.01	0.01	304

## 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
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Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.61	2.56	0.64	4.40	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.11	0.05	0.05	170					
Area	0.56	5.74	1.30	4.83	0.10	0.10	0.10	0.10	0.10	0.10	0.03	< 0.005	< 0.005	1,613					
Energy	0.08	0.04	0.68	0.29	< 0.005	0.06	0.06	0.06	0.06	0.06	0.14	0.01	0.01	1,530					
Water	—	—	—	—	—	—	—	—	—	—	0.01	< 0.005	< 0.005	0.65					
Waste	—	—	—	—	—	—	—	—	—	—	11.6	0.00	0.00	40.6					
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	1.63					
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	—	51.4					
Total	3.26	8.34	2.63	9.52	0.16	0.16	0.17	0.16	< 0.005	0.16	1.45	0.07	0.07	3,407					
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—					
Mobile	2.39	2.33	0.68	5.14	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.12	0.06	0.06	172					
Area	0.15	5.34	1.26	0.54	0.10	0.10	0.10	0.10	0.10	0.10	0.03	< 0.005	< 0.005	1,602					
Energy	0.08	0.04	0.68	0.29	< 0.005	0.06	0.06	0.06	0.06	0.06	0.14	0.01	0.01	1,530					
Water	—	—	—	—	—	—	—	—	—	—	0.01	< 0.005	< 0.005	0.65					
Waste	—	—	—	—	—	—	—	—	—	—	11.6	0.00	0.00	40.6					
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	1.63					
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	—	51.4					
Total	2.62	7.72	2.62	5.96	0.16	0.16	0.16	0.16	< 0.005	0.16	1.46	0.07	0.07	3,398					
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—					
Mobile	1.01	0.99	0.29	2.22	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.05	0.02	0.02	73.5					
Area	0.29	5.55	0.12	2.98	< 0.005	0.01	0.01	0.01	0.01	0.01	< 0.005	< 0.005	< 0.005	118					
Energy	0.08	0.04	0.68	0.29	< 0.005	0.06	0.06	0.06	0.06	0.06	0.14	0.01	0.01	1,530					
Water	—	—	—	—	—	—	—	—	—	—	0.01	< 0.005	< 0.005	0.65					
Waste	—	—	—	—	—	—	—	—	—	—	11.6	0.00	0.00	40.6					





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Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.16	1.50	1.29	< 0.005	0.07	0.07	0.06	0.06	188	0.01	< 0.005	< 0.005	188	0.005	188	0.005	< 0.005	< 0.005	188
Demolition	—	—	—	—	—	0.02	0.02	< 0.005	< 0.005	—	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.27	0.23	< 0.005	0.01	0.01	0.01	0.01	31.1	< 0.005	< 0.005	< 0.005	31.1	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	31.2
Demolition	—	—	—	—	—	< 0.005	< 0.005	< 0.005	< 0.005	—	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	1.36	0.00	0.00	0.01	0.00	0.00	220	0.01	0.01	0.00	220	0.01	220	0.01	0.01	0.01	224
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.35	0.08	< 0.005	0.01	0.02	0.01	0.01	309	0.01	0.03	0.01	309	0.05	309	0.05	0.05	0.05	324
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.06	0.00	0.00	< 0.005	0.00	0.00	11.2	< 0.005	< 0.005	0.00	11.2	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	11.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	16.9	< 0.005	< 0.005	< 0.005	16.9	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	17.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	< 0.005	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	1.86	< 0.005	< 0.005	1.89
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	2.80	< 0.005	< 0.005	2.94

### 3.2. Demolition (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.39	2.84	27.3	23.5	0.03	1.20	—	1.20	1.10	—	1.10	3,425	0.14	0.03	3,437
Demolition	—	—	—	—	—	—	0.24	0.24	—	0.04	0.04	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.16	1.50	1.29	< 0.005	0.07	—	0.07	0.06	—	0.06	188	0.01	< 0.005	188
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.27	0.23	< 0.005	0.01	—	0.01	0.01	—	0.01	31.1	< 0.005	< 0.005	31.2
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	1.36	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	224
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.35	0.08	< 0.005	0.01	0.02	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.05	324
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.06	0.00	0.00	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	11.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	17.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.89
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	2.94

### 3.3. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	5,295	0.21	0.04	5,314
Dust From Material Movement	—	—	—	—	—	5.13	5.13	—	2.63	2.63	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.09	0.97	< 0.005	0.05	—	0.05	0.05	—	0.05	145	0.01	< 0.005	146
Dust From Material Movement	—	—	—	—	—	0.14	0.14	—	0.07	0.07	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.20	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	24.0	< 0.005	< 0.005	24.1
Dust From Material Movement	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.09	1.59	0.00	0.01	0.01	0.01	0.00	0.00	0.00	257	0.01	0.01	261
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.38	0.15	10.7	2.56	0.06	0.17	0.64	0.81	0.17	0.23	0.41	9,323	0.17	1.48	9,789

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	0.00	< 0.005	< 0.005	0.00	6.55	< 0.005	< 0.005	< 0.005	< 0.005	6.65	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.31	0.07	< 0.005	< 0.005	< 0.005	0.02	0.02	0.02	< 0.005	0.01	0.01	< 0.005	0.04	255	< 0.005	< 0.005	< 0.005	< 0.005	0.04	268	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	0.00	< 0.005	< 0.005	0.00	1.09	< 0.005	< 0.005	< 0.005	< 0.005	1.10	—	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.06	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	42.3	< 0.005	< 0.005	< 0.005	< 0.005	0.01	44.4	—	—

### 3.4. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	5,295	0.21	0.04	5,314
Dust From Material Movement	—	—	—	—	—	—	5.13	5.13	—	2.63	2.63	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Off-Road Equipment	0.13	0.11	1.09	0.97	< 0.005	0.05	—	0.05	0.05	—	0.05	0.01	< 0.005	146
Dust From Material Movement	—	—	—	—	—	0.14	0.14	0.07	0.07	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.20	0.18	< 0.005	0.01	—	0.01	0.01	—	24.0	< 0.005	< 0.005	24.1
Dust From Material Movement	—	—	—	—	—	—	0.03	0.01	0.01	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.09	1.59	0.00	0.00	0.01	0.00	0.00	0.00	257	0.01	0.01	261
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.38	0.15	10.7	2.56	0.06	0.17	0.64	0.23	0.41	0.23	9,323	0.17	1.48	9,789
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	0.00	0.00	0.00	6.55	< 0.005	< 0.005	6.65
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.31	0.07	< 0.005	< 0.005	0.02	0.01	0.01	0.01	255	< 0.005	0.04	268
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	0.00	0.00	0.00	1.09	< 0.005	< 0.005	1.10

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.06	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	42.3	< 0.005	0.01	< 0.005	44.4

### 3.5. Grading (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	3.72	37.3	31.4	0.06	1.59	—	1.59	1.47	—	1.47	6,598	0.27	0.05	6,621
Dust From Material Movement	—	—	—	—	—	—	2.40	2.40	—	0.95	0.95	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.31	3.07	2.58	0.01	0.13	—	0.13	0.12	—	0.12	542	0.02	< 0.005	544
Dust From Material Movement	—	—	—	—	—	—	0.20	0.20	—	0.08	0.08	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.56	0.47	< 0.005	0.02	—	0.02	0.02	—	0.02	89.8	< 0.005	< 0.005	90.1

Dust From Material Movement	—	—	—	—	—	—	—	—	—	0.04	0.04	—	0.01	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.11	1.81	0.00	0.00	0.02	0.02	0.00	0.02	0.02	0.00	0.00	0.01	0.01	0.01	0.01	298
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.13	0.05	3.56	0.85	0.02	0.06	0.21	0.27	0.06	0.06	0.08	0.01	0.14	0.06	0.06	3,108	0.49	3,263
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.12	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	0.00	0.00	< 0.005	< 0.005	22.5	< 0.005	22.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.31	0.07	< 0.005	< 0.005	0.02	0.02	< 0.005	0.02	0.01	< 0.005	0.01	< 0.005	< 0.005	255	0.04	268
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	0.00	0.00	< 0.005	< 0.005	3.72	< 0.005	3.77
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.06	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	42.3	0.01	44.4

### 3.6. Grading (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—





Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.13	0.05	3.56	0.85	0.02	0.00	0.06	0.21	0.27	0.06	0.08	0.14	3,108	0.06	0.49	0.00	0.00	0.00	3,263
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.12	0.00	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	22.5	< 0.005	< 0.005	< 0.005	< 0.005	0.00	22.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.31	0.07	< 0.005	0.02	< 0.005	0.02	0.02	< 0.005	0.01	0.01	255	< 0.005	< 0.005	< 0.005	0.04	268	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	< 0.005	0.00	< 0.005	< 0.005	0.00	0.00	0.00	3.72	< 0.005	< 0.005	< 0.005	0.00	3.77	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.06	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	42.3	< 0.005	< 0.005	< 0.005	0.01	44.4	0.00

### 3.7. Building Construction (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.50	1.26	11.8	13.2	0.02	0.55	—	0.55	0.51	—	0.51	2,397	0.10	0.02	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.50	1.26	11.8	13.2	0.02	0.55	—	0.55	0.51	—	0.51	2,397	0.10	0.02	2,406

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Off-Road Equipment	0.29	0.24	2.24	2.50	< 0.005	0.10	0.00	0.10	0.10	0.10	0.00	0.00	0.10	0.02	0.02	0.02	0.02	0.02	0.02	455	< 0.005	457	
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.41	0.46	< 0.005	0.02	0.00	0.02	0.02	0.02	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.02	0.02	75.3	< 0.005	75.6	
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.15	0.14	2.48	0.00	0.00	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.02	402	0.01	408	
Vendor	0.01	0.01	0.30	0.09	< 0.005	< 0.005	0.01	0.02	< 0.005	0.01	0.01	0.01	< 0.005	0.01	0.01	0.01	0.01	0.01	0.01	255	0.04	267	
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	0.17	1.88	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.02	0.02	369	0.01	374	
Vendor	0.01	0.01	0.31	0.10	< 0.005	< 0.005	0.01	0.02	< 0.005	0.01	0.01	0.01	< 0.005	0.01	0.01	0.01	0.01	0.01	0.01	255	0.04	267	
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.37	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	0.00	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	71.0	< 0.005	72.0	
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	48.5	0.01	50.7	
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	< 0.005	0.01	0.07	0.00	< 0.005	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	11.8	< 0.005	< 0.005	11.9
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	8.02	< 0.005	< 0.005	8.39
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.8. Building Construction (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.50	1.26	11.8	13.2	0.02	0.55	—	0.55	0.51	—	0.51	2,397	0.10	0.02	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.50	1.26	11.8	13.2	0.02	0.55	—	0.55	0.51	—	0.51	2,397	0.10	0.02	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.24	2.24	2.50	< 0.005	0.10	—	0.10	0.10	—	0.10	455	0.02	< 0.005	457
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.41	0.46	< 0.005	0.02	—	0.02	0.02	—	0.02	75.3	< 0.005	< 0.005	75.6

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.15	0.14	2.48	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.01	0.00	0.00	0.00
Vendor	0.01	0.01	0.30	0.09	< 0.005	< 0.005	0.01	0.02	< 0.005	0.01	0.01	0.01	< 0.005	0.01	0.01	0.01	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	0.17	1.88	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.01	0.00	0.02	0.01
Vendor	0.01	0.01	0.31	0.10	< 0.005	< 0.005	0.01	0.02	< 0.005	0.01	0.01	0.01	< 0.005	0.01	0.01	0.01	0.00	0.01	0.04
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.37	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	0.00	< 0.005	0.00	0.00	0.00	0.00	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	48.5	< 0.005	0.01
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.01	0.07	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	0.00	0.00	< 0.005	0.00	0.00	11.8	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	8.02	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.9. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	—	0.50	0.46	—	—	—	0.46	2,398	0.10	0.02	2,406	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	—	0.50	0.46	—	—	—	0.46	2,398	0.10	0.02	2,406	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.11	8.32	0.01	0.32	—	—	0.32	0.29	—	—	—	0.29	1,520	0.06	0.01	1,525	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.30	1.52	< 0.005	0.06	—	—	0.06	0.05	—	—	—	0.05	252	0.01	< 0.005	253	—	—	—	—	—	—	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

### 3.10. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	0.46	—	0.50	0.46	—	0.46	—	2,398	0.10	0.02	—	2,406
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	0.46	—	0.50	0.46	—	0.46	—	2,398	0.10	0.02	—	2,406
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.11	8.32	0.01	0.32	0.29	—	0.32	0.29	—	0.29	—	1,520	0.06	0.01	—	1,525
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.30	1.52	< 0.005	0.06	0.05	—	0.06	0.05	—	0.05	—	252	0.01	< 0.005	—	253
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

### 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—





Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.39	—	0.39	0.02	0.36	—	0.36	0.02	0.02	82.8	1,512	0.06	0.01	1,517	
Paving	—	0.26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Off-Road Equipment	0.06	0.05	0.43	0.55	< 0.005	0.02	—	0.02	0.02	0.02	—	0.02	< 0.005	< 0.005	13.7	< 0.005	< 0.005	< 0.005	83.1	
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Off-Road Equipment	0.01	0.01	0.08	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	13.8	< 0.005	< 0.005	< 0.005	13.8	
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

3.13. Architectural Coating (2024) - Unmitigated

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

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Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	0.91	1.15	< 0.005	0.03	—	0.03	0.03	—	0.03	134	0.01	< 0.005	134
Architectural Coatings	—	71.4	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	3.40	< 0.005	< 0.005	3.41
Architectural Coatings	—	1.82	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.56	< 0.005	< 0.005	0.56
Architectural Coatings	—	0.33	—	—	—	—	—	—	—	—	—	—	—	—	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

### 3.14. Architectural Coating (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	0.91	1.15	< 0.005	0.03	—	0.03	0.03	—	0.03	134	0.01	< 0.005	134
Architectural Coatings	—	71.4	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	3.40	< 0.005	< 0.005	3.41
Architectural Coatings	—	1.82	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.56	< 0.005	< 0.005	0.56
Architectural Coatings	—	0.33	—	—	—	—	—	—	—	—	—	—	—	—	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

3.15. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	134	0.01	< 0.005	134
Architectural Coatings	—	71.4	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	4.18	< 0.005	< 0.005	4.20
Architectural Coatings	—	2.23	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.69	< 0.005	< 0.005	0.69	
Architectural Coatings	—	0.41	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

### 3.16. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	134	0.01	< 0.005	134
Architectural Coatings	—	71.4	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—



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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	678	0.06	0.01	682
Total	—	—	—	—	—	—	—	—	—	—	—	678	0.06	0.01	682
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	678	0.06	0.01	682
Total	—	—	—	—	—	—	—	—	—	—	—	678	0.06	0.01	682
Annual	—	—	—	—	—	—	—	—	—	—	—	678	0.06	0.01	682
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	112	0.01	< 0.005	113
Total	—	—	—	—	—	—	—	—	—	—	—	112	0.01	< 0.005	113

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	657	0.06	0.01	661
Total	—	—	—	—	—	—	—	—	—	—	—	657	0.06	0.01	661

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	657	0.06	0.01	661
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	657	0.06	0.01	661
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	657	0.06	0.01	661
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	109	0.01	< 0.005	109
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	109	0.01	< 0.005	109

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.08	0.04	0.68	0.29	< 0.005	0.06	—	0.06	0.06	—	0.06	866	0.08	< 0.005	869
Total	0.08	0.04	0.68	0.29	< 0.005	0.06	—	0.06	0.06	—	0.06	866	0.08	< 0.005	869
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.08	0.04	0.68	0.29	< 0.005	0.06	—	0.06	0.06	—	0.06	866	0.08	< 0.005	869
Total	0.08	0.04	0.68	0.29	< 0.005	0.06	—	0.06	0.06	—	0.06	866	0.08	< 0.005	869
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—



Single Family Housing	0.01	0.01	0.12	0.05	0.05	< 0.005	0.01	—	0.01	0.01	0.01	0.01	—	0.01	143	0.01	< 0.005	144
Total	0.01	0.01	0.12	0.05	0.05	< 0.005	0.01	—	0.01	0.01	0.01	0.01	—	0.01	143	0.01	< 0.005	144

#### 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.08	0.04	0.68	0.29	< 0.005	0.06	—	0.06	0.06	—	0.06	866	0.08	< 0.005	869
Total	0.08	0.04	0.68	0.29	< 0.005	0.06	—	0.06	0.06	—	0.06	866	0.08	< 0.005	869
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.08	0.04	0.68	0.29	< 0.005	0.06	—	0.06	0.06	—	0.06	866	0.08	< 0.005	869
Total	0.08	0.04	0.68	0.29	< 0.005	0.06	—	0.06	0.06	—	0.06	866	0.08	< 0.005	869
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	143	0.01	< 0.005	144
Total	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	143	0.01	< 0.005	144

#### 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)

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Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.15	0.07	1.26	0.54	0.01	0.10	—	0.10	0.10	—	0.10	1,600	0.03	< 0.005	1,602
Consumer Products	—	4.88	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.39	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.42	0.39	0.04	4.30	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	11.5	< 0.005	< 0.005	11.6
Total	0.56	5.74	1.30	4.83	0.01	0.10	—	0.10	0.10	—	0.10	1,612	0.03	< 0.005	1,613
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	143	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.15	0.07	1.26	0.54	0.01	0.10	—	0.10	0.10	—	0.10	1,600	0.03	< 0.005	1,602
Consumer Products	—	4.88	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.15	148	1.26	0.54	0.01	0.10	—	0.10	0.10	—	0.10	1,600	0.03	< 0.005	1,602
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.81	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	18.1	< 0.005	< 0.005	18.2
Consumer Products	—	0.89	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.05	0.05	0.01	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.31	< 0.005	< 0.005	1.31
Total	0.05	1.75	0.02	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	19.5	< 0.005	< 0.005	19.5

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.15	0.07	1.26	0.54	0.01	0.10	—	0.10	0.10	—	0.10	1,600	0.03	< 0.005	1,602
Consumer Products	—	4.88	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.39	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.42	0.39	0.04	4.30	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	11.5	< 0.005	< 0.005	11.6
Total	0.56	5.74	1.30	4.83	0.01	0.10	—	0.10	0.10	—	0.10	1,612	0.03	< 0.005	1,613
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	143	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.15	0.07	1.26	0.54	0.01	0.10	—	0.10	0.10	—	0.10	1,600	0.03	< 0.005	1,602
Consumer Products	—	4.88	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.15	148	1.26	0.54	0.01	0.10	—	0.10	0.10	—	0.10	1,600	0.03	< 0.005	1,602
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.81	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	18.1	< 0.005	< 0.005	18.2
Consumer Products	—	0.89	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscaping Equipment	0.05	0.05	0.01	0.54	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.31	< 0.005	1.31
Total	0.05	1.75	0.02	0.54	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	19.5	< 0.005	19.5

#### 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.38	0.01	< 0.005	0.65
Total	—	—	—	—	—	—	—	—	—	—	—	0.38	0.01	< 0.005	0.65
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.38	0.01	< 0.005	0.65
Total	—	—	—	—	—	—	—	—	—	—	—	0.38	0.01	< 0.005	0.65
Annual	—	—	—	—	—	—	—	—	—	—	—	0.38	0.01	< 0.005	0.65
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.06	< 0.005	< 0.005	0.11
Total	—	—	—	—	—	—	—	—	—	—	—	0.06	< 0.005	< 0.005	0.11

##### 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.38	0.01	< 0.005	0.65
Total	—	—	—	—	—	—	—	—	—	—	—	0.38	0.01	< 0.005	0.65
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.38	0.01	< 0.005	0.65
Total	—	—	—	—	—	—	—	—	—	—	—	0.38	0.01	< 0.005	0.65
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.06	< 0.005	< 0.005	0.11
Total	—	—	—	—	—	—	—	—	—	—	—	0.06	< 0.005	< 0.005	0.11

#### 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	11.6	1.16	0.00	40.6
Total	—	—	—	—	—	—	—	—	—	—	—	11.6	1.16	0.00	40.6



Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.92	0.19	0.00	6.73
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.92	0.19	0.00	6.73

#### 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.63
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.63
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.63
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.63
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.27
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.27

##### 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.63
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.63
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.63
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.63
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.27
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.27

#### 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—





Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grazing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	51.4	—	—	—	—	51.4
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	51.4	—	—	—	—	51.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grazing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	51.4	—	—	—	—	51.4
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	51.4	—	—	—	—	51.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grazing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.51	—	—	—	—	8.51
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.51	—	—	—	—	8.51

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	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)

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Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grazing	—	—	—	—	—	—	—	—	—	—	—	51.4	—	—	51.4
Total	—	—	—	—	—	—	—	—	—	—	—	51.4	—	—	51.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grazing	—	—	—	—	—	—	—	—	—	—	—	51.4	—	—	51.4
Total	—	—	—	—	—	—	—	—	—	—	—	51.4	—	—	51.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grazing	—	—	—	—	—	—	—	—	—	—	—	8.51	—	—	8.51
Total	—	—	—	—	—	—	—	—	—	—	—	8.51	—	—	8.51

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—





Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
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	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
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	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
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
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
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	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
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	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
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
Demolition	—	—	—	—
Demolition	Worker	15.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	4.35	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—

Site Preparation	Worker	17.5	18.5	LDA, LDT1, LDT2
Site Preparation	Vendor	—	10.2	HHDT, MHD
Site Preparation	Hauling	131	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA, LDT1, LDT2
Grading	Vendor	—	10.2	HHDT, MHD
Grading	Hauling	43.8	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	27.4	18.5	LDA, LDT1, LDT2
Building Construction	Vendor	8.12	10.2	HHDT, MHD
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA, LDT1, LDT2
Paving	Vendor	—	10.2	HHDT, MHD
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	5.47	18.5	LDA, LDT1, LDT2
Architectural Coating	Vendor	—	10.2	HHDT, MHD
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
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Demolition	—	—	—	—	—	—
Demolition	Worker	15.0	18.5	LDA,LDT1,LDT2		
Demolition	Vendor	—	10.2	HHDT,MHDT		
Demolition	Hauling	4.35	20.0	HHDT		
Demolition	Onsite truck	—	—	HHDT		
Site Preparation	—	—	—	—		
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2		
Site Preparation	Vendor	—	10.2	HHDT,MHDT		
Site Preparation	Hauling	131	20.0	HHDT		
Site Preparation	Onsite truck	—	—	HHDT		
Grading	—	—	—	—		
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2		
Grading	Vendor	—	10.2	HHDT,MHDT		
Grading	Hauling	43.8	20.0	HHDT		
Grading	Onsite truck	—	—	HHDT		
Building Construction	—	—	—	—		
Building Construction	Worker	27.4	18.5	LDA,LDT1,LDT2		
Building Construction	Vendor	8.12	10.2	HHDT,MHDT		
Building Construction	Hauling	0.00	20.0	HHDT		
Building Construction	Onsite truck	—	—	HHDT		
Paving	—	—	—	—		
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2		
Paving	Vendor	—	10.2	HHDT,MHDT		
Paving	Hauling	0.00	20.0	HHDT		
Paving	Onsite truck	—	—	HHDT		
Architectural Coating	—	—	—	—		
Architectural Coating	Worker	5.47	18.5	LDA,LDT1,LDT2		

Architectural Coating	Vendor	—	10.2	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	461,700	153,900	0.00	0.00	—

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	7,500	—
Site Preparation	10,500	0.00	15.0	0.00	—
Grading	10,500	0.00	90.0	0.00	—
Paving	0.00	0.00	0.00	0.00	2.83

### 5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

### 5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	2.83	70%

### 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	532	0.03	< 0.005
2024	0.00	532	0.03	< 0.005
2025	0.00	532	0.03	< 0.005

### 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
Total all Land Uses	718	718	718	112,316	15.9	15.9	15.9	2,487

#### 5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	718	718	718	112,316	15.9	15.9	15.9	2,487

### 5.10. Operational Area Sources

#### 5.10.1. Hearths

##### 5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	76
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0

**5.10.1.2. Mitigated**

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	76
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	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)
461700	153,900	0.00	0.00	—

**5.10.3. Landscape Equipment**

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

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)
Single Family Housing	709,783	349	0.0330	0.0040	2,702,888

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)
Single Family Housing	688,302	349	0.0330	0.0040	2,702,888

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	42,307	4,508

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	42,307	4,508



### 5.13. Operational Waste Generation

#### 5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	21.5	0.00

#### 5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	21.5	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
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	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
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	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	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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Grazing	>70% Sand	18.5	0.00
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**5.18.1.2. Mitigated**

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
Grazing	>70% Sand	18.5	0.00

**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	23.3	annual days of extreme heat
Extreme Precipitation	3.30	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	8.49	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	3	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	0	0	0	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	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	3	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	1	1	1	2
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

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

#### 6.4.1. Temperature and Extreme Heat

User Selected Measures	Co-Benefits Achieved	Exposure Reduction	Sensitivity Reduction	Adaptive Capacity Increase
D-3: Install Drought Resistant Landscaping	Water Conservation	—	1.00	1.00

#### 6.4.2. Drought

User Selected Measures	Co-Benefits Achieved	Exposure Reduction	Sensitivity Reduction	Adaptive Capacity Increase
D-1: Install Water Efficient Appliances	Social Equity, Water Conservation	—	—	1.00

D-3: Install Drought Resistant Landscaping	Water Conservation	—	1.00	1.00
--	--------------------	---	------	------

## 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	97.1
AQ-PM	42.7
AQ-DPM	12.5
Drinking Water	10.2
Lead Risk Housing	27.2
Pesticides	84.0
Toxic Releases	26.4
Traffic	42.0
Effect Indicators	—
CleanUp Sites	53.4
Groundwater	94.5
Haz Waste Facilities/Generators	51.7
Impaired Water Bodies	0.00
Solid Waste	76.4
Sensitive Population	—
Asthma	66.8
Cardio-vascular	87.6
Low Birth Weights	41.7
Socioeconomic Factor Indicators	—

Education	63.8
Housing	36.7
Linguistic	13.3
Poverty	64.0
Unemployment	85.8

## 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	36.48145772
Employed	12.39573977
Education	—
Bachelor's or higher	24.38085461
High school enrollment	100
Preschool enrollment	53.81752855
Transportation	—
Auto Access	75.69613756
Active commuting	40.7160272
Social	—
2-parent households	64.62209675
Voting	19.49185166
Neighborhood	—
Alcohol availability	92.78839985
Park access	17.11792634
Retail density	4.18324137
Supermarket access	6.082381625

Tree canopy	1.462851277
Housing	—
Homeownership	79.07096112
Housing habitability	75.93994611
Low-inc homeowner severe housing cost burden	94.54638778
Low-inc renter severe housing cost burden	20.28743744
Uncrowded housing	60.77248813
Health Outcomes	—
Insured adults	45.81034262
Arthritis	0.0
Asthma ER Admissions	38.1
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	81.1
Cognitively Disabled	66.4
Physically Disabled	21.0
Heart Attack ER Admissions	11.3
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0



Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	1.0
SLR Inundation Area	0.0
Children	5.0
Elderly	80.7
English Speaking	40.0
Foreign-born	48.9
Outdoor Workers	27.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	79.0
Traffic Density	34.3
Traffic Access	23.0
Other Indices	—
Hardship	70.5
Other Decision Support	—
2016 Voting	38.1

### 7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	68.0
Healthy Places Index Score for Project Location (b)	35.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
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 and Equity Evaluation Scorecard not completed.

## 8. User Changes to Default Data

Screen	Justification
Land Use	Lot size reduced due to dedicated land area
Operations: Hearths	No Wood fireplaces contemplated
Operations: Water and Waste Water	Use Eastern Municipal Water District UWWMP
Construction: Paving	Includes subdivision with roadways

**APPENDIX 2**

# Biological Resources Assessment, Jurisdictional Delineation Report & MSHCP Consistency Analysis



**Jacobs**



**20-Acre Kirby Street Project for TTM No. 38339**  
**Biological Resources Assessment, Jurisdictional Delineation Report**  
**And MSHCP Consistency Analysis**

August 2022

Tom Dodson & Associates

**Document history and status**

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### Appendix A. CNDDDB Species and Habitats Documented Within the *Romoland* USGS 7.5-Minute Quadrangle

### Appendix B. Site Photos

### Appendix C. Plant List

### Appendix D. Regulatory Framework

## Executive Summary

Jacobs Engineering Group, Inc. was retained by Tom Dodson & Associates to conduct a Biological Resources Assessment, Jurisdictional Delineation and MSHCP Consistency Analysis for a proposed residential development on an approximately 20-acre parcel located in the City of San Jacinto, Riverside County, California. The Subject Parcel falls entirely within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) area and the City of San Jacinto is a signatory to the MSHCP.

In April of 2022, Jacobs biologists conducted a Biological Resources Assessment survey to address potential effects of the Project on designated Critical Habitats and/or special status species. Results of the Biological Resources Assessment are intended to provide sufficient baseline information to the Project Proponent and, if required, to City and/or County planning officials and federal and state regulatory agencies to determine if the Project is likely to result in any adverse effects on sensitive biological resources and to identify mitigation measures to offset those effects. Data regarding biological resources in the Project vicinity were obtained through literature review and field investigation. Available databases and documentation relevant to the Project Area were reviewed for documented occurrences of sensitive species that could potentially occur in the Project vicinity, including the U.S. Fish and Wildlife Service designated Critical Habitat online mapper and Information for Planning and Consultation System, as well as the most recent versions of the California Natural Diversity Database (CNDDB) and California Native Plant Society Electronic Inventory.

The result of the reconnaissance-level field survey was that no state or federally listed species were identified within the Project Area and the Project is not within or adjacent any federal Critical Habitat. Due to the environmental conditions on site and the adjacent disturbances, the Subject Parcel is likely not suitable to support any of the listed species that have been documented in the Project vicinity. Furthermore, the Subject Parcel does not contain any sensitive habitats, including any USFWS designated Critical Habitat for any federally listed species, and the Project will not result in any loss or adverse modification of Critical Habitat.

The Subject Parcel is mapped within a MSHCP Burrowing Owl Survey Area. Therefore, a burrowing owl habitat suitability assessment and floristic botanical field survey were conducted by Jacobs in April of 2022 that included 100 percent visual coverage within and adjacent the Subject Parcel. The result of the survey was that no evidence of BUOW was found in the survey area and the Project Area is not suitable to support this species at the time of survey.

Jacobs biologists also assessed the Subject Parcel for the presence of state and/or federal jurisdictional waters that may potentially be impacted by the Project. The jurisdictional waters assessment was conducted in accordance with the U.S. Army Corps of Engineers *Wetlands Delineation Manual, Jurisdictional Determination Form Instructional Guidebook, Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*. The result of the jurisdictional waters assessment is that there are no wetland or non-wetland jurisdictional waters within the Subject Parcel. Therefore, the Project will not impact any jurisdictional waters and no state or federal jurisdictional waters permitting will be required under current regulation. Additionally, the Subject Parcel does not support any MSHCP riparian/riverine areas or vernal pools.

This report describes delineated resources, provides an aquatic resource delineation map, identifies state and/or federally listed species with potential to occur on site and presents representative site photographs. The delineation results and conclusions presented in this report are considered preliminary and valid under current regulatory context. Additionally, according to protocol and standard practices, the results of the habitat assessment surveys will remain valid for the period of one year, or until August 2022, after which time, if the site has not been disturbed in the interim, another survey may be required to determine the persisting absence of special status species and to verify environmental conditions on site. Regardless of survey results and conclusions given herein, if any state or federally listed species are found on site during Project-related work



activities, all activities likely to affect the animal(s) should cease immediately and regulatory agencies should be contacted to determine appropriate management actions.

## 1. Introduction

On behalf of Tom Dodson & Associates., Jacobs Engineering Group, Inc. (Jacobs) has prepared this Biological Resources Assessment (BRA) report for an approximately 20-acre property (Subject Parcel) located in the City of San Jacinto, Riverside County, California. The Subject Parcel is zoned for residential development and currently consists of vacant land surrounded by existing development. The BRA fieldwork was conducted by Jacobs biologist Lisa Patterson in April of 2022. The purpose of the BRA survey was to address potential effects of developing the Subject Parcel (Project) on designated Critical Habitats and/or any species currently listed or formally proposed for listing as endangered or threatened under the federal Endangered Species Act (ESA) and/or the California Endangered Species Act (CESA), as well as any species otherwise designated as sensitive by the California Department of Fish and Wildlife (CDFW [formerly California Department of Fish and Game]) and/or the California Native Plant Society (CNPS).

The Project Area was assessed for sensitive species known to occur locally. Attention was focused on those state and/or federally listed as threatened or endangered species and California Fully Protected species that have been documented in the vicinity of the Project Area, whose habitat requirements are present within or adjacent to the Project Area. Results of the habitat assessment are intended to provide sufficient baseline information to the Project Proponent and, if required, to City, County or other local government planning officials and federal and state regulatory agencies, including the U.S. Fish and Wildlife Service (USFWS) and CDFW, respectively, to determine if the Project is likely to result in any adverse effects on sensitive biological resources and to identify mitigation measures to offset those effects.

In addition to the BRA survey, Jacobs biologists assessed the Project Area for the presence of state and/or federal jurisdictional waters potentially subject to regulation by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA), Regional Water Quality Control Board (RWQCB) under Section 401 of the CWA and Porter Cologne Water Quality Control Act, and CDFW under Section 1600 of the California Fish and Game Code (FGC), respectively.

Jacobs also prepared a Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Consistency Analysis, which is included in the scope of this report. As part of the City of San Jacinto's approval process, a Western Riverside County MSCHP compliance report is required. The purpose of this report is to assess whether the proposed Project is consistent with the conditions and provisions identified in the MSCHP. The City of San Jacinto is signatory to the MSHCP Implementing Agreement and thereby a permittee responsible for meeting the terms and conditions outlined in the MSHCP and the Biological Opinion issued for the MSHCP. Therefore, the City of San Jacinto has the responsibility to ensure the projects they approve are consistent with the MSHCP and will not preclude the overall conservation goals and reserve design from being accomplished.

According to the MSHCP, the Subject Parcel is mapped within a burrowing owl (*Athene cunicularia* [BUOW]) Survey Area. Therefore, in addition to the BRA survey and jurisdictional waters assessment, a BUOW habitat suitability assessment were conducted for the Project Area in accordance with the MSHCP requirements.

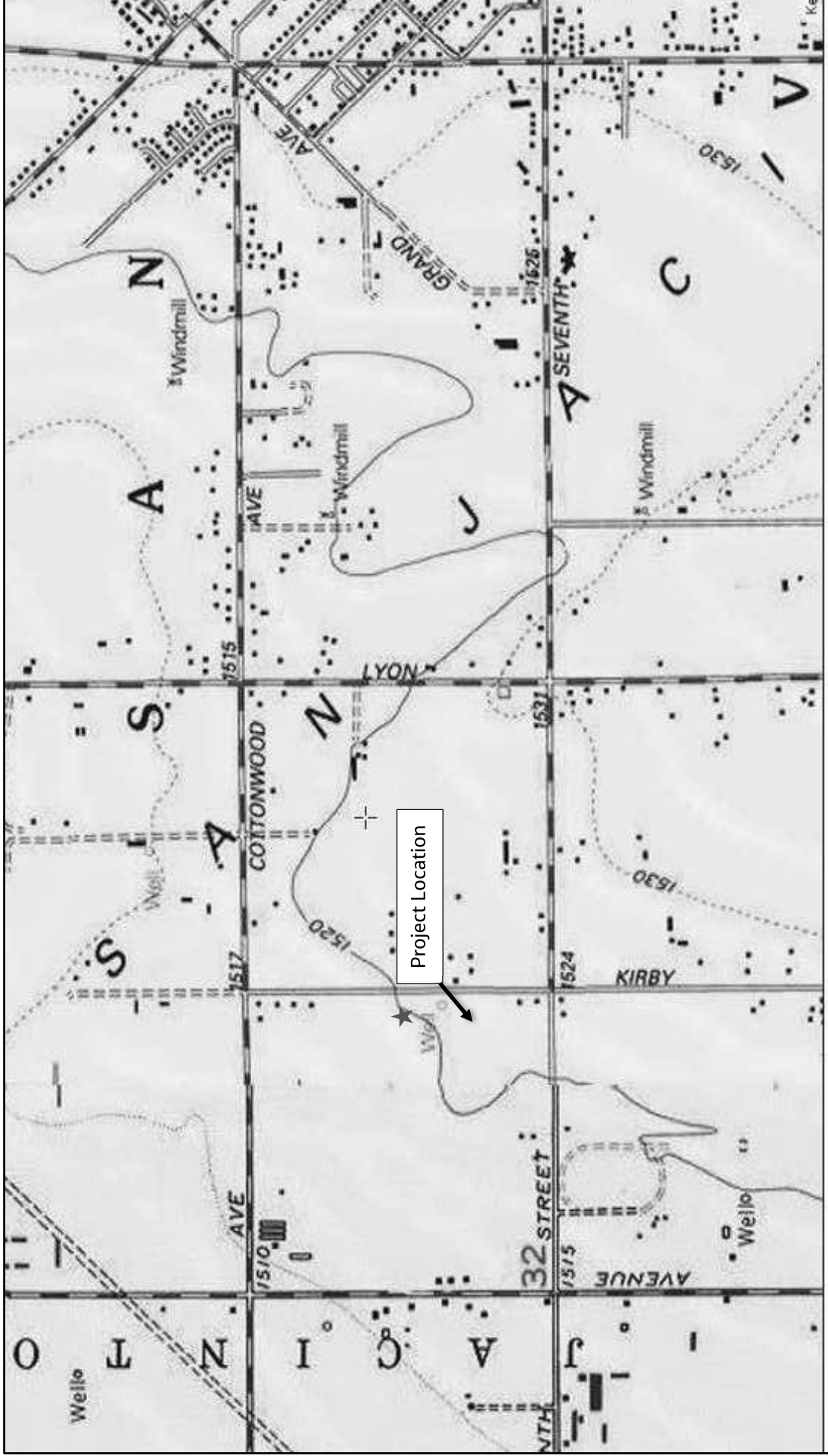
### 1.1 Location

The Subject Parcel is generally located in the City of San Jacinto, Riverside County, California, in Section 33 of Township 4 South, Range 1 West, San Bernardino Base Meridian (Figures 1 & 2). The Project Area is depicted on the *San Jacinto* U. S. Geological Survey's (USGS) 7.5-Minute Series Quadrangle map. Specifically, the Subject Parcel is located on Assessor's Parcel Numbers (APN): 436-490-011; situated between Kirby Street to the west, Ivy Crest Drive to the east, and is bound partially by Oostdam Drive to the south. (See Figures 1& 2 for Regional Location Map and Site Location Map).



SOURCE: Google Maps

FIGURE 1



SOURCE: USGS 7.5 Min Topo "San Jacinto" Quad.

FIGURE 2



SOURCE: Google Earth

FIGURE 3

## 1.2 Environmental Setting

The Project Area lies in the geographically based ecological classification known as the Inland Valleys – Level IV ecoregion, of the Southern California/Northern Baja Coast – Level III ecoregion (Griffith et al. 2016). The goal of regional ecological classifications is to reduce variability based on spatial covariance in climate, geology, topography, climax vegetation, hydrology, and soils. The Inland Valleys ecoregion is a heavily urbanized ecoregion that historically consisted of the alluvial fans and basin floors immediately south of the San Gabriel and San Bernardino Mountains (Griffith et al. 2016).

The Project Area is situated in the San Jacinto Valley, between the Santa Ana Mountains to the west/southwest and the San Jacinto Mountains the east/northeast. The topography of the Project Area consists of flat urban landscape, comprised of vacant land and surrounding residential and commercial development. The elevation of the Subject Parcel is approximately 1,400 feet above mean sea level (amsl).

The Project Area is within a hot-summer Mediterranean climate (Csa), subject to both seasonal and annual variations in temperature and precipitation. Average annual maximum temperatures within the Project Area peak at 94.4 degrees Fahrenheit (° F) in August and fall to an average annual minimum temperature of 39.1° F in January. Average annual precipitation is greatest from December through March and reaches a peak in February (2.20 inches). Precipitation is lowest in the month of July (0.04 inches). Annual total precipitation averages 10.21 inches.

Hydrologically, the Project Area is situated within the Gilman Hot Springs Hydrologic Sub-Area (HSA 802.21). The Gilman Hot Springs HSA comprises a 193,598-acre drainage area, within the larger San Jacinto Valley Watershed (HUC 18070202). The San Jacinto River is the major hydrogeomorphic feature within the San Jacinto Watershed. The nearest tributaries to the San Jacinto River.

Soils within the Subject Parcel are comprised of San Emigdio fine sandy loam and Emigdio fine sandy loam deep both strongly saline-alkali 2 to 5 percent slopes (eroded).

- The San Emigdio series consists of very deep, well drained soils that formed in dominantly sedimentary alluvium. San Emigdio soils are on fans and floodplains and have slopes of 0 to 15 percent. The mean annual precipitation is about 15 inches, and the mean annual air temperature is about 62 degrees F.

The City of San Jacinto consists of a mix of urban landscapes and isolated patches of undeveloped, grassland, and coastal sage scrub habitats. The Subject Parcel is entirely within an urban landscape that no longer supports any native habitat and consists of a rural residential developed area with non-native lands scaped vegetation and livestock outbuildings. The majority of the property cleared/graded vacant and being used by goat herds. The property is predominantly surrounded single family residential with the exception of a parcel of vacant land to the south-west which is also being used by goats (Figure 3).

## 2. Assessment Methodology

### 2.1 Biological Resources Assessment

Data regarding biological resources in the Project vicinity were obtained through literature review, desktop evaluation and field investigation. Prior to performing the field survey, available databases, and documentation relevant to the Project Area were reviewed for documented occurrences of sensitive species that could potentially occur in the Project vicinity. The USFWS designated Critical Habitat online mapper, USFWS threatened and endangered species occurrence data overlay, and the most recent versions of the California Natural Diversity Database (CNDDDB) and California Native Plant Society Electronic Inventory (CNPSEI) databases were searched for sensitive species data in the *San Jacinto* USGS 7.5-Minute Series Quadrangle. These databases contain records of reported occurrences of state and federally listed species or otherwise sensitive species and habitats that may occur within the vicinity of the Project site (approximately 3 miles). Other available technical information on the biological resources of the area was also reviewed including previous surveys and recent findings.

#### 2.1.1 Biological Resources Assessment Field Survey

Jacobs biologist Lisa Patterson conducted a biological resources assessment of the Project Area on April 19, 2022. The reconnaissance-level field survey included a floristic botanical survey and a burrowing owl (*Athene cunicularia*) habitat suitability assessment survey, which consisted of a pedestrian survey that encompassed the entire Subject Parcel and included 100 percent visual coverage of the site and adjacent earthen flood control channel to the north. Wildlife species were detected during field surveys by sight, calls, tracks, scat, and/or other sign. In addition to species observed, expected wildlife usage of the site was determined based on known habitat preferences of regional wildlife species and knowledge of their relative distributions in the area. The focus of the faunal species survey was to identify potential habitat for special status wildlife that may occur within the Project vicinity.

### 2.2 Jurisdictional Delineation

On April 19, 2022, Ms. Patterson also evaluated the Subject Parcel for the presence of riverine/riparian/wetland habitat and jurisdictional waters, i.e. Waters of the U.S. (WOTUS), as regulated by the USACE and RWQCB, and/or jurisdictional streambed and associated riparian habitat as regulated by the CDFW. Prior to the field visit, aerial photographs of the Project Area were viewed and compared with the surrounding USGS 7.5-Minute Topographic Quadrangle maps to identify drainage features within the survey area as indicated from topographic changes, blue-line features, or visible drainage patterns. The USFWS National Wetland Inventory (NWI) and Environmental Protection Agency (EPA) Water Program "My Waters" Google Earth Pro data layers were also reviewed to determine whether any hydrologic features and wetland areas had been documented within the vicinity of the site. Similarly, the United States Department of Agriculture (USDA) – Natural Resources Conservation Service (NRCS) "Web Soil Survey" was reviewed for soil types found within the Project Area to identify the soil series in the area and to check these soils to determine whether they are regionally identified as hydric soils. Upstream and downstream connectivity of waterways (if present) were reviewed on Google Earth Pro aerial photographs and topographic maps to determine jurisdictional status. The lateral extent of potential USACE jurisdiction was measured at the Ordinary High Water Mark (OHWM) in accordance with regulations set forth in 33CFR part 328 and the USACE guidance documents listed below:

- *USACE – Corps of Engineers Wetlands Delineation Manual, Wetlands Research Program Technical Report Y-87-1 (on-line edition), January 1987 - Final Report.*
- *USACE – Jurisdictional Determination Form Instructional Guidebook (JD Form Guidebook), May 30, 2007.*

- USACE – *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (A Delineation Manual)*, August 2008.
- USACE – *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*, September 2008.
- USACE – *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (Minimum Standards)*, January 2016.

To be considered a *jurisdictional wetland* under the federal CWA, Section 404, an area must possess three (3) wetland characteristics: *hydrophytic vegetation*, *hydric soils*, and *wetland hydrology*.

- ▶ **Hydrophytic vegetation:** Hydrophytic vegetation is plant life that grows, and is typically adapted for life, in permanently or periodically saturated soils. The hydrophytic vegetation criterion is met if more than 50 percent of the dominant plant species from all strata (tree, shrub, and herb layers) is considered hydrophytic. Hydrophytic species are those included on the 2018 National Wetland Plant Lists for the Arid West Region (USACE 2018). Each species on the lists is rated with a wetland indicator category, as shown in Table 1. To be considered hydrophytic, the species must have *wetland indicator status*, i.e., be rated as OBL, FACW or FAC.

**Table 1. Wetland Indicator Vegetation Categories**

Category	Probability
Obligate Wetland (OBL)	Almost always occur in wetlands (estimated probability >99%)
Facultative Wetland (FACW)	Usually occur in wetlands (estimated probability 67 to 99%)
Facultative (FAC)	Equally likely to occur in wetlands and non-wetlands (estimated probability 34 to 66%)
Facultative Upland (FACU)	Usually occur in non-wetlands (estimated probability 67 to 99%)
Obligate Upland (UPL)	Almost always occur in non-wetlands (estimated probability >99%)

- ▶ **Hydric Soil:** Soil maps from the USDA-NRCS Web Soil Survey (USDA 2021) were reviewed for soil types found within the Project Area. Hydric soils are saturated or inundated long enough during the growing season to develop anaerobic conditions that favor growth and regeneration of hydrophytic vegetation. There are several indirect indicators that may signify the presence of hydric soils including hydrogen sulfide generation, the presence of iron and manganese concretions, certain soil colors, gleying, and the presence of mottling. Generally, hydric soils are dark in color or may be gleyed (bluish, greenish, or grayish), resulting from soil development under anoxic (without oxygen) conditions. Bright mottles within an otherwise dark soil matrix indicate periodic saturation with intervening periods of soil aeration. Hydric indicators are particularly difficult to observe in sandy soils, which are often recently deposited soils of flood plains (entisols) and usually lack sufficient fines (clay and silt) and organic material to allow use of soil color as a reliable indicator of hydric conditions. Hydric soil indicators in sandy soils include accumulations of organic matter in the surface horizon, vertical streaking of subsurface horizons by organic matter, and organic pans.

The hydric soil criterion is satisfied at a location if soils in the area can be inferred or observed to have a high groundwater table, if there is evidence of prolonged soil saturation, or if there are any indicators suggesting a long-term reducing environment in the upper part of the soil profile. Reducing conditions are most easily assessed using soil color. Soil colors were evaluated using the Munsell Soil Color Charts (Munsell 2000). Soil pits are dug (when necessary) to an approximate depth of 16-20 inches to evaluate soil profiles for indications of anaerobic and redoximorphic (hydric) conditions in the subsurface.



- ▶ Wetland Hydrology: The wetland hydrology criterion is satisfied at a location based upon conclusions inferred from field observations that indicate an area has a high probability of being inundated or saturated (flooded, ponded, or tidally influenced) long enough during the growing season to develop anaerobic conditions in the surface soil environment, especially the root zone (USACE 1987 and USACE 2008).

Evaluation of CDFW jurisdiction followed guidance in the Fish and Game Code and *A Review of Stream Processes and Forms in Dryland Watersheds* (CDFW, 2010). Specifically, CDFW jurisdiction would occur where a stream has a definite course showing evidence of where waters rise to their highest level and to the extent of associated riparian vegetation.

## 3. Results

### 3.1 Existing Biological and Physical Conditions

The Project Area consists of the approximately 20-acre Subject Parcel, as well as any adjacent undeveloped areas that may be impacted directly or indirectly by the proposed Project. The Subject Parcel consists of cleared/graded vacant lot surrounded by urban landscape consisting of flood control facilities and residential development to the north and west, residential and commercial development to the east, and a church facility to the south (Figure 3). Existing disturbances within the Subject Parcel include periodic disking, previous dumping of rock and dirt material, and litter.

#### 3.1.1 Habitat

The Subject Parcel is completely disturbed and no longer supports any native habitat. Dense vegetation cover within the undisked portion of the Subject Parcel is dominated by non-native, invasive species, consisting primarily of tocalote (*Centaurea melitensis*), short podded mustard (*Hirschfeldia incana*), and brome grasses (*Bromus* spp.). A complete list of plant species identified within the Subject Parcel during the floristic botanical field survey is included in Appendix C.

#### 3.1.2 Wildlife

The predominant wildlife species observed or otherwise detected during the reconnaissance-level survey were birds, including red-winged blackbird (*Agelaius phoeniceus*), killdeer (*Charadrius vociferus*), barn swallow (*Hirundo rustica*), house sparrow (*Passer domesticus*), Common Raven (*Corvus corax*), Cassin's kingbird (*Tyrannus vociferans*), and mourning dove (*Zenaida macroura*). Other species observe include California ground squirrel (*Otospermophilus beecheyi*), cotton-tail rabbit (*Sylvilagus auduboni*), and domestic goats (*Capra* sp)

### 3.2 Special Status Species and Habitats

According to the CNDDDB, 41 sensitive species (12 plant species, 29 animal species) and have been documented in the *San Jacinto* USGS 7.5-Minute Series Quadrangle. This list of sensitive species and habitats includes any state and/or federally listed threatened or endangered species, California Fully Protected species, CDFW designated Species of Special Concern (SSC), and otherwise Special Animals. "Special Animals" is a general term that refers to all the taxa the CNDDDB is interested in tracking, regardless of their legal or protection status. This list is also referred to as the list of "species at risk" or "special status species." The CDFW considers the taxa on this list to be those of greatest conservation need.

#### 3.2.1 Special Status Species

Of the 41 sensitive species documented within the within the *San Jacinto* quad, 15 are state and/or federally listed as threatened, endangered, or candidate species. However, the Subject Parcel consists entirely of disturbed, vacant lot surrounded by urban landscape, and the habitat requirements for these listed species are absent from the Project Area. No state and/or federally listed threatened or endangered species, or other sensitive species were observed within the Project Area during the reconnaissance-level field survey and due to the environmental conditions on site, none are expected to occur. A complete list of all sensitive species identified by the CNDDDB as potentially occurring in the Project vicinity and Figure 4 – CNDDDB Occurrence Map are provided in Appendix A.

Although not a state or federally listed as threatened or endangered species, BUOW are considered a state and federal SSC and this species is protected by international treaty under the Migratory Bird Treaty Act of 1918 and by State law under the California FGC (FGC #3513 & #3503.5). Additionally, the Subject Parcel is within a

MSHCP BUOW Survey Area and this species has been documented in the Project vicinity (approximately 3 miles). Therefore, BUOW will be included in the discussion below.

### ***Burrowing Owl – SSC***

The BUOW is a ground dwelling owl typically found in arid prairies, fields, and open areas where vegetation is sparse and low to the ground. The BUOW is heavily dependent upon the presence of mammal burrows, with ground squirrel burrows being a common choice, in its habitat to provide shelter from predators, inclement weather and to provide a nesting place (Coulombe 1971). They are also known to make use of human-created structures, such as cement culverts and pipes, for burrows. According to the definition provided in the 2012 CDFG Staff Report on *Burrowing Owl Mitigation*, "Burrowing owl habitat generally includes, but is not limited to, short or sparse vegetation (at least at some time of year), presence of burrows, burrow surrogates or presence of fossorial mammal dens, well-drained soils, and abundant and available prey." BUOW spend a great deal of time standing on dirt mounds at the entrance to a burrow or perched on a fence post or other low to the ground perch from which they hunt for prey. They feed primarily on insects such as grasshoppers, June beetles and moths, but will also take small rodents, birds, and reptiles. They are active during the day and night but are considered a crepuscular owl; generally observed in the early morning hours or at twilight. The breeding season for BUOW is February 1 through August 31.

BUOW have disappeared from significant portions of their range in the last 15 years and, overall, nearly 60 percent of the breeding groups of owls known to have existed in California during the 1980s had disappeared by the early 1990s (Burrowing Owl Consortium 1993). The BUOW is not listed under the state or federal ESAs but is considered both a state and federal SSC. Additionally, the BUOW is a migratory bird protected by the international treaty under the Migratory Bird Treaty Act of 1918 and by State law under the California FGC (FGC #3513 & #3503.5).

*Findings:* BUOW have not been documented within the Subject Parcel. According to the literature review, the nearest documented BUOW occurrence (2007) is approximately 0.7 miles east of the Subject Parcel (CNDDDB 2022). The BUOW habitat assessment survey was structured, in part, to detect BUOW. The survey consisted of walking transects spaced approximately 10 meters (30 feet) apart to provide 100 percent visual coverage of the Subject Parcel, including the adjacent earthen flood control channel to the north. The result of the survey was that no evidence of BUOW was found in the survey area and much of the Subject Parcel is not suitable to support this species. BUOW prefer short or sparse vegetation and the undisked portion of the Subject Parcel consists mostly of dense ruderal vegetation, with a shrub cover > 90 percent. No BUOW individuals or sign including castings, feathers or whitewash were observed within the Subject Parcel during the habitat assessment survey. Furthermore, no burrow surrogates or appropriately sized fossorial mammal dens were observed within the Subject Parcel. Therefore, BUOW are considered absent from the Project Area at the time of survey and the Project is not likely to adversely affect this species.

### **3.2.2 Special Status Habitats**

The Subject Parcel does not contain any sensitive habitats, including any USFWS designated Critical Habitat for any federally listed species. The nearest Critical Habitat unit is approximately 1 mile to the east of the Subject Parcel for Spreading navarretia (*Navarretia fossalis*) and Thread-leaved brodiaea (*Brodiaea filifolia*); and 3 miles south of the Subject Parcel. This Critical Habitat unit is part of the Western Riverside County MSHCP unit (Unit 10) of USFWS designated Critical Habitat for the federally listed as threatened coastal California gnatcatcher (*Polioptila californica californica*). However, no portion of the Subject Parcel is within or adjacent this Critical Habitat unit, or any other Critical Habitat. According to the CNDDDB, the nearest sensitive habitat is Southern Cottonwood Willow Riparian Forest located approximately 2.6 miles southeast of the Subject Parcel. Therefore,

the Project will not result in any loss or adverse modification of USFWS designated Critical Habitat, or any other special status habitats.

### 3.3 Jurisdictional Delineation

The Subject Parcel is within the Gilman Hot Springs HSA (HSA 802.21). The Gilman Hot Springs HSA comprises a 193,598-acre drainage area, within the larger San Jacinto Valley Watershed (HUC 18070202). The San Jacinto Watershed is bound on the west/northwest by the Santa Ana Watershed, on the east/northeast by the Whitewater River Watershed, and on the south by the Santa Margarita and Aliso-San Onofre Watersheds. The San Jacinto Watershed encompasses the San Jacinto, Moreno, San Jacinto, and Menifee Valleys, as well as a portion of the Santa Jacinto Mountains to the east, The Badlands to the north, and the Elsinore Mountains to the southwest. The San Jacinto Watershed is approximately 765.26 square miles in area. The San Jacinto River is the major hydrogeomorphic feature within the San Jacinto Watershed and the nearest tributaries to the San Jacinto River are two unnamed flood control channels that border the Subject Parcel: a man-made, concrete lined channel that flows northward along the western border of the Subject Parcel, and an earthen channel that flows westward along the northern border of the Subject Parcel.

#### *Waters of the U.S.*

The USACE has authority to permit the discharge of dredged or fill material in WOTUS under Section 404 of the CWA " WOTUS are defined as: "The territorial seas and traditional navigable waters; perennial and intermittent tributaries that contribute surface water flow to such waters; certain lakes, ponds, and impoundments of jurisdictional waters; and wetlands adjacent to other jurisdictional waters." (85 FR 22250).

Areas meeting all three wetland parameters (i.e., hydrophytic vegetation, hydric soils and wetland hydrology) and are adjacent to other jurisdictional waters would be designated as USACE wetlands.

There are no wetland or non-wetland WOTUS within the Subject Parcel. The man-made, concrete flood control channel adjacent the western side of the Subject Parcel is both an ephemeral feature that flows only in direct response to precipitation, and a stormwater control feature constructed in upland. Thus, this feature would be excluded from the definition of WOTUS under the EPA and the Department of the Army's June 29, 2015 (effective August 28, 2015) "Clean Water Rule: Definition of 'Waters of the United States'" (80 FR 37053). The earthen flood control channel adjacent the north side of the Subject Parcel does support hydrophytic vegetation and likely meets all three wetland parameters needed to be designated as a wetland WOTUS. However, there are no wetland or non-wetland WOTUS within the Subject Parcel and the Project will not result in any permanent or temporary impacts to WOTUS. Therefore, the Project would be exempt from CWA Section 404/401 permitting.

#### *State Lake/Streambed*

The man-made, concrete lined channel adjacent the western side of the Subject Parcel, as well as the earthen flood control channel adjacent the north side of the Subject Parcel, would both be subject to regulation by the CDFW under Section 1602 of the FGC, as well as by the RWQCB under the Porter Cologne Water Quality Control Act. Both features have an identifiable bed and bank, which define the maximal extent of these features, and the earthen flood control channel adjacent the north side of the Subject Parcel supports some wetland/riparian habitat. However, there are no "waters of the State" within the Subject Parcel and the Project will not result in any permanent or temporary impacts to jurisdictional waters of the State. Therefore, the Project would be exempt from FGC Section 1602 and RWQCB permitting as well.

### 3.4 MSHCP Consistency Analysis

#### *Western Riverside County MSHCP*

The Western Riverside County MSHCP is a criteria-based plan and identification of planning units on which to base the Criteria is necessary for such a criteria-based plan. The MSHCP Conservation Area is comprised of a variety of existing and proposed Cores, Extensions of Existing Cores, Linkages, Constrained Linkages and Non-contiguous Habitat Blocks. The MSHCP coverage area is divided into Area Plans based on the Riverside County's General Plan Area Plan boundaries. Each of the Area Plans has: 1) established conservation criteria, 2) species specific surveys that may be required based on an on-site Habitat Assessment or field investigation, and 3) resources and areas identified for conservation. In each Area Plan, Core Habitat areas and Linkages have been identified.

The MSHCP is intended to satisfy the legal requirements to authorize the "take" of species covered under the Plan during otherwise lawful activities, by providing for the conservation of the Covered Species. There are 146 species covered by the MSHCP. Surveys are not required for 106 of these covered species. The remaining 40 species are conditionally covered under the MSHCP and may require focused surveys for proposed development projects. The 40 species that are not fully covered under the MSHCP include four birds, three mammals, three amphibians, three crustaceans, 14 Narrow Endemic Plants, and 13 Criteria Area plants. The need to conduct focused surveys for all but six of these 40 species is determined by the presence of suitable habitat within designated 'survey areas' mapped for each of the species. The remaining six species that require focused surveys throughout the entire MSHCP area are associated with riparian/riverine areas and vernal pools and include three riparian obligate bird species and three vernal pool associated fairy shrimp species.

The Subject Parcel is located within the MSHCP's San Jacinto Valley Area Plan. According to the Western Riverside County Regional Conservation Authority's online MSHCP Information Tool query, the Subject Parcel is within the San Jacinto Habitat Management Unit (HMU) but is not mapped within or adjacent a Criteria Cell or Cell Group, and therefore not targeted for conservation. Furthermore, the Subject Parcel is not mapped within any required survey areas for amphibians, mammals, invertebrates, or other Criteria Area Species. However, Burrowing Owl Surveys are required within the Subject Parcel. Therefore, in addition to the BRA survey, a BUOW habitat suitability assessment survey and floristic botanical field survey were conducted for the Project Area in accordance with the MSHCP requirements.

#### *Subunit Area/Cell Criteria*

Pursuant to Section 3.3.12 of the MSHCP, Subunits are areas within an Area Plan that contain target conservation acreages along with a description of the planning species, biological issues, and considerations.

*Findings:* According to the Western Riverside County MSHCP GIS overlay, the Subject Parcel is not located within a Subunit Area or Criteria Cell. No further discussion on this subject is required in this analysis.

#### *Amphibian, Mammal, Invertebrate and Other Criteria Area Species*

Pursuant to Section 6.3.2 of the MSHCP, additional surveys may be needed for certain species in conjunction with Plan implementation to achieve coverage for these species.

*Findings:* According to the Western Riverside County MSHCP GIS overlay, the Subject Parcel is not located in an area where additional surveys are required for any amphibians, mammals, invertebrates, or other Criteria Area species. No further discussion on this subject is required in this analysis.

### ***Burrowing Owl***

Pursuant to Section 6.3.2 of the MSHCP, surveys shall be conducted within suitable habitat for BUOW, according to accepted protocols.

***Findings:*** According to the Western Riverside County MSHCP GIS overlay, the Subject Parcel is located in an area where surveys are required for BUOW. As discussed in Section 3.2.1 (above), a BUOW habitat suitability assessment survey that included 100 percent visual coverage of the Subject Parcel and adjacent earthen flood control channel was conducted by Jacobs in May of 2022. The result of the survey was that no evidence of BUOW was found in the survey area and much of the Subject Parcel is not suitable to support this species. BUOW prefer short or sparse vegetation and the undisturbed portion of the Subject Parcel consists mostly of the residential dwelling and outbuilding, dense ruderal vegetation, with a shrub cover > 90 percent, and landscape trees. No BUOW individuals or sign including castings, feathers or whitewash were observed within the Subject Parcel during the habitat assessment survey. Furthermore, no burrow surrogates or appropriately sized fossorial mammal dens were observed within the Subject Parcel. Therefore, BUOW are considered absent from the Project Area at the time of survey and the Project is not likely to adversely affect this species.

### ***Riparian/Riverine Areas and Vernal Pools***

The MSHCP describes the protection of Riparian/Riverine Areas and Vernal Pools within the MSHCP Plan Area as important to the conservation of certain amphibian, avian, fish, invertebrate and plant species. The MSHCP describes guidelines to ensure that the biological functions and values for species inside the MSHCP Conservation Areas are maintained, as outlined in Volume 1, Section 6.1.2.

Pursuant to Section 6.1.2 of the MSHCP, Riparian/Riverine areas are lands which contain habitat dominated by trees, shrubs, persistent emergent vegetation, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from nearby fresh water sources, or areas with freshwater flow during all or a portion of the year. Riverine habitat includes all wetlands and deep-water habitats contained in natural or artificial channels periodically or continuously containing flowing water or which forms a connecting link between the two bodies of standing water. Riverine habitat is bounded on the landward side by upland, by the channel bank (including natural and man-made levees), or by wetlands dominated by trees, shrubs, persistent emergent, mosses, or lichens. In braided streams, the system is bounded by the banks forming the outer limits of the depression within which the braiding occurs. Springs discharging into a channel are considered part of the riverine habitat. The term riparian is used to define the type of wildlife habitat found along the banks of a river, stream, lake or other body of water. Riparian habitats are ecologically diverse and can be found in many types of environments including grasslands, wetlands, and forests.

Pursuant to Section 6.1.2 of the MSHCP, Vernal Pools are seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season, while upland species (annuals) may be dominant during the drier portion of the growing season. The determination that an area exhibits vernal pool characteristics should consider (1) the length of time the area exhibits upland and wetland characteristics, and (2) the manner in which the area fits into the overall ecological system as a wetland. Evidence concerning the persistence of an area's wetness can be obtained from its history, vegetation, soils, and drainage characteristics, uses to which it has been subjected, and weather and hydrologic records.

***Findings:*** No Riparian/Riverine areas were found within the Subject Parcel. There are no natural or man-made features that support any aquatic resources, stream-dependent wildlife resources, or riparian

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habitats within the Subject Parcel. Additionally, no vernal pools were identified within the Subject Parcel and based on a review of historic aerial imagery and USGS topographic maps, no vernal pools or other natural wetland features existed historically within the Subject Parcel.

***Urban/Wildlands Interface***

Section 6.1.4 of the MSHCP presents guidelines to minimize indirect effects of projects adjacent to MSCHP Conservation Areas. These guidelines are intended to reduce potential Edge Effects that could adversely affect biological resources within the MSHCP Conservation Areas. This section provides mitigation measures for impacts associated with Drainage, Toxics, Lighting, Noise, Invasives, Barriers, and Grading/Land Development.

*Findings:* There are no MSCHP Conservation Areas within or adjacent to the Subject Parcel. No further discussion on this subject is required in this analysis.

## 4. Conclusions and Recommendations

### 4.1 Sensitive Biological Resources

A reconnaissance level BRA survey of the Subject Parcel was conducted by Jacobs in April of 2022 to identify potential habitat for special status wildlife within the Project Area. No sensitive species were observed within the Project Area during the reconnaissance-level field survey and due to the environmental conditions on site, none are expected to occur. The Subject Parcel is completely disturbed and no longer supports any native habitats (see attached Site Photos). The Subject Parcel consists of a dwelling and out buildings and cleared/graded vacant area surrounded by urban landscape consisting of flood control facilities and residential development to the north and west, residential and commercial development to the east, and a church facility to the south (Figure 3). Existing disturbances within the Subject Parcel include periodic disking, previous dumping of rock and dirt material, and litter. Due to the environmental conditions on site and the adjacent disturbances, the Subject Parcel is likely not suitable to support any of the listed species that have been documented in the Project vicinity (within approximately 3 miles). Furthermore, the Subject Parcel does not contain any sensitive habitats, including any USFWS designated Critical Habitat for any federally listed species, and the Project will not result in any loss or adverse modification of Critical Habitat.

#### *Burrowing Owl*

The Subject Parcel is within a MSHCP Burrowing Owl Survey Area. Therefore, a BUOW habitat suitability assessment was conducted by Jacobs in April 19, 2022 that included 100 percent visual coverage of any potentially suitable BUOW habitat within the Project Area. The result of the survey was that no evidence of BUOW was found in the survey area and much of the Subject Parcel is not suitable to support this species. No BUOW individuals or sign including castings, feathers or whitewash were observed and BUOW are considered absent from the Project Area at the time of survey. Although the Project is not likely to adversely affect this species, there is still a low potential for the Subject Parcel to become occupied by BUOW between the time the survey was conducted and the commencement of Project-related site disturbance. Therefore, the following precautionary avoidance measures are recommended to ensure the Project does not result in any impacts to BUOW:

- Pre-construction surveys for BUOW should be conducted no more than 3 days prior to commencement of Project-related ground disturbance to verify that BUOW remain absent from the Project Area.

The BUOW is a state and federal SSC and is also protected under the MBTA and by state law under the California FGC (FGC #3513 & #3503.5). In general, impacts to BUOW can be avoided by conducting work outside of their nesting season (peak BUOW breeding season is identified as April 15<sup>th</sup> to August 15<sup>th</sup>). However, if all work cannot be conducted outside of nesting season, a project specific BUOW protection and/or passive relocation plan can be prepared to determine suitable buffers and/or artificial burrow construction locations. Regardless of survey results and conclusions given herein, BUOW are protected by applicable state and federal laws. As such, if a BUOW is found on-site at the time of construction, all activities likely to affect the animal(s) should cease immediately and regulatory agencies should be contacted to determine appropriate management actions. Importantly, nothing given in this report is intended to authorize any form of disturbance to BUOW. Such authorization must come from the appropriate regulatory agencies, including CDFW and/or USFWS.



### ***Nesting Birds***

The Project Area is suitable to support nesting birds, including open ground nesting species. Most native bird species are protected from unlawful take by the MBTA (Appendix D). In December 2017, the Department of the Interior (DOI) issued a memorandum concluding that the MBTA's prohibitions on take apply "[...] only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs" (DOI 2017). Then in April 2018, the USFWS issued a guidance memorandum that further clarified that the take of migratory birds or their active nests (i.e., with eggs or young) that is incidental to, and not the purpose of, an otherwise lawful activity does not constitute a violation of the MBTA (USFWS 2018).

However, the State of California provides additional protection for native bird species and their nests in the FGC (Appendix D). Bird nesting protections in the FGC include the following (Sections 3503, 3503.5, 3511, 3513 and 3800):

- Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird.
- Section 3503.5 prohibits the take, possession, or needless destruction of any nests, eggs, or birds in the orders Falconiformes (new world vultures, hawks, eagles, ospreys, and falcons, among others), and Strigiformes (owls).
- Section 3511 prohibits the take or possession of Fully Protected birds.
- Section 3513 prohibits the take or possession of any migratory nongame bird or part thereof, as designated in the MBTA. To avoid violation of the take provisions, it is generally required that Project-related disturbance at active nesting territories be reduced or eliminated during the nesting cycle.
- Section 3800 prohibits the take of any any non-game bird (i.e., bird that is naturally occurring in California that is not a gamebird, migratory game bird, or fully protected bird).

In general, impacts to all bird species (common and special status) can be avoided by conducting work outside of the nesting season, which is generally February 1<sup>st</sup> through August 31<sup>st</sup>. However, if all work cannot be conducted outside of nesting season, the following is recommended:

- To avoid impacts to nesting birds (common and special status) during the nesting season, a qualified Avian Biologist should conduct pre-construction nesting bird surveys prior to Project-related disturbance to suitable nesting areas to identify any active nests. If no active nests are found, no further action would be required. If an active nest is found, the biologist should set appropriate no-work buffers around the nest which would be based upon the nesting species, its sensitivity to disturbance, nesting stage and expected types, intensity and duration of disturbance. The nest(s) and buffer zones should be field checked weekly by a qualified biological monitor. The approved no-work buffer zone should be clearly marked in the field, within which no disturbance activity should commence until the qualified biologist has determined the young birds have successfully fledged and the nest is inactive.

## **4.2 Jurisdictional Waters**

In addition to the BRA and BUOW habitat suitability assessment survey, Jacobs also assessed the Subject Parcel for the presence of any state and/or federal jurisdictional waters. The result of the jurisdictional waters assessment is that there are no wetland or non-wetland WOTUS or waters of the State within the Subject Parcel that would potentially be subject to regulation by the USACE under Section 404 of the CWA, the RWQCB under Section 401 of the CWA and/or Porter Cologne Water Quality Control Act, or the CDFW under Section 1602 of

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the California FGC, respectively. Therefore, the Project will not impact any jurisdictional waters and no state or federal jurisdictional waters permitting will be required.

#### **4.3 MSHCP Consistency Analysis**

The Project is consistent with the MSHCP policies found in Sections 3 and 6 of the MSHCP, which include Riparian/Riverine Areas/Vernal Pools, Narrow Endemic Plant Species, Criteria Area Species, Urban/Wildlands Interface, and Surveys for Special Status Species (BUOW). The Subject Parcel is within the Western Riverside County MSHCP boundary but is not within or adjacent any MSHCP Criteria Cells or Cell Groups. Therefore, implementation of the MSHCP Section 6.1.4 Guidelines Pertaining to the Urban/Wildlands Interface is not required. The Project Proponent should be prepared to pay the MSHCP fees and restrict all Project related impacts to existing right-of-way and/or other areas outside of Conserved Lands. No conservation or avoidance measures are expected, and development of the Subject Parcel would be consistent with the San Jacinto Area Plan conservation criteria and overall conservation goals and objectives set forth in the MSHCP.

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## **Appendix A. CNDDDB Species and Habitats Documented Within the *San Jacinto* USGS 7.5-Minute Quadrangle**

Map of Project Area



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), Swisstopo, Mapbox Contributors, and the GIS User Community, BDB

California Natural Diversity Database (CNDDB) Commercial [ds85]

- |                      |                                  |                              |                                  |
|----------------------|----------------------------------|------------------------------|----------------------------------|
| Plant (80m)          | Animal (non-specific)            | Aquatic Comm. (80m)          | Multiple (circular)              |
| Plant (specific)     | Animal (circular)                | Aquatic Comm. (specific)     | Sensitive EO's (Commercial only) |
| Plant (non-specific) | Terrestrial Comm. (80m)          | Aquatic Comm. (non-specific) |                                  |
| Plant (circular)     | Terrestrial Comm. (specific)     | Aquatic Comm. (circular)     |                                  |
| Animal (80m)         | Terrestrial Comm. (non-specific) | Multiple (80m)               |                                  |
| Animal (specific)    | Terrestrial Comm. (circular)     | Multiple (specific)          |                                  |
|                      |                                  | Multiple (non-specific)      |                                  |

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**Special Status Species Occurrence Potential Analysis**

Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Abronia villosa var aurita</i>	Chaparral sand-verbena	None/None	1B1	Chaparral, coastal scrub, desert dunes. 60-1570 m.	The Subject Parcel does not support any suitable habitat for this species. Occurrence potential is <b>zero</b> .
<i>Agelaius tricolor</i>	tricolored blackbird	None/ Threatened	G1G2	Highly colonial species requiring open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	The Subject Parcel does not support any suitable habitat for this species. Occurrence potential is <b>zero</b> .
<i>Antrozous pallidus</i>	pallid bat	None/ None	G4S3	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	The Subject Parcel does not support any suitable habitat for this species. Occurrence potential is <b>zero</b> .
<i>Allium marvinii</i>	Yucaipa onion	None/ None	G1, S1S2	Chaparral: In openings on clay soils. 850-1070 m	The Subject Parcel does not support any suitable habitat for this species. Occurrence potential is <b>low</b> .



Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Ambrosia pumila</i>	San Diego Ambrosia	Endangered/None		This species is adapted to upper floodplain fringes, floodplains, and open grasslands in proximity to wetland areas or adjoining depressions containing vernal pools or similar structures  Currently only known from 16 populations in the U.S. Fourteen of them are in San Diego County, two exist in Riverside County	The Subject Parcel does not support any suitable habitat for this species. Occurrence potential is zero.
<i>Anaxyrus californicus</i>	Arroyo Toad	Endangered/		The arroyo toad is found along medium-to-large streams in coastal and desert drainages in central and southern California, and Baja California  Generally south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	The Subject Parcel does not support any suitable habitat for this species. Occurrence potential is <b>zero</b> .
<i>Anniella stebbinsi</i>	Southern California legless lizard	None/None	G3 S3		The Subject Parcel does not support any suitable habitat for this species. Occurrence potential is <b>zero</b> .





Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Antrozous pallidus</i>	pallid bat	None/None	G4, S3	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting.	The Subject Parcel does not support any suitable habitat for this species. Occurrence potential is <b>zero</b> .
<i>Aquila chrysaetos</i>	golden eagle	None/None	G5, S3	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	The subject parcel has low quality foraging habitat, and the probability of nesting is zero. The probability of casual foraging is low due to the relatively small area and being surrounded by development.
<i>Arizona elegans occidentalis</i>	California glossy snake	None/None	G5T2; S2; CDFW: SSC	Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California. Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	This species has not been documented in the Project vicinity and the Subject Parcel is completely disturbed. Occurrence potential is <b>low</b> .



Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Athene cunicularia</i>	burrowing owl	None/ None	G4; S3; CDFW: SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	There is some marginally suitable habitat for this species in the Project Area but no evidence of BUOW was found in the survey area and most of the Subject Parcel is not suitable to support this species. Occurrence potential is <b>low</b> .
<i>Aspidoscelis hyperythra</i>	orange-throated whiptail	None/ None		Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats. Prefers washes and other sandy areas with patches of brush and rocks. Perennial plants necessary for its major food: termites	The Subject Parcel does not support any suitable habitat for this species. Occurrence potential is <b>zero</b> .
<i>Astragalus pachypus</i> var. <i>jaegeri</i>	Jaeger's milk-vetch	None/ None	G5, S2S3	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland. Dry ridges and valleys and open sandy slopes; often in grassland and oak-chaparral. 365-1040 m.	The Subject Parcel does not support any suitable habitat for this species. Occurrence potential is <b>zero</b> .
<i>Atriplex coronata</i> var. <i>notatior</i>	San Jacinto Valley crownscale	None/ None	G4T1, S1	Playas, valley and foothill grassland, vernal pools.	The Subject Parcel does not support any suitable habitat for this species. Occurrence potential is <b>zero</b> .
		Endangered/ None	G4T1, S1, 1B.1		



Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Bombus crotchii</i>	Crotch bumble bee	None/ Candidate Endangered	G3G4; S1S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> .	The food plant genera required by this species are not present on the Subject Parcel in sufficient quantity to support this species. Occurrence potential is low.
<i>Brodiaea filifolia</i>	thread-leaved brodiaea	Threatened/ Endangered	G2; S2; CNPS: 1B.1	Chaparral (openings), cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools. Usually associated with annual grassland and vernal pools; often surrounded by shrubland habitats. Occurs in openings on clay soils. 15-1030 m.	The entire site has been subject to previous disking and/or material dumping and is no longer suitable to support this species. Occurrence potential is low.
<i>Buteo regalis</i>	ferruginous hawk	None/ None		Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats. Eats mostly lagomorphs, ground squirrels, and mice. Population trends may follow lagomorph population cycles.	The subject parcel has low quality foraging habitat, and the probability of nesting is zero. The probability of casual foraging is low due to the relatively small area and being surrounded by development.



Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	Threatened/None		Inhabit temporary ponds, vernal pools, and other ponded features that are absent from running water.	The Subject Parcel does not support any suitable habitat for this species. Occurrence potential is <b>zero</b> .
<i>Calochortus plummerae</i>	Plummer's mariposa-lily	None/ None	G4; S4; 4.2	Coastal scrub, chaparral, valley and foothill grassland, lower cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire. 60-2500 m	The Subject Parcel does not support any suitable habitat for this species. Occurrence potential is <b>zero</b> .
<i>Centromadia pungens</i> ssp. <i>laevis</i>	smooth tarplant	None/ None	G3G4T2; S2; CNPS: 1B.1	Valley and foothill grassland, chenopod scrub, meadows and seeps, playas, riparian woodland. Alkali meadow, alkali scrub; also, in disturbed places. 5-1170 m.	The Subject Parcel does not support any suitable habitat for this species. Occurrence potential is <b>zero</b> .
<i>Chaetodipus fallax fallax</i>	northwestern San Diego pocket mouse	None/ None	G5T3T4; S3S4; CDFW: SSC	Coastal scrub, chaparral, grasslands, sagebrush, etc. in western San Diego County. Sandy, herbaceous areas, usually in association with rocks or coarse gravel.	No suitable habitat for this species exists in the Project Area. Occurrence potential is <b>low</b> .
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Perry's spined spineflower	None/ None	G5T3; S3; CNPS: 1B.2	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools. Gabbroic clay. 30-1630 m.	The Subject Parcel does not support any suitable habitat for this species. Occurrence potential is <b>zero</b> .



Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Coccyzus americanus occidentalis</i>	western yellow-billed cuckoo			Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape	The Subject Parcel does not support any suitable habitat for this species. Occurrence potential is <b>zero</b> .
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	Threatened/Endangered	G5T2T3, S1	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	
<i>Crotalus ruber</i>	red-diamond rattlesnake	None/ None	G4,S2	Chaparral, woodland, grassland, & desert areas from coastal San Diego County to the eastern slopes of the mountains. Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	No suitable habitat for this species exists in the Project Area. Occurrence potential is <b>low</b> .



Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Danaus plexippus</i>	Monarch Butterfly	Candidate/None		<p>During their development, both larvae and their milkweed hosts are vulnerable to weather extremes, predators, parasites, and diseases; commonly fewer than 10% of monarch eggs and caterpillars survive. Their wintering habitat typically provides access to streams, plenty of sunlight (enabling body temperatures that allow flight), and appropriate roosting vegetation, and is relatively free of predators.</p> <p>Overwintering, roosting butterflies have been seen on basswoods, elms, sumacs, locusts, oaks, oranges, mulberries, pecans, willows, cottonwoods, and mesquites.[75] While breeding, monarch habitats can be found in agricultural fields, pasture land, prairie remnants, urban and suburban residential areas, gardens, trees, and roadsides – anywhere where there is access to larval host plants</p>	<p>The Subject Parcel does not support any suitable habitat for this species. Occurrence potential is <b>low</b>.</p>



Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Dipodomys merriami parvus</i>	San Bernardino' kangaroo rat	Endangered/ Threatened	G2; S2	Alluvial scrub vegetation on sandy loam substrates characteristic of alluvial fans and flood plains. Needs early to intermediate seral stages.	The Subject Parcel does not support any suitable habitat for this species. Occurrence potential is <b>zero</b> .
<i>Dipodomys stephensi</i>	Stephens' kangaroo rat	Threatened/ Threatened	G2; S2	Primarily annual & perennial grasslands, but also occurs in coastal scrub & sagebrush with sparse canopy cover. Prefers buckwheat, chamise, brome grass and filaree. Will burrow into firm soil.	The Subject Parcel does not support any suitable habitat for this species. Occurrence potential is <b>zero</b> .
<i>Emys marmorata</i>	Emys marmorata	None/None	G3G4,S3	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation.	The Subject Parcel does not support any suitable habitat for this species. Occurrence potential is <b>zero</b> .
<i>Empidonax traillii extimus</i>	Southwestern Willow Flycatcher	Endangered/Endangered	G5T4Q; S4; CDFW: WL	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	The Subject Parcel does not support any suitable habitat for this species. Occurrence potential is <b>zero</b> .
<i>Imperata brevifolia</i>	California satintail	None/ None	G3,S3	Coastal scrub, chaparral, riparian scrub, mojavean desert scrub, meadows and seeps (alkali), riparian scrub. Mesic sites, alkali seeps, riparian areas. 3 - 1495 m	The Subject Parcel does not support any suitable habitat for this species. Occurrence potential is <b>zero</b> .



Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Lasius xanthinus</i>	western yellow bat	None/ None	G4G5; S3; CDFW: SSC	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	The Subject Parcel does not support any suitable habitat for this species. Occurrence potential is <b>zero</b> .
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	None/ None	G5T3T4, S3S4	Coastal scrub of Southern California from San Diego County to San Luis Obispo County. Moderate to dense canopies preferred. They are particularly abundant in rock outcrops, rocky cliffs, and slopes	The Subject Parcel does not support any suitable habitat for this species. Occurrence potential is <b>zero</b> .
<i>Navarretia fossalis</i>	spreading navarretia	Threatened/ None	G2; S2; CNPS: 1B.1	Vernal pools, chenopod scrub, marshes and swamps, playas. San Diego hardpan and San Diego claypan vernal pools; in swales & vernal pools, often surrounded by other habitat types. 15-850 m.	The entire site has been subject to previous disking and/or material dumping and is no longer suitable to support this species. Additionally, there are no swales or vernal pools on site. Occurrence potential is <b>zero</b> .





Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Neotarra alba</i>	white cuckoo bee	None/None	GH, SH	Known only from localities in Southern California. Cleptoparasitic in the nests of perdita bees. Most Perdita species are extreme specialists ( <u>oligoleges</u> ) with respect to pollen and will only collect pollen from a few closely related species or genera of plants. The most common species of Perdita in southern California (Perdita acacia) utilizes the following hosts ; Agavaceae/Asteraceae (Ericameria nauseosa) (Gutierrezia microcephala), Fabaceae (Acacia greggii)	The entire site has been subject to previous disking and/or material dumping and is no longer suitable to support this species. Additionally, it is unlikely the site supports sufficient host species for the presence of Perdita, and therefore the likelihood of this species occurring on site is <b>low</b> .
<i>Onychomys torridus ramona</i>	southern grasshopper mouse	None/ None	G5T3; S3; CDFW: SSC	Desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover. Feeds almost exclusively on arthropods, especially scorpions and orthopteran insects.	No suitable habitat for this species exists in the Project Area. Occurrence potential is <b>low</b> .
<i>Perognathus longimembris brevinasus</i>	Los Angeles pocket mouse	None/ None	G5T2; S1S2; CDFW: SSC	Lower elevation grasslands and coastal sage communities in and around the Los Angeles Basin. Open ground with fine, sandy soils. May not dig extensive burrows, hiding under weeds and dead leaves instead.	No suitable habitat for this species exists in the Project Area. Occurrence potential is <b>low</b> .



Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Phrynosoma blainvillii</i>	coast horned lizard	None/ None	G3G4; S3S4; CDFW: SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	No suitable habitat for this species exists in the Project Area. Occurrence potential is <b>low</b> .
<i>Poliophtila californica californica</i>	coastal California gnatcatcher	Threatened/ None	G4G5T3Q; S2; CDFW: SSC	Obligate, permanent resident of coastal sage scrub below 2,500 ft in Southern California. Low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	The Subject Parcel does not support any suitable habitat for this species. Occurrence potential is <b>zero</b> .
<i>Pseudognathium leucocephalum</i>	white rabbit-tobacco	None/ None	G4,S2	Riparian woodland, cismontane woodland, coastal scrub, chaparral. Sandy, gravelly sites. 35-515 m	
<i>Spea hammondi</i>	western spadefoot	None/ None	G2G3; S3; CDFW: SSC	Occurs primarily in grassland habitats but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	The aquatic habitats required by this species are absent from the Project Area. Therefore, this species is considered <b>absent</b> from the Project Area.
<i>Streptocephalus woottoni</i>	Riverside fairy shrimp	Endangered/None		Inhabit temporary ponds, vernal pools, and other ponded features that are absent from running water.	The Subject Parcel does not support any suitable habitat for this species. Occurrence potential is <b>zero</b> .



Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Taxidea taxus</i>	American badger	None/None	G5, S3	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	The aquatic habitats required by this species are absent from the Subject Parcel. Therefore, this species is considered <b>absent</b> from the Subject Parcel.
<i>Trichocoronis wrightii</i> var. <i>wrightii</i>	Wright's trichocoronis	None/None	G4T3,S1,2B.1	Marshes and swamps, riparian forest, meadows and seeps, vernal pools.	The aquatic habitats required by this species are absent from the Subject Parcel. Therefore, this species is considered <b>absent</b> from the Subject Parcel.
<i>Vireo bellii pusillus</i>	Least Bell's vireo	Endangered/ Endangered	G5T2, S2	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	The aquatic habitats required by this species are absent from the Subject Parcel. Therefore, this species is considered <b>absent</b> from the Subject Parcel.

**Coding and Terms**

**E = Endangered**    **T = Threatened**    **C = Candidate**    **FP = Fully Protected**    **SSC = Species of Special Concern**    **R = Rare**

**State Species of Special Concern:** An administrative designation given to vertebrate species that appear to be vulnerable to extinction because of declining populations, limited acreages, and/or continuing threats. Raptor and owls are protected under section 3502.5 of the California Fish and Game code: "It is unlawful to take, possess or destroy any birds in the orders Falconiformes or Strigiformes or to take, possess or destroy the nest or eggs of any such bird."

**State Fully Protected:** The classification of Fully Protected was the State's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, mammals, amphibians and reptiles. Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

**Global Rankings (Species or Natural Community Level):**

- G1 = Critically Imperiled – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
- G2 = Imperiled – At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
- G3 = Vulnerable – At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
- G4 = Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- G5 = Secure – Common; widespread and abundant.

**Subspecies Level:** Taxa which are subspecies or varieties receive a taxon rank (T-rank) attached to their G-rank. Where the G-rank reflects the condition of the entire species, the T-rank reflects the global situation of just the subspecies. For example: the Point Reyes mountain beaver, *Aplodontia rufa* ssp. *phaea* is ranked G5T2. The G-rank refers to the whole species range i.e., *Aplodontia rufa*. The T-rank refers only to the global condition of ssp. *phaea*.

**State Ranking:**

- S1 = Critically Imperiled – Critically imperiled in the State because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the State.
- S2 = Imperiled – Imperiled in the State because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the State.
- S3 = Vulnerable – Vulnerable in the State due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the State.
- S4 = Apparently Secure – Uncommon but not rare in the State; some cause for long-term concern due to declines or other factors.
- S5 = Secure – Common, widespread, and abundant in the State.

**California Rare Plant Rankings (CNPS List):**

- 1A = Plants presumed extirpated in California and either rare or extinct elsewhere.
- 1B = Plants rare, threatened, or endangered in California and elsewhere.
- 2A = Plants presumed extirpated in California, but common elsewhere.
- 2B = Plants rare, threatened, or endangered in California, but more common elsewhere.
- 3 = Plants about which more information is needed; a review list.
- 4 = Plants of limited distribution; a watch list.

**Threat Ranks:**

- .1 = Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- .2 = Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
- .3 = Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

## Appendix B. Site Photos:

Photograph #1 Typical Site View looking east



Photograph #2 Typical Site View looking north

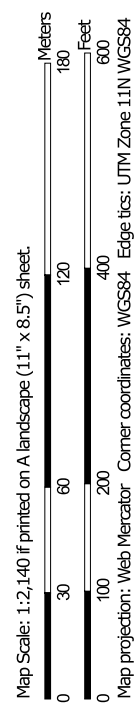


## Appendix C. Soil Map

Soil Map—Western Riverside Area, California  
(CL - Kirby (San Jacinto))



Soil Map may not be valid at this scale.



## MAP LEGEND

- Area of Interest (AOI)**
  - Area of Interest (AOI)
- Soils**
  - Soil Map Unit Polygons
  - Soil Map Unit Lines
  - Soil Map Unit Points
- Special Point Features**
  - Blowout
  - Borrow Pit
  - Clay Spot
  - Closed Depression
  - Gravel Pit
  - Gravelly Spot
  - Landfill
  - Lava Flow
  - Marsh or swamp
  - Mine or Quarry
  - Miscellaneous Water
  - Perennial Water
  - Rock Outcrop
  - Saline Spot
  - Sandy Spot
  - Severely Eroded Spot
  - Sinkhole
  - Slide or Slip
  - Sodic Spot
- Water Features**
  - Streams and Canals
- Transportation**
  - Rails
  - Interstate Highways
  - US Routes
  - Major Roads
  - Local Roads
- Background**
  - Aerial Photography
- Spoil Area**
  - Spoil Area
  - Stony Spot
  - Very Stony Spot
  - Wet Spot
  - Other
  - Special Line Features

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Western Riverside Area, California  
Survey Area Data: Version 14, Sep 13, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 14, 2022—Mar 17, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
SeA	San Emigdio fine sandy loam, 0 to 2 percent slopes, occasional frost	13.9	71.3%
SfA	San Emigdio fine sandy loam, deep, 0 to 2 percent slopes	5.6	28.7%
<b>Totals for Area of Interest</b>		<b>19.5</b>	<b>100.0%</b>

## **Appendix D. Plant Species List**

### List of Plant Species Observed within the Subject Parcel

Scientific Name	Common Name	Life Form
<b>Asteraceae</b>	<b>Aster Family</b>	
<i>Centaurea melitensis</i>	toalote	annual herb
<i>Lactuca serriola</i> *	prickly lettuce*	annual herb
<b>Cupressaceae</b>		
<i>Cupressus sempervirens</i>	Italian Cypruss	tree
<b>Brassicaceae</b>	<b>Mustard Family</b>	
<i>Hirschfeldia incana</i> **	short podded mustard**	perennial herb
<b>Boraginaceae</b>	<b>Borage family</b>	
<i>Amsinckia intermedia</i>	common fiddleneck	annual herb
<i>Heliotropium curassavicum</i>	Chinese parsley	perennial herb
<b>Chenopodiaceae</b>	<b>Goosefoot Family</b>	
<i>Salsola tragus</i> **	Russian thistle**	annual herb
<b>Geraniaceae</b>	<b>Walnut Family</b>	
<i>Erodium cicutarium</i> **	redstem fillaree**	annual herb
<b>Lamiaceae</b>	<b>Mint Family</b>	
<i>Marrubium vulgare</i> **	white horehound**	perennial herb
<b>Moraceae</b>		
<i>Morus alba</i>	Fruitless Mulberry	Tree
<b>Poaceae</b>	<b>Grass Family</b>	
<i>Bromus</i> spp.**	brome grasses**	annual grasses
<i>Hordeum murinum</i> **	foxtail barley**	annual grass
<b>Zygophyllaceae</b>	<b>Caltrop Family</b>	
<i>Tribulus terrestris</i> **	puncture vine**	annual herb

\*non-native, \*\*invasive species

## Appendix E. Regulatory Framework

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## **Federal Regulations**

### **Clean Water Act**

The purpose of the Clean Water Act (CWA) of 1977 is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Section 404 of the CWA prohibits the discharge of dredged or fill material into “waters of the United States” (WOTUS) without a permit from the United States Army Corps of Engineers (USACE). The definition of waters of the United States includes rivers, streams, estuaries, territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas “that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 Code of Federal Regulations [CFR] 328.3 7b). The U.S. Environmental Protection Agency (EPA) also has authority over wetlands and may override a USACE permit. Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; in California this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

### **Federal Endangered Species Act (ESA)**

The federal Endangered Species Act (ESA) of 1973 protects plants and wildlife that are listed by the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) as endangered or threatened. Section 9 of the ESA (USA) prohibits the taking of endangered wildlife, where taking is defined as any effort to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct” (50 CFR 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16 United States Code [USC] 1538). Under Section 7 of the ESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect an endangered species (including plants) or its Critical Habitat. Through consultation and the issuance of a biological opinion, the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity, provided the action will not jeopardize the continued existence of the species. The ESA specifies that the USFWS designate habitat for a species at the time of its listing in which are found the physical or biological features “essential to the conservation of the species,” or which may require “special Management consideration or protection...” (16 USC § 1533[a][3].2; 16 USC § 1532[a]). This designated Critical Habitat is then afforded the same protection under the ESA as individuals of the species itself, requiring issuance of an Incidental Take Permit prior to any activity that results in “the destruction or adverse modification of habitat determined to be critical” (16 USC § 1536[a][2]).

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## **Interagency Consultation and Biological Assessments**

Section 7 of ESA provides a means for authorizing the “take” of threatened or endangered species by federal agencies, and applies to actions that are conducted, permitted, or funded by a federal agency. The statute requires federal agencies to consult with the USFWS or National Marine Fisheries Service (NMFS), as appropriate, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of Critical Habitat for these species. If a Proposed Project “may affect” a listed species or destroy or modify Critical Habitat, the lead agency is required to prepare a biological assessment evaluating the nature and severity of the potential effect.

### **Habitat Conservation Plans**

Section 10 of the federal ESA requires the acquisition of an Incidental Take Permit (ITP) from the USFWS by non-federal landowners for activities that might incidentally harm (or “take”) endangered or threatened wildlife on their land. To obtain a permit, an applicant must develop a Habitat Conservation Plan that is designed to offset any harmful impacts the proposed activity might have on the species.

### **Fish and Wildlife Coordination Act**

The Fish and Wildlife Coordination Act (16 U.S.C. Sections 661 to 667e et seq.) applies to any federal Project where any body of water is impounded, diverted, deepened, or otherwise modified. Project proponents are required to consult with the USFWS and the appropriate state wildlife agency.

### **Bald and Golden Eagle Protection Act**

The Bald and Golden Eagle Protection Act (The Eagle Act) (1940), amended in 1962, was originally implemented for the protection of bald eagles (*Haliaeetus leucocephalus*). In 1962, Congress amended the Eagle Act to cover golden eagles (*Aquila chrysaetos*), a move that was partially an attempt to strengthen protection of bald eagles, since the latter were often killed by people mistaking them for golden eagles. This act makes it illegal to import, export, take (molest or disturb), sell, purchase, or barter any bald eagle or golden eagle or part thereof. The golden eagle, however, is accorded somewhat lighter protection under the Eagle Act than that of the bald eagle.

### **Migratory Bird Treaty Act**

The Migratory Bird Treaty Act (MBTA) of 1918 implements international treaties between the United States and other nations created to protect migratory birds, any of their parts, eggs, and nests from activities, such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor

propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR Part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code (CFGC).

### **Executive Orders (EO)**

**Invasive Species – EO 13112 (1999):** Issued on February 3, 1999, promotes the prevention and introduction of invasive species and provides for their control and minimizes the economic, ecological, and human health impacts that invasive species cause through the creation of the Invasive Species Council and Invasive Species Management Plan.

**Migratory Bird – EO 13186 (2001):** Issued on January 10, 2001, promotes the conservation of migratory birds and their habitats and directs federal agencies to implement the Migratory Bird Treaty Act. **Protection and Enhancement of Environmental Quality – EO 11514 (1970a),** issued on March 5, 1970, supports the purpose and policies of the National Environmental Policy Act (NEPA) and directs federal agencies to take measures to meet national environmental goals.

### **Migratory Bird Treaty Reform Act**

The Migratory Bird Treaty Reform Act (Division E, Title I, Section 143 of the Consolidated Appropriations Act, 2005, PL 108–447) amends the Migratory Bird Treaty Act (16 U.S.C. Sections 703 to 712) such that nonnative birds or birds that have been introduced by humans to the United States or its territories are excluded from protection under the Act. It defines a native migratory bird as a species present in the United States and its territories as a result of natural biological or ecological processes. This list excluded two additional species commonly observed in the United States, the rock pigeon (*Columba livia*) and domestic goose (*Anser domesticus*).

### **Birds of Conservation Concern**

Birds of Conservation Concern (BCC) is a USFWS list of bird species identified to have the highest conservation priority, and with the potential for becoming candidates for listing as federally threatened or endangered. The chief legal authority for BCC is the Fish and Wildlife Conservation Act of 1980 (FWCA). Other authorities include the FESA, the Fish and Wildlife Act of 1956, and the Department of the Interior U.S Code (16 U.S.C. § 701). The 1988 amendment to the FWCA (Public Law 100-653, Title VIII) requires the Secretary of the Interior, through the USFWS, to “identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973” (USFWS, 2008a).

### **State Regulations**

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## California Fish and Game Code Sections 1600 through 1606 of the CFGC

This section requires that a Streambed Alteration Application be submitted to the CDFW for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” The CDFW reviews the proposed actions and, if necessary, submits to the applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by the Department and the applicant is the Streambed Alteration Agreement. Often, Projects that require a Streambed Alteration Agreement also require a permit from the USACE under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the Streambed Alteration Agreement may overlap.

## California Endangered Species Act

The California Endangered Species Act (CESA) (Sections 2050 to 2085) establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats by protecting “all native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation.” Animal species are listed by the CDFW as threatened or endangered, and plants are listed as rare, threatened, or endangered. However, only those plant species listed as threatened or endangered receive protection under the California ESA.

CESA mandates that state agencies do not approve a Project that would jeopardize the continued existence of these species if reasonable and prudent alternatives are available that would avoid a jeopardy finding. There are no state agency consultation procedures under the California ESA. For Projects that would affect a species that is federally and state listed, compliance with ESA satisfies the California ESA if the California Department of Fish and Wildlife (CDFW) determines that the federal incidental take authorization is consistent with the California ESA under Section 2080.1. For Projects that would result in take of a species that is state listed only, the Project sponsor must apply for a take permit, in accordance with Section 2081(b).

## Fully Protected Species

Four sections of the California Fish and Game Code (CFGC) list 37 fully protected species (CFGC Sections 3511, 4700, 5050, and 5515). These sections prohibit take or possession “at any time” of the species listed, with few exceptions, and state that “no provision of this code or any other law will be construed to authorize the issuance of permits or licenses to ‘take’ the species,” and that no previously issued permits or licenses for take of the species “shall have any force or effect” for authorizing take or possession.



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## **Bird Nesting Protections**

Bird nesting protections (Sections 3503, 3503.5, 3511, 3513 and 3800) in the CFGC include the following:

Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird.

Section 3503.5 prohibits the take, possession, or needless destruction of any nests, eggs, or birds in the orders Falconiformes (new world vultures, hawks, eagles, ospreys, and falcons, among others), and Strigiformes (owls).

Section 3511 prohibits the take or possession of Fully protected birds.

Section 3513 prohibits the take or possession of any migratory nongame bird or part thereof, as designated in the MBTA. To avoid violation of the take provisions, it is generally required that Project-related disturbance at active nesting territories be reduced or eliminated during the nesting cycle.

Section 3800 prohibits the take of any non-game bird (i.e., bird that is naturally occurring in California that is not a gamebird, migratory game bird, or fully protected bird).

## **Native Plant Protection Act**

The Native Plant Protect Act (NPPA) (1977) (CFGC Sections 1900-1913) was created with the intent to “preserve, protect, and enhance rare and endangered plants in this State.” The NPPA is administered by CDFW. The Fish and Game Commission has the authority to designate native plants as endangered or rare and to protect endangered and rare plants from take. CESA (CFGC 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the Fish and Game Code.

**APPENDIX 3**

**PHASE I HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY**

**TENTATIVE TRACT MAP NUMBER 38339**

**Assessor's Parcel Number 436-490-011, 393 South Kirby Street  
City of San Jacinto, Riverside County, California**

**For Submittal to:**

Community Development Department, Planning Division  
City of San Jacinto  
595 South San Jacinto Avenue  
San Jacinto, CA 92583

**Prepared for:**

Tom Dodson & Associates  
2150 North Arrowhead Avenue  
San Bernardino, CA 92405

**Prepared by:**

CRM TECH  
1016 East Cooley Drive, Suite A/B  
Colton, CA 92324

Bai "Tom" Tang, Principal Investigator  
Michael Hogan, Principal Investigator

August 9, 2022  
CRM TECH Contract Number 3885

**Title:** Phase I Historical/Archaeological Resources Survey: Tentative Tract Map Number 38339, Assessor's Parcel Number 436-490-011, 393 South Kirby Street, City of San Jacinto, Riverside County, California

**Author(s):** Bai "Tom" Tang, Principal Investigator, History/Architectural History  
Deirdre Encarnación, Archaeologist/Report Writer  
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**Date:** August 9, 2022

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(951) 487-7330

**Prepared for:** Kaitlyn Dodson-Hamilton, Vice President  
Tom Dodson & Associates  
2150 North Arrowhead Avenue  
San Bernardino, CA 92405  
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**USGS Quadrangle:** San Jacinto, Calif., 7.5' quadrangle; portion of Rancho San Jacinto Viejo land grant, T4S R1W, San Bernardino Baseline and Meridian

**Project Size:** Approximately 19 acres

**Keywords:** San Jacinto Valley, southwestern Riverside County; Phase I historical/archaeological resources survey; Site 3885-1H (*temporary designation*): historic-period ranch complex at 393 South Kirby Street; no "historical resources" under CEQA

## EXECUTIVE SUMMARY

Between May and August 2022, at the request of Tom Dodson & Associates, CRM TECH performed a cultural resources study on approximately 19 acres of partially developed land in the City of San Jacinto, Riverside County, California. The subject property of the study, Assessor's Parcel Number 436-490-011, is located on the north side of Oostdam Drive and between Kirby Street and Ivy Crest Drive, in a portion of the San Jacinto Viejo land grant lying within Township 4 South, Range 1 West, San Bernardino Baseline and Meridian, as depicted in the United States Geological Survey San Jacinto, California, 7.5' quadrangle.

The study is part of the environmental review process for the proposed subdivision of the property for a 76-lot single-family residential development, including the construction of a water quality detention basin and other utility and infrastructure improvements, as outlined by Tentative Tract Map Number 38339. The City of San Jacinto, as the lead agency for the project, required the study in compliance with the California Environmental Quality Act (CEQA). The purpose of the study is to provide the City with the necessary information and analysis to determine whether the proposed project would cause substantial adverse changes to any "historical resources," as defined by CEQA, that may exist in or around the project area. In order to identify such resources, CRM TECH initiated a historical/archaeological resources records search and a Native American Sacred Lands File search, pursued historical background research, and carried out an intensive-level field survey.

As a result of these research procedures, a ranch complex constructed between circa 1938 and 1978, including a residence at 393 South Kirby Street, was recorded within the project area and designated temporarily as Site 3885-1H, pending the assignment of an official identification number once the California Historical Resources Information System resumes normal operation. Despite its historical age, the ranch complex does not appear to meet any of the criteria for listing in the California Register of Historical Resources. Therefore, it does not constitute a "historical resource" under CEQA provisions.

No other potential "historical resources" were encountered within the project area throughout the course of this study. However, the State of California Native American Heritage Committee has reported the presence of unspecified Native American cultural resource(s) in the project vicinity and referred further inquiry to nearby tribal organizations. According to current CEQA guidelines, the identification of potential "tribal cultural resources" is beyond the scope of this study and needs to be addressed through government-to-government consultations between the City of San Jacinto and the pertinent Native American groups pursuant to Assembly Bill (AB) 52.

Based on these findings, CRM TECH recommends to the City of San Jacinto a tentative conclusion of *No Impact* on cultural resources, pending completion of the AB 52 consultation process. No other cultural resources investigation is recommended for this project unless development plans undergo such changes as to include areas not covered by this study. However, if buried cultural materials are encountered during any earth-moving operations associated with the project, all work within 50 feet of the discovery should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds. Human remains unearthed during the project will need to be treated in accordance with Health and Safety Code §7050.5 and Public Resources Code §5097.98.

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## INTRODUCTION

Between May and August 2022, at the request of Tom Dodson & Associates, CRM TECH performed a cultural resources study on approximately 19 acres of partially developed land in the City of San Jacinto, Riverside County, California (Fig. 1). The subject property of the study, Assessor's Parcel Number 436-490-011, is located on the north side of Oostdam Drive and between Kirby Street and Ivy Crest Drive, in a portion of the San Jacinto Viejo land grant lying within Township 4 South, Range 1 West, San Bernardino Baseline and Meridian, as depicted in the United States Geological Survey (USGS) San Jacinto, California, 7.5' quadrangle (Figs. 2, 3).

The study is part of the environmental review process for the proposed subdivision of the property for a 76-lot single-family residential development, including the construction of a water quality detention basin and other utility and infrastructure improvements, as outlined by Tentative Tract Map Number 38339. The City of San Jacinto, as the lead agency for the project, required the study in compliance with the California Environmental Quality Act (CEQA; PRC §21000, et seq.). The purpose of the study is to provide the City with the necessary information and analysis to determine whether the proposed project would cause substantial adverse changes to any "historical resources," as defined by CEQA, that may exist in or around the project area.

In order to identify such resources, CRM TECH initiated a historical/archaeological resources records search and a Native American Sacred Lands File search, pursued historical background research, and carried out an intensive-level field survey. The following report is a complete account of the methods, results, and final conclusion of the study. Personnel who participated in the study are named in the appropriate sections below, and their qualifications are provided in Appendix 1.

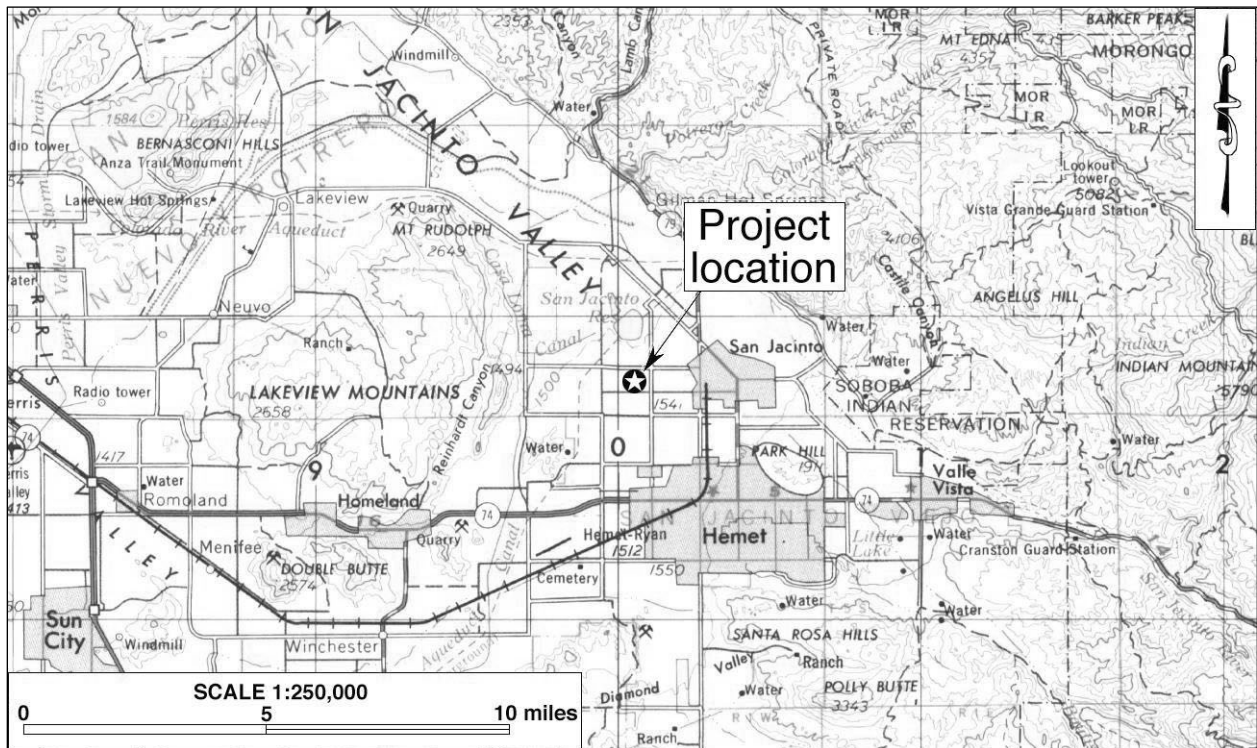


Figure 1. Project vicinity. (Based on USGS Santa Ana, Calif., 120'x60' quadrangle [USGS 1979a])

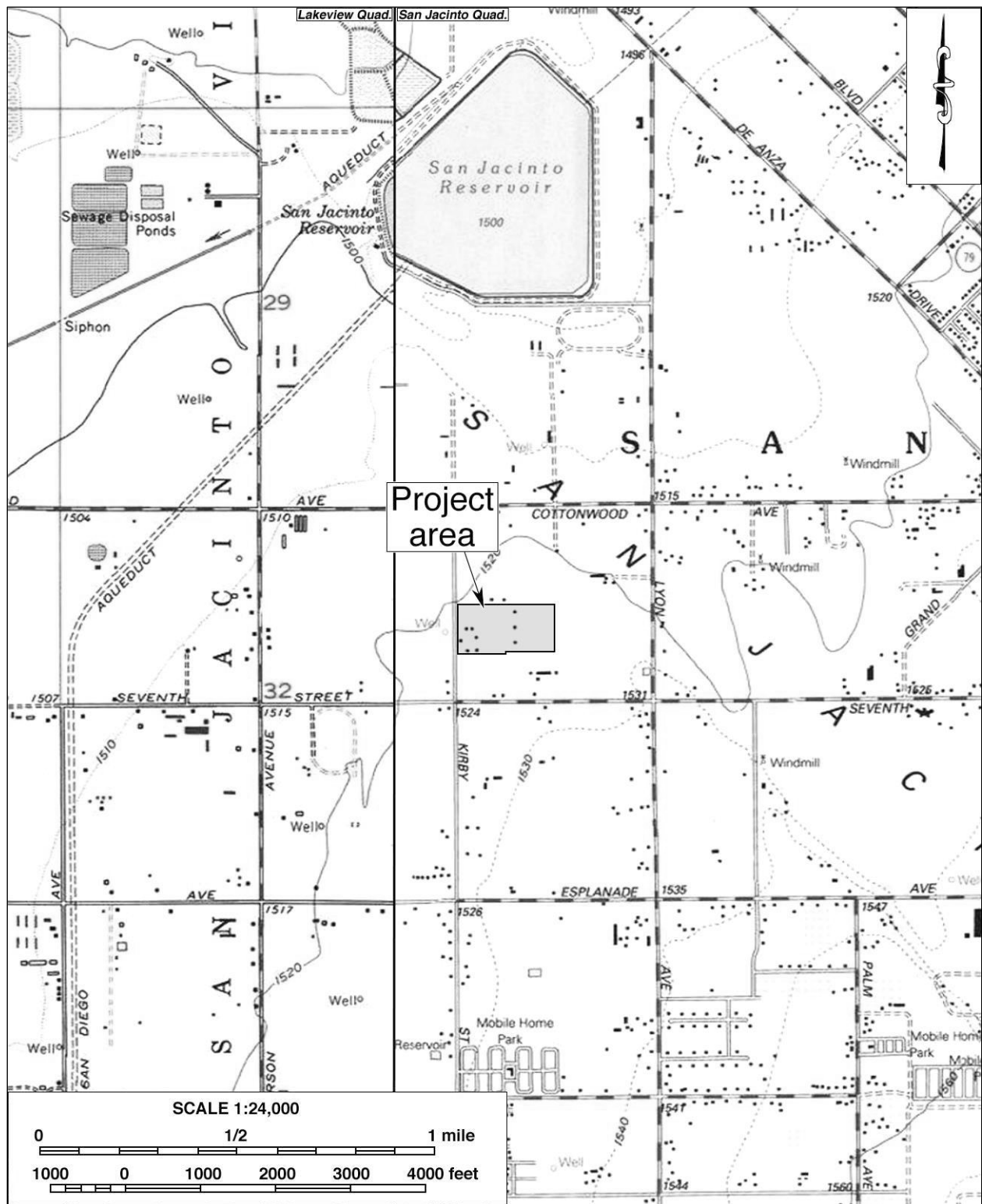


Figure 2. Project location. (Based on USGS Lakeview and San Jacinto, Calif., 7.5' quadrangles [USGS 1979b; 1996])





Figure 3. Recent satellite image of the project area.

## SETTING

### CURRENT NATURAL SETTING

The City of San Jacinto is situated in the southeastern end of the San Jacinto Valley, a semi-arid inland alluvial valley that extends generally in a northwest-southeast direction. A number of isolated granitic mountains separate the San Jacinto Valley from the nearby Moreno, Perris, and Menifee Valleys. These valleys are sub-basins of the San Jacinto watershed, one of the three major geographical subdivisions of the Santa Ana Basin. The valley complex is bounded on the northeast by the San Jacinto Mountains and on the southwest by the Santa Ana Mountains. The climate and environment of the region are typical of southern California's inland valleys, with temperatures reaching over 100 degrees Fahrenheit in summer and dipping to near freezing in winter. The average annual precipitation is approximately 12 inches, occurring mostly during the winter months.

The project area is part of a formerly agricultural area in the southwestern portion of the city that has been transformed by suburban development in recent decades. It is currently surrounded mostly by densely populated single-family residential tracts, with some undeveloped land and rural residential properties of older vintages also nearby (Fig. 3). Elevations on the property range approximately from 1,525 feet to 1,530 feet above mean sea level, and the terrain is generally level with a slight incline to the southeast. The ground surface has been disturbed by many decades of agricultural operations, although the fields have long been abandoned, and there are several buildings associated with a small ranch complex on the property. The existing vegetation consists of various landscaping plants, jimsonweed, nightshade, and other low-lying grasses and brush.



Figure 4. Overview of the current natural setting of the project area. (Photograph taken on June 27, 2022; view to the east)

## **CULTURAL SETTING**

### **Prehistoric Context**

The earliest evidence of human occupation in western Riverside County was discovered below the surface of an alluvial fan in the northern portion of the Lakeview Mountains, overlooking the San Jacinto Valley, with radiocarbon dates clustering around 9,500 B.P. (Horne and McDougall 2008). Another site found near the shoreline of Lake Elsinore, close to the confluence of Temescal Wash and the San Jacinto River, yielded radiocarbon dates between 8,000 and 9,000 B.P. (Grenda 1997). Additional sites with isolated Archaic dart points, bifaces, and other associated lithic artifacts from the same age range have been found in the nearby Cajon Pass area of San Bernardino County, typically atop knolls with good viewsheds (Basgall and True 1985; Goodman and McDonald 2001; Goodman 2002; Milburn et al. 2008).

The cultural prehistory of southern California has been summarized into numerous chronologies, including those developed by Chartkoff and Chartkoff (1984), Warren (1984), and others. Specifically, the prehistory of western Riverside County has been addressed by O'Connell et al. (1974), McDonald et al. (1987), Keller and McCarthy (1989), Grenda (1993), Goldberg (2001), and Horne and McDougall (2008). Although the beginning and ending dates of different cultural horizons vary regionally, the general framework of the prehistory of Riverside County can be divided into three primary periods:

- **Paleoindian Period (ca. 18,000-9,000 B.P.):** Native peoples of this period created fluted spearhead bases designed to be hafted to wooden shafts. The distinctive method of thinning bifaces and spearhead preforms by removing long, linear flakes leaves diagnostic Paleoindian markers at tool-making sites. Other artifacts associated with the Paleoindian toolkit include choppers, cutting tools, retouched flakes, and perforators. Sites from this period are very sparse across the landscape and most are deeply buried.
- **Archaic Period (ca. 9,000-1,500 B.P.):** Archaic sites are characterized by abundant lithic scatters of considerable size with many biface thinning flakes, bifacial preforms broken during manufacture, and well-made groundstone bowls and basin metates. As a consequence of making dart points, many biface thinning waste flakes were generated at individual production stations, which is a diagnostic feature of Archaic sites.
- **Late Prehistoric Period (ca. 1,500 B.P.-contact):** Sites from this period typically contain small lithic scatters from the manufacture of small arrow points, expedient groundstone tools such as tabular metates and unshaped manos, wooden mortars with stone pestles, acorn or mesquite bean granaries, ceramic vessels, shell beads suggestive of extensive trading networks, and steatite implements such as pipes and arrow shaft straighteners.

### **Ethnohistoric Context**

According to current ethnohistorical scholarship, the traditional territories of several Native American groups, including the Luiseño, the Serrano, the Gabrielino, and the Cahuilla, overlapped one another in the present-day Riverside-San Bernardino region during the Late Prehistoric Period, but the San Jacinto Valley area is generally recognized as a part of the traditional homeland of the Luiseño, a Takic-speaking people whose territory extended from present-day Riverside to Escondido

and Oceanside. In modern anthropological literature, the leading sources on Luiseño culture and history are Kroeber (1925), Strong (1929), and Bean and Shipek (1978). The following ethnohistoric discussion is based primarily on these sources.

The name Luiseño derived from Mission San Luis Rey, which held jurisdiction over most of the Luiseño territory during the Mission Period. Prior to European contact, the Luiseño were known as *Páyómkawitchum*. Luiseño history, as recorded in traditional songs, tells the creation story from the birth of the first people, the *kaamalam*, to the sickness, death, and cremation of *Wiyoot*, the most powerful and wise one, at Lake Elsinore. The Luiseño society was based on autonomous lineages or kin groups, which represented the basic political unit among most southern California Indians. Each Luiseño lineage possessed a permanent base camp, or village, on the valley floor and another in the mountain regions for acorn collection. Luiseño villages were made up of family members and relatives, usually located in sheltered canyons or near year-round sources of water, always in proximity to subsistence resources.

Luiseño subsistence was defined by the surrounding landscape, exploiting nearly all of the resources available in a highly developed seasonal mobility system, including cultivating and gathering wild plants, fishing, and hunting. They collected seeds, roots, wild berries, acorns, wild grapes, strawberries, wild onions, and prickly pear cacti, and hunted deer, elks, antelopes, rabbits, wood rats, and a variety of insects. Bows and arrows, rabbit sticks, traps, nets, clubs, and slings were the main hunting tools. Each lineage had exclusive hunting and gathering rights in their procurement ranges. These boundaries were respected and only crossed with permission.

As the landscape defined their subsistence practices, the tending and cultivation practices of the Luiseño helped shape the landscape. The practice of controlled burning of chaparral and oak woodland areas created an open countryside with more accessible foraging material for animals, which in turn led to more successful hunting. It also increased the ease with which plant foods could be gathered and prevented out-of-control wildfires by eliminating dead undergrowth before it accumulated to dangerous levels. Coppicing, or trimming plants to the ground, resulted in straighter growth for basketry and arrow-making materials. Granitic outcroppings were used for pounding and grinding nuts and seeds, which left their mark in the resulting bedrock milling features, the most common archaeological remains found in the region.

It is estimated that when Spanish colonization of Alta California began in 1769, the Luiseño had approximately 50 active villages with an average population of 200 each, although other estimates place the total Luiseño population at 4,000-5,000 (Bean and Shipek 1978:557). Some of the villages were forcefully moved to the Spanish missions, while others were largely left intact. Ultimately, Luiseño population declined rapidly after European contact because of harsh living conditions at the missions and, later, on the Mexican ranchos, where the Native people often worked as seasonal ranch hands, as well as diseases such as smallpox.

Once Alta California became a part of the United States, the large number of non-Native settlers further eroded the foundation of traditional Luiseño society. During the latter half of the 19th century, almost all of the remaining Luiseño villages were displaced, their occupants eventually removed to the various reservations including Soboba, Pechanga, and Pala. Currently, language and ceremonies are being revitalized, and some groups have taken to using ethnographic terms such as *Páyómkawitchum* to refer to themselves.

## **Historic Context**

In California, the so-called “historic period” began in 1769, when an expedition sent by the Spanish authorities in Mexico founded Mission San Diego, the first European outpost in Alta California. For several decades after that, Spanish colonization activities were largely confined to the coastal regions, and left little impact on the arid hinterland of the territory. The first explorers, among them Pedro Fages and Juan Bautista de Anza, traveled through the San Jacinto Plains as early as 1772-1774, but no Europeans were known to have settled in the vicinity until the beginning of the 19th century.

Throughout much of the Spanish and Mexican Periods in California history, the San Jacinto Valley was nominally under the control of Mission San Luis Rey, which was established near present-day Oceanside in 1798. By 1821, it had become a part of the loosely defined Rancho San Jacinto, a vast cattle ranch for that mission (Gunther 1984:467). The rancho was headquartered on a small hill near the Lakeview Mountains, where an adobe house for the *mayordomo*, known in later years as Casa Loma, was built sometime before 1827 (*ibid.*:102).

In the 1840s, after secularization of the mission system, three large land grants were created on the former mission rancho of San Jacinto. Among these was Rancho San Jacinto Viejo, which was granted in 1842 to José Antonio Estudillo, then the *mayordomo* of Mission San Luis Rey. As elsewhere in southern California, cattle raising was the most prevalent economic activity on this and other nearby land grants, until the influx of American settlers eventually brought an end to this much-romanticized lifestyle in the second half of the 19th century.

After the American annexation of Alta California in 1848, the first Euroamerican settlers arrived in the San Jacinto Valley in the late 1860s, and settled mostly around the old town of San Jacinto, the earliest non-Indian community in the area. During the great southern California land boom of the 1880s, the new town of San Jacinto was founded in 1883, and soon overtook the old town as the nucleus of the community. In 1888, San Jacinto became the terminus of the newly completed San Jacinto Valley Railway, a Santa Fe subsidiary, and the City of San Jacinto was incorporated in the same year. For almost a century after its birth, San Jacinto remained a small rural town serving one of Riverside County’s most important agricultural regions. During recent decades, residential and commercial development has increasingly become the driving force in regional growth, and the forces of urbanization have begun to transform the socioeconomic landscape of the city.

## **RESEARCH METHODS**

### **RECORDS SEARCH**

The historical/archaeological resources records search for this study was provided by the Eastern Information Center (EIC) on May 5, 2022. Located on the campus of the University of California, Riverside, the EIC is the official cultural resource records repository for the County of Riverside in the California Historical Resources Information System. The purpose of the records search was to compile a complete inventory of previously identified cultural resources and existing cultural resources studies within a one-mile radius of the APE. Previously identified cultural resources

include properties designated as California Historical Landmarks, Points of Historical Interest, or Riverside County Landmarks, as well as those listed in the National Register of Historic Places, the California Register of Historical Resources, or the California Historical Resources Inventory.

## **SACRED LANDS FILE SEARCH**

On May 3, 2022, CRM TECH submitted a written request to the State of California Native American Heritage Commission (NAHC) for a records search in the commission's Sacred Lands File. The NAHC is the State of California's trustee agency for the protection of "tribal cultural resources," as defined by California Public Resources Code §21074, and is tasked with identifying and cataloging properties of Native American cultural value, including places of special religious, spiritual, or social significance and known graves and cemeteries throughout the state. In the meantime, CRM TECH notified the nearby Soboba Band of Luiseño Indians of the upcoming archaeological fieldwork and invited tribal participation. The response from the NAHC is presented in Appendix 2 and summarized in the sections below.

## **FIELD SURVEY**

On June 27, 2022, CRM TECH archaeologist Hunter O'Donnell carried out the intensive-level field survey of the project area with the assistance of Native American monitor Frankie Morreo from the Soboba Band of Luiseño Indians. During the survey, O'Donnell and Morreo walked a series of parallel north-south transects spaced 15 meters (approximately 50 feet) apart across the entire project area. In this way, the ground surface of the project area was systematically and carefully examined for any evidence of human activities dating to the prehistoric or historic period (i.e., 50 years or older). Ground visibility was generally good (85-90%) due to the light vegetation, with the exception of patches of weeds along the northern project boundary.

As a part of the survey procedures, O'Donnell inspected all buildings and other built-environment features in the project area and completed field recording procedures on those that appeared to be more than 50 years old. In order to facilitate the proper recordation and evaluation of the buildings and structures, O'Donnell made detailed notations and preliminary photo-documentation of their structural and architectural characteristics and current conditions. Based on the field data, CRM TECH historian/architectural historian Terri Jacquemain compiled standard record forms on the property, including descriptions of all historical features, for submittal to the California Historical Resources Information System (see App. 3).

## **HISTORICAL BACKGROUND RESEARCH**

Historical background research for this study was conducted by Terri Jacquemain. Sources consulted during the research included published literature in local and regional history, archival records of the City of San Jacinto and the County of Riverside, U.S. General Land Office (GLO) land survey plat maps dated 1867, USGS topographic maps dated 1901-1996, and aerial/satellite photographs taken in 1966-2021. The historic maps are available at the websites of the USGS and the U.S. Bureau of Land Management, and the aerial photographs are available from the online library of the University of California, Santa Barbara (UCSB), at the Nationwide Environmental Title Research (NETR) website, and through the Google Earth software.

## RESULTS AND FINDINGS

### RECORDS SEARCH

According to EIC records, the project area had not been surveyed systematically for cultural resources prior to this study, and no cultural resources had been recorded within the project boundaries. Within the one-mile scope of the records search, EIC records identify a total of 36 previous studies on various tracts of land and linear features, 29 of which occurred between 2001 and 2008, attesting to an acceleration of development in the area during that time. These and other similar studies nearby resulted in the recordation of 24 cultural resources within the one-mile radius, as listed in Table 1. Only one of the previously recorded cultural resources, an isolate, was of prehistoric—i.e., Native American—origin. Designated 33-014710, the isolate consisted of a single basin metate recovered during an archaeological monitoring program roughly a quarter-mile to the northeast of the project area.

The other recorded cultural resources all dated to the historic period. The majority of these consisted of buildings constructed between 1901 and 1954, typically single-family residences or farmhouses. Other historic-period sites included structural remains, irrigation features, and the Russian trans-polar landing site dating to 1937. The nearest among these was a residence recorded in 2003 on the adjacent property to the north. Designated 33-007358, that residence was determined not to be eligible for listing in the California Register of Historical Resources (Tang et al. 2003) and has since

<b>Table 1. Previously Recorded Cultural Resources within the Scope of the Records Search</b>		
<b>Primary No.</b>	<b>Recorded by/Date</b>	<b>Description</b>
33-006287	Warner 1982; Tibbet 2007	Classical Revival farmhouse, ca. 1901
33-006333	Warner 1982	Vernacular wood-frame house, ca. 1913
33-007301	Swift 1982	Craftsman bungalow, ca. 1920
33-007306	Warner 1982	J&B Dairy milking barn, ca. 1939
33-007307	Warner 1982	Vernacular wood-frame house, ca. 1910
33-007308	Warner 1982	Vernacular wood-frame house, ca. 1913
33-007310	Warner 1982	Vernacular ranch house, ca. 1930
33-007335	Stuart 1982	Vernacular wood-frame bungalow, ca. 1926
33-007358	Warner 1982; Smallwood 2003	California bungalow, ca. 1910
33-007359	Warner 1982	Craftsman bungalow, ca. 1939
33-007360	Warner 1982	Hillview Farm, ca. 1930
33-007361	Warner 1982	Vernacular wood-frame house, circa 1910
33-007362	Warner 1982	Vernacular ranch house, ca. 1917
33-007363	Warner 1982	Bungalow with board-and-batten siding, ca. 1905
33-007364	Warner 1982	Vernacular ranch house, ca. 1940
33-009697	Lozano 1987	Russian trans-polar landing site
33-012804	Robinson 2003	Concrete foundation, fencepost, and metal fragment
33-012805	Robinson 2003	Concrete slab and landscaped area
33-014709	Goodwin 2004	Remnants of gravity-flow irrigation system with concrete standpipe
33-014710	Goodwin 2005	Isolate: basin metate
33-014964	Harris 2006	Single-family residence, ca. 1920
33-015267	McElroy 2006	Ranch-style residence, ca. 1954
33-017928	Dice 2010	Farmhouse, ca. 1927
33-021063	McKenna 2012	Devoe/Bandick ranch complex

been demolished. None of the other known cultural resources were found in the immediate vicinity of the project area, and thus they require no further consideration during this study.

## **SACRED LANDS FILE SEARCH**

In response to CRM TECH's inquiry, the NAHC stated in a letter dated June 21, 2022, that the Sacred Lands File identified unspecified Native American cultural resource(s) in the project vicinity (see App. 2). The commission recommended that local Native American groups be contacted for further information and provided a referral list of 21 individuals associated with 14 local Native American groups. The NAHC's reply is attached to this report in Appendix 2 for reference by the City of San Jacinto in future government-to-government consultations with the pertinent tribal groups, if necessary.

## **FIELD SURVEY**

During the field survey, the former ranch complex in the project area was found to be historical in age and was subsequently recorded into the California Historical Resources Inventory (see App. 3). It is designated temporarily as Site 3855-1H, pending the assignment of an official identification number by the EIC once the California Historical Resources Information System resumes normal operation. Among the components of the site are a main residence and a garage with a small residential addition, a partially enclosed pole barn, the remains of two low rectangular stables (presumably goat sheds), and the remains of three sunshades in a former grazing field. A circular concrete block cistern measuring approximately 10 feet in diameter is located in the ground near the garage.

Located in the southwestern corner of the property at 393 South Kirby Street, the main residence is a one-story brick building, generally square in shape, that rests on a poured concrete foundation. It is surmounted by a medium-pitched side-gable roof covered with narrow, red aluminum sheets connected by standing seams and ending in medium eaves with exposed rafter tails. The exterior walls of the main mass is built of bricks that are painted white, and what appears to be later fill-in under the roof at the rear is clad in stucco and vertical wood boards. The roof also shelters a small porch filling the southerly corner of the street-facing (western) façade, supported by two thick wood posts connected by a similar-looking beam overhead. Fenestration consists of vinyl-framed double-hung replacement windows. A patio in the rear is partially enclosed by a low concrete wall. The main entry on the porch is filled with a steel security screen. Side-by-side backdoors are found at the rear.

The T-shaped garage is composed of two connected masses on a poured concrete foundation and sports a medium-pitched corrugated metal cross-gable roof of differing heights. The lower side-facing gable surmounts the rear portion with brick exterior walls, and the high front-facing gable surmounts the living quarters clad with blue stucco and vertically grooved plywood panels. A corrugated metal roll-up door fills the northern side of the garage, and a wood-framed single door opens to the north from the living quarters, accompanied by a vinyl-framed double-hung window. The southern side sports two windows of the same type, while the brick portion has only untrimmed openings where the windows have been removed.



More than one hundred feet to the northeast of these buildings are two parallel goat sheds on poured concrete foundations, oriented north-south and with a fenced yard between them. The outward side of each wood-framed shed is clad with broad board-and-batten siding with plywood siding facing the interior. Low-pitched roof-framing is exposed, with most of the former plywood roof gone. Five paddock-style doors line the long sides of each building. Each structure also has two aluminum-framed sliding windows facing the interior courtyard.

A short distance to the northeast of the main residence, the pole barn is supported by a total of 14 steel poles connected to a network of four steel trusses and roof supports, topped by a side-gabled corrugated steel roof. The bottom half of the exterior is clad in grooved plywood planks with peeling white paint set in a chevron-pattern. Located in the former pastures in the eastern portion of the property, the three shade structures were supported by four vertical poles with lateral crossbeams connecting two poles each, and three large support beams were placed laterally on top of the crossbeams to support a roof. These rudimentary structures were topped by corrugated metal coverings and were organized north-south and spaced 170-180 feet apart. Currently two of these structures are mostly intact sans the roof while the third consists only of two vertical poles with fragments of the crossbeam atop them.

Two stone columns and a black wrought iron gate mark the main entrance to the ranch, attached on either side to chain-link fences that encloses the property. Another plain chain-link gate accesses the main residence. The property is currently in deteriorating condition (see App. 3 for further information and photographs).

## **HISTORICAL BACKGROUND RESEARCH**

In the mid-19th century, when the U.S. government conducted the first systematic land survey in the San Jacinto Valley, a road passing roughly a mile to the southeast of the project location was the only human-made feature noted in the vicinity (Fig. 5). By the 1890s, a grid of roads lined by scattered buildings had been established in the surrounding area, including the forerunner of present-day Kirby Street along the western project boundary (Fig. 6). The town center of San Jacinto had taken shape some 1.5 miles to the east by the turn of the century, but the outskirts around the project location remained sparsely settled and presumably dominated by agriculture in the early and mid-20th century (Figs. 7, 8).

Within project boundaries, the ranch complex was clearly in place by the late 1930s (UCSB 1938; Fig. 7). Historical aerial photographs indicate that the main residence and the garage were both present prior to 1938, and the addition to the garage occurred around 1953 (UCSB 1938; 1953; County Assessor n.d.). Also around 1953, a pool was added behind the main house, but it was later filled in (*ibid.*). At that time, and at least through the mid-1960s, all of the residential development within the project area was located in the southwest corner, while the rest of the property was used as farmland (UCSB 1953; 1967; NETR Online 1966; 1967).

Land use in the project area shifted emphasis from agriculture to animal husbandry between 1967 and 1972, when the goat sheds and shade structures were constructed, and the pole barn was subsequently added between 1972 and 1978 (NETR Online 1967-1978; UCSB 1967-1978). Another residence once stood a short distance to the south of the main house, but it was removed in the early

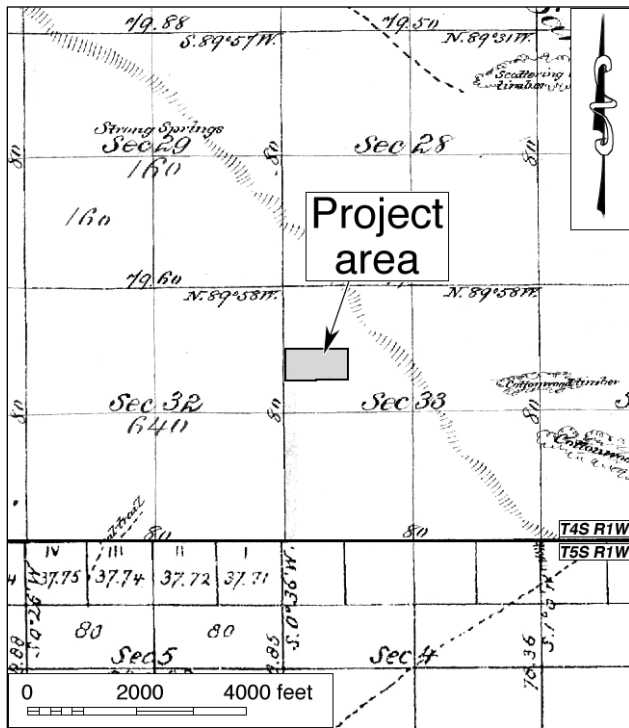


Figure 5. The project area and vicinity in 1853-1867.  
 (Source: GLO 1867a; 1867b)

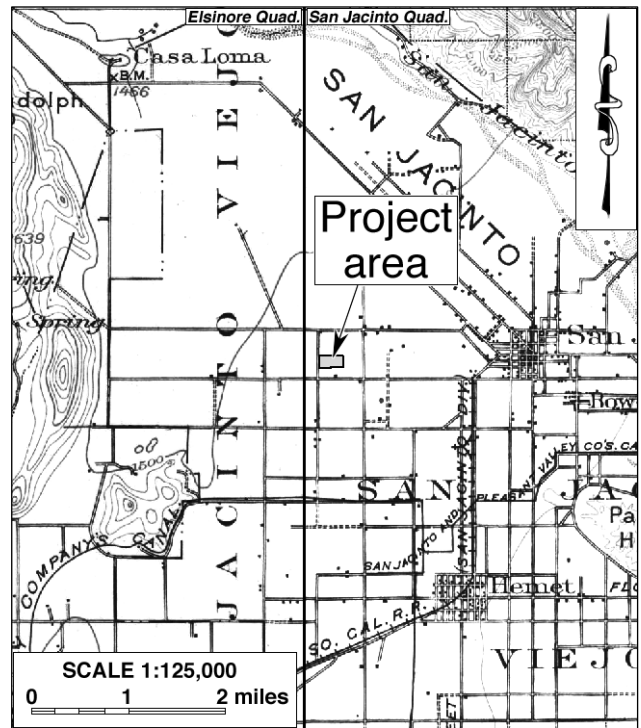


Figure 6. The project area and vicinity in 1897-1898.  
 (Source: USGS 1901a; 1901b)

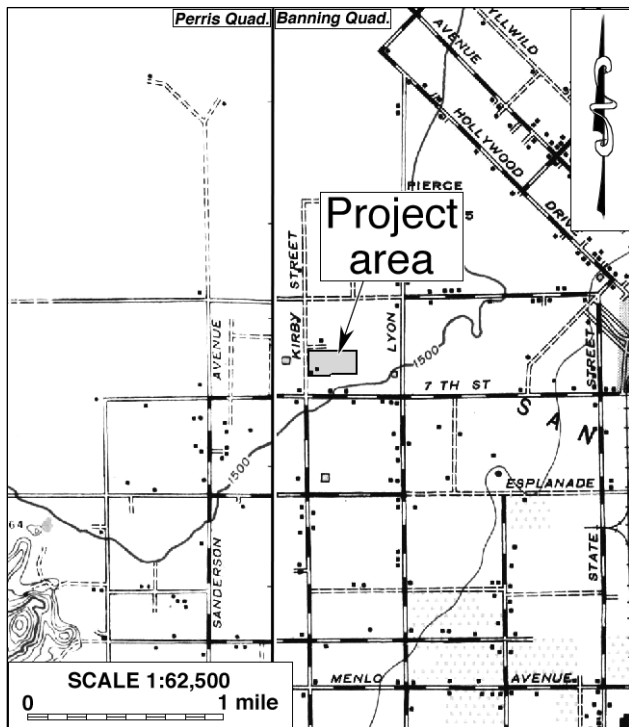


Figure 7. The project area and vicinity in 1939-1941.  
 (Source: USGS 1942; 1943)

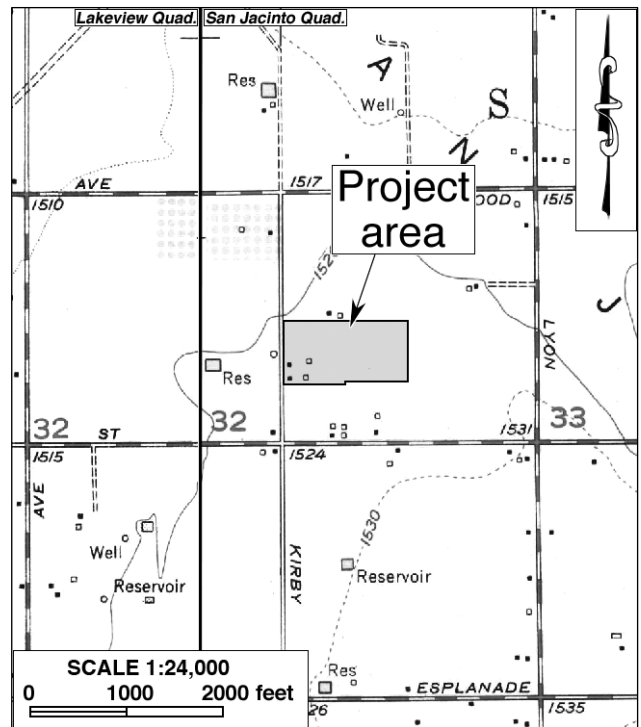


Figure 8. The project area and vicinity in 1949-1951.  
 (Source: USGS 1953a; 1953b)

years of the current century (NETR Online 1967-2018; Google Earth 1996-2021). Despite a diligent search of available records, little information was found on the property owners during the historic period. It is possible the land was once part of a larger parcel belonging to members of the Rawson family, a well-known family of local pioneers in the San Jacinto-Hemet area, but no documented connection could be found in local historical accounts.

In the 1980s-1990s, the surrounding area began the transformation from agriculture to suburban residential development, spearheaded by a housing tract across Kirby Street from the project location (NETR Online 1985; 1996). Several more residential neighborhoods were built on nearby properties during the ensuing decade (Google Earth 1996-2006; NETR Online 1996-2009). Within the project boundaries, meanwhile, while all agricultural operations had ceased by the 1990s, no major changes have occurred in the overall character of the property (NETR Online 1994-2018; Google Earth 1996-2021).

## **MANAGEMENT CONSIDERATIONS**

### **APPLICABLE STATUTORY/REGULATORY FRAMEWORKS**

The purpose of this study is to identify any cultural resources in the project area, and to assist the City of San Jacinto in determining whether such resources meet the definition of “historical resources,” as provided in the California Public Resources Code. According to PRC §5020.1(j), “‘historical resource’ includes, but is not limited to, any object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.”

More specifically, CEQA guidelines state that the term “historical resources” applies to any such resources listed in or determined to be eligible for listing in the California Register of Historical Resources, included in a local register of historical resources, or determined to be historically significant by the Lead Agency (Title 14 CCR §15064.5(a)(1)-(3)). Regarding the proper criteria of historical significance, CEQA guidelines mandate that “generally a resource shall be considered by the lead agency to be ‘historically significant’ if the resource meets the criteria for listing on the California Register of Historical Resources” (Title 14 CCR §15064.5(a)(3)). A resource may be listed in the California Register if it meets any of the following criteria:

- (1) Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage.
- (2) Is associated with the lives of persons important in our past.
- (3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
- (4) Has yielded, or may be likely to yield, information important in prehistory or history. (PRC §5024.1(c)).

## **DISCUSSION**

In summary of the research results outlined above, the former ranch complex at 393 South Kirby Street (Site 3885-1H) is the only potential “historical resource” identified in the project area that require proper evaluation. As a relative common property in the San Jacinto area from the late historic period, however, the ranch complex does not appear to meet any of the criteria for listing in the California Register of Historical Resources.

Due to the lack of specific documentation, the identities of the property owners during the historic period remain largely unknown, and no historical events of recognized significance have been identified in association with the ranch and its various components. In any event, as the earlier building have all been significantly altered, with additional structures built in the 1960s-1970s, the property as a whole does not retain sufficient historic integrity to its original period of construction.

Neither the buildings and structures nor the ranch as a whole represent important examples of any particular style, construction methods, or property type. In its current condition as a collection of compromised historic-period buildings of common design and construction practice, the property does not exhibit a high level of artistic or aesthetic merit, nor does it hold the potential for any important historical/archaeological data for the study of rural development in San Jacinto during the early and mid-20th century. Based on these considerations, the present study concludes that Site 3885-1H does not appear to qualify as a “historical resource” under CEQA provisions.

## **CONCLUSION AND RECOMMENDATIONS**

CEQA establishes that a project that may cause a substantial adverse change in the significance of a “historical resource” or a “tribal cultural resource” is a project that may have a significant effect on the environment (PRC §21084.1-2). “Substantial adverse change,” according to PRC §5020.1(q), “means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired.”

In conclusion, no “historical resources,” as defined by CEQA and associated regulations, were encountered within the project area throughout the course of this study. However, the NAHC has reported the presence of unspecified Native American cultural resource(s) in the project vicinity and referred further inquiry to nearby tribal organizations. According to CEQA guidelines, the identification of potential “tribal cultural resources” is beyond the scope of this study and needs to be addressed through government-to-government consultations between the City of San Jacinto and the pertinent Native American groups pursuant to Assembly Bill (AB) 52. Based on these findings, CRM TECH presents the following recommendations to the City of San Jacinto:

- The project as currently proposed will not cause a substantial adverse change to any known “historical resources.”
- A tentative conclusion of *No Impact* on cultural resources appears to be appropriate for this project, pending the completion of the AB 52 consultation process to ensure the proper identification of potential “tribal cultural resources.”
- No other cultural resources investigation will be necessary for the proposed project unless development plans undergo such changes as to include areas not covered by this study.

- If buried cultural materials are discovered inadvertently during any earth-moving operations associated with the project, all work within 50 feet of the discovery should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.
- If human remains are discovered, HSC §7050.5 prohibits any further disturbance until the Riverside County Coroner has made the necessary findings as to the origin. Human remains of Native American origin will need to be treated per consultations among the Most Likely Descendant, the City of San Jacinto, and the project proponent in accordance with PRC §5097.98.

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**APPENDIX 1:  
PERSONNEL QUALIFICATIONS**

**PRINCIPAL INVESTIGATOR, HISTORY/ARCHITECTURAL HISTORY  
Bai “Tom” Tang, M.A.**

**Education**

- 1988-1993 Graduate Program in Public History/Historic Preservation, University of California, Riverside.
- 1987 M.A., American History, Yale University, New Haven, Connecticut.
- 1982 B.A., History, Northwestern University, Xi’an, China.
- 2000 “Introduction to Section 106 Review,” presented by the Advisory Council on Historic Preservation and the University of Nevada, Reno.
- 1994 “Assessing the Significance of Historic Archaeological Sites,” presented by the Historic Preservation Program, University of Nevada, Reno.

**Professional Experience**

- 2002- Principal Investigator, CRM TECH, Riverside/Colton, California.
- 1993-2002 Project Historian/Architectural Historian, CRM TECH, Riverside, California.
- 1993-1997 Project Historian, Greenwood and Associates, Pacific Palisades, California.
- 1991-1993 Project Historian, Archaeological Research Unit, University of California, Riverside.
- 1990 Intern Researcher, California State Office of Historic Preservation, Sacramento.
- 1990-1992 Teaching Assistant, History of Modern World, University of California, Riverside.
- 1988-1993 Research Assistant, American Social History, University of California, Riverside.
- 1985-1988 Research Assistant, Modern Chinese History, Yale University.
- 1985-1986 Teaching Assistant, Modern Chinese History, Yale University.
- 1982-1985 Lecturer, History, Xi’an Foreign Languages Institute, Xi’an, China.

**Cultural Resources Management Reports**

Preliminary Analyses and Recommendations Regarding California’s Cultural Resources Inventory System (with Special Reference to Condition 14 of NPS 1990 Program Review Report). California State Office of Historic Preservation working paper, Sacramento, September 1990.

Numerous cultural resources management reports with the Archaeological Research Unit, Greenwood and Associates, and CRM TECH, since October 1991.



**PRINCIPAL INVESTIGATOR, ARCHAEOLOGY**  
**Michael Hogan, Ph.D., RPA (Registered Professional Archaeologist)**

**Education**

- 1991 Ph.D., Anthropology, University of California, Riverside.  
1981 B.S., Anthropology, University of California, Riverside; with honors.  
1980-1981 Education Abroad Program, Lima, Peru.
- 2002 “Section 106—National Historic Preservation Act: Federal Law at the Local Level,”  
UCLA Extension Course #888.  
2002 “Recognizing Historic Artifacts,” workshop presented by Richard Norwood,  
Historical Archaeologist.  
2002 “Wending Your Way through the Regulatory Maze,” symposium presented by the  
Association of Environmental Professionals.  
1992 “Southern California Ceramics Workshop,” presented by Jerry Schaefer.  
1992 “Historic Artifact Workshop,” presented by Anne Duffield-Stoll.

**Professional Experience**

- 2002- Principal Investigator, CRM TECH, Riverside/Colton, California.  
1999-2002 Project Archaeologist/Field Director, CRM TECH, Riverside, California.  
1996-1998 Project Director and Ethnographer, Statistical Research, Inc., Redlands, California.  
1992-1998 Assistant Research Anthropologist, University of California, Riverside.  
1992-1995 Project Director, Archaeological Research Unit, U.C. Riverside.  
1993-1994 Adjunct Professor, Riverside Community College, Mt. San Jacinto College, U.C.  
Riverside, Chapman University, and San Bernardino Valley College.  
1991-1992 Crew Chief, Archaeological Research Unit, U.C. Riverside.  
1984-1998 Project Director, Field Director, Crew Chief, and Archaeological Technician for  
various southern California cultural resources management firms.

**Research Interests**

Cultural Resource Management, Southern Californian Archaeology, Settlement and Exchange  
Patterns, Specialization and Stratification, Culture Change, Native American Culture, Cultural  
Diversity.

**Cultural Resources Management Reports**

Principal investigator for, author or co-author of, and contributor to numerous cultural resources  
management study reports since 1986.

**Memberships**

Society for American Archaeology; Society for California Archaeology; Pacific Coast  
Archaeological Society; Coachella Valley Archaeological Society.

**PROJECT HISTORIAN/ARCHITECTURAL HISTORIAN**  
**Terri Jacquemain, M.A.**

**Education**

- 2004 M.A., Public History and Historic Resource Management, University of California, Riverside.
- 2002 B.S., Anthropology, University of California, Riverside.
- 2001 Archaeological Field School, University of California, Riverside.
- 1991 A.A., Riverside Community College, Norco Campus.

**Professional Experience**

- 2003- Historian/Architectural Historian/Report Writer, CRM TECH, Riverside/Colton, California.
- 2002-2003 Teaching Assistant, Religious Studies Department, University of California, Riverside.
- 2002 Interim Public Information Officer, Cabazon Band of Mission Indians.
- 2000 Administrative Assistant, Native American Student Programs, University of California, Riverside.
- 1997-2000 Reporter, *Inland Valley Daily Bulletin*, Ontario, California.
- 1991-1997 Reporter, *The Press-Enterprise*, Riverside, California.

**Membership**

California Preservation Foundation.

**PROJECT ARCHAEOLOGIST/REPORT WRITER**  
**Deirdre Encarnación, M.A.**

**Education**

- 2003 M.A., Anthropology, San Diego State University, California.  
2000 B.A., Anthropology, minor in Biology, with honors; San Diego State University, California.
- 2021 Certificate of Specialization, Kumeyaay Studies, Cuyamaca College/KCC.  
2001 Archaeological Field School, San Diego State University.  
2000 Archaeological Field School, San Diego State University.

**Professional Experience**

- 2004- Project Archaeologist/Report Writer, CRM TECH, Riverside/Colton, California.  
2001-2003 Part-time Lecturer, San Diego State University, California.  
2001 Research Assistant for Dr. Lynn Gamble, San Diego State University.  
2001 Archaeological Collection Catalog, SDSU Foundation.

**PROJECT ARCHAEOLOGIST**  
**Hunter C. O'Donnell, B.A.**

**Education**

- 2016- M.A. Program, Applied Archaeology, California State University, San Bernardino.  
2015 B.A. (*cum laude*), Anthropology, California State University, San Bernardino.  
2012 A.A., Social and Behavioral Sciences, Mt. San Antonio College, Walnut, California.  
2011 A.A., Natural Sciences and Mathematics, Mt. San Antonio College, Walnut, California.
- 2014 Archaeological Field School, Santa Rosa Mountains; supervised by Bill Sapp of the United States Forest Service and Daniel McCarthy of the San Manuel Band of Mission Indians.

**Professional Experience**

- 2017- Project Archaeologist, CRM TECH, Colton, California.  
2016-2018 Graduate Research Assistant, Applied Archaeology, California State University, San Bernardino.  
2016-2017 Cultural Intern, Cultural Department, Pechanga Band of Luiseño Indians, Temecula, California.  
2015 Archaeological Intern, U.S. Bureau of Land Management, Barstow, California.  
2015 Peer Research Consultant: African Archaeology, California State University, San Bernardino.

**APPENDIX 2**

**NATIVE AMERICAN SACRED LANDS FILE  
SEARCH RESULTS**

## NATIVE AMERICAN HERITAGE COMMISSION

June 21, 2022

Nina Gallardo  
CRM TECH

Via Email to: [ngallardo@crmtech.us](mailto:ngallardo@crmtech.us)

**Re: 393 S Kirby St; APN 436-490-0111 (CRM TECH No. 3885) Project, Riverside County**

Dear Ms. Gallardo:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information submitted for the above referenced project. The results were positive. Please contact the tribes on the attached list for information. Please note that tribes do not always record their sacred sites in the SLF, nor are they required to do so. A SLF search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with a project's geographic area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites, such as the appropriate regional California Historical Research Information System (CHRIS) archaeological Information Center for the presence of recorded archaeological sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. Please contact all of those listed; if they cannot supply information, they may recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

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

If you have any questions or need additional information, please contact me at my email address: [Cody.Campagne@nahc.ca.gov](mailto:Cody.Campagne@nahc.ca.gov).

Sincerely,

*Cody Campagne*

Cody Campagne  
Cultural Resources Analyst

Attachment



CHAIRPERSON  
**Laura Miranda**  
Luiseño

VICE CHAIRPERSON  
**Reginald Pagaling**  
Chumash

PARLIAMENTARIAN  
**Russell Attebery**  
Karuk

SECRETARY  
**Sara Dutschke**  
Miwok

COMMISSIONER  
**William Mungary**  
Paiute/White Mountain  
Apache

COMMISSIONER  
**Isaac Bojorquez**  
Ohlone-Costanoan

COMMISSIONER  
**Buffy McQuillen**  
Yokayo Pomo, Yuki,  
Nomlaki

COMMISSIONER  
**Wayne Nelson**  
Luiseño

COMMISSIONER  
**Stanley Rodriguez**  
Kumeyaay

EXECUTIVE SECRETARY  
**Raymond C. Hitchcock**  
Miwok/Nisenan

**NAHC HEADQUARTERS**  
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(916) 373-3710  
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**Native American Heritage Commission  
Native American Contact List  
Riverside County  
6/21/2022**

**Agua Caliente Band of Cahuilla  
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**Agua Caliente Band of Cahuilla  
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**Augustine Band of Cahuilla  
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**Cabazon Band of Mission  
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Chairman@cahuilla.net

**Los Coyotes Band of Cahuilla  
and Cupeño Indians**

Ray Chapparosa, Chairperson  
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**Morongo Band of Mission  
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**Pala Band of Mission Indians**

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**Pechanga Band of Indians**

Paul Macarro, Cultural Resources  
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pmacarro@pechanga-nsn.gov

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

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed 393 S Kirby St; APN 436-490-0111 (CRM TECH No. 3885) Project, Riverside County.

**Native American Heritage Commission  
Native American Contact List  
Riverside County  
6/21/2022**

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

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed 393 S Kirby St; APN 436-490-0111 (CRM TECH No. 3885) Project, Riverside County.

**APPENDIX 3**

**CALIFORNIA HISTORICAL RESOURCES INVENTORY  
RECORD FORMS**

**Site 3885-1H  
(Temporary Designation)**



**PRIMARY RECORD**

Primary # \_\_\_\_\_  
HRI # \_\_\_\_\_  
Trinomial \_\_\_\_\_  
NRHP Status Code 6Z

Other Listings \_\_\_\_\_  
Review Code \_\_\_\_\_ Reviewer \_\_\_\_\_ Date \_\_\_\_\_

Page 1 of 6 \*Resource Name or # (Assigned by recorder) CRM TECH 3885-1H

- P1. Other Identifier: 393 South Kirby Street
- \*P2. Location:  Not for Publication  Unrestricted \*a. County Riverside  
and (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)  
\*b. USGS 7.5' Quad San Jacinto, Calif. Date 1996  
T4S; R1W; S.B. B.M. (Within Rancho San Jacinto Viejo land grant); S.B. B.M.  
Elevation: Approximately 1,565 feet above mean sea level
- c. Address 393 South Kirby Street City San Jacinto Zip 92583
- d. UTM: (Give more than one for large and/or linear resources) Zone 11 ; 404,052 mE/ 3,760,292 mN  
UTM Derivation:  USGS Quad  GIS  Google Earth
- e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)  
Assessor's Parcel No. 436-490-011; on the east side of Kirby Street, between Cottonwood Avenue and Seventh Street
- \*P3a Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries) Currently on the property are a main residence and a garage with a small residential addition, a partially enclosed pole barn, the remains of two low rectangular stables (presumably goat sheds), and the remains of three sunshades in a former grazing field. A circular concrete block cistern measuring approximately 10 feet in diameter is located in the ground near the garage. (Continued on p. 4)
- \*P3b. Resource Attributes: (List attributes and codes) HP33: Farm/Ranch
- \*P4. Resources Present:  Building  Structure  Object  Site  District  Element of District  
 Other (isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)



- P5b. Description of Photo (view, date, accession number): Photo taken June 22, 2022; view to the northeast (also see p. 6)
- \*P6. Date Constructed/Age and Sources:  Historic  Prehistoric  Both  
Ca. 1938-1978
- \*P7. Owner and Address: NHJ Enterprises, P.O. Box 1077, Hemet CA 92646
- \*P8. Recorded by (Name, affiliation, & address): Hunter O'Donnell and Terri Jacquemain, CRM TECH, 1016 East Cooley Drive, Suite A/B, Colton, CA 92324
- \*P9. Date Recorded: June 22 and 27, 2022
- \*P10. Survey Type (describe): Intensive level survey for CEQA compliance purposes

\*P11. Report Citation: (Cite survey report and other sources, or enter "none.") Bai "Tom" Tang, Deirdre Encarnación, Terri Jacquemain, and Hunter O'Donnell (2022): Historical/Archaeological Resources Survey Report: Tentative Tract Map Number 38339, Assessor's Parcel Number 436-490-011, 393 South Kirby Street, City of San Jacinto, Riverside County, California

- \*Attachments:  None  Location Map  Sketch Map  Continuation Sheet  Building, Structure, and Object Record  
 Archaeological Record  District Record  Linear Resource Record  Milling Station Record  Rock Art Record  
 Artifact Record  Photograph Record  Other (List): \_\_\_\_\_

**BUILDING, STRUCTURE, AND OBJECT RECORD**

Page 2 of 6

\*NRHP Status Code 6Z

\*Resource Name or # (Assigned by recorder) CRM TECH 3885-1H

B1. Historic Name: \_\_\_\_\_ B2. Common Name: \_\_\_\_\_

B3. Original Use: Farm/ranch B4. Present Use: Vacant

\*B5. Architectural Style: Bungalow

\*B6. Construction History: (Construction date, alterations, and date of alterations) Historical aerial photographs indicate that the main residence and the garage were both present prior to 1938, and the addition to the garage occurred around 1953. Also around 1953, a pool was added behind the main house, but it was later filled in. The goat sheds and shade structures appeared between 1967 and 1972, and the pole barn between 1972 and 1978. Historical aerial images further indicate that another residence once stood a short distance to the south of the main house, but it was removed in the early years of the current century.  
(Continued on p. 5)

\*B7. Moved?  No  Yes  Unknown Date: \_\_\_\_\_ Original Location: \_\_\_\_\_

\*B8. Related Features: See Item P3a

B9a. Architect: Unknown b. Builder: Unknown

\*B10. Significance: Theme Mid-20th century rural development

Area San Jacinto Period of Significance 1930s-1970s

Property Type Ranch Applicable Criteria N/A

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.) Due to the lack of specific documentation, the identities of the property owners during the historic period remain largely unknown, and no historical events of recognized significance have been identified in association with the ranch and its various components. In any event, as the earlier building have all been significantly altered, with additional  
(Continued on p. 5)

B11. Additional Resource Attributes: (List attributes and codes) \_\_\_\_\_

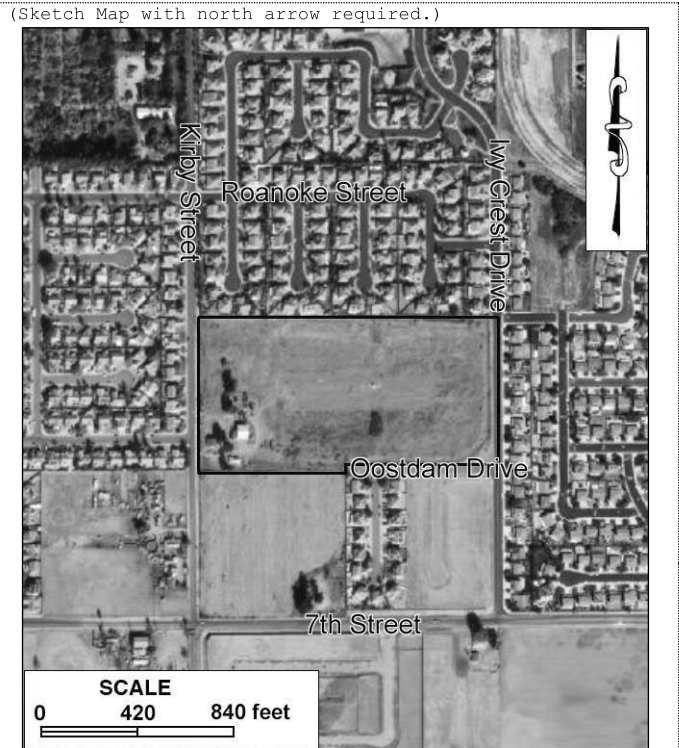
B12. References: Aerial photographs taken in 1938-2021, https://www.library.ucsb.edu/geospatial/aerial-photography, http://www.historicaerials.com, and from the Google Earth software; Riverside County real property assessment records; City of San Jacinto building and safety records

B13. Remarks: \_\_\_\_\_

\*B14. Evaluator: Terri Jacquemain

\*Date of Evaluation: July 11, 2022

(This space reserved for official comments.)



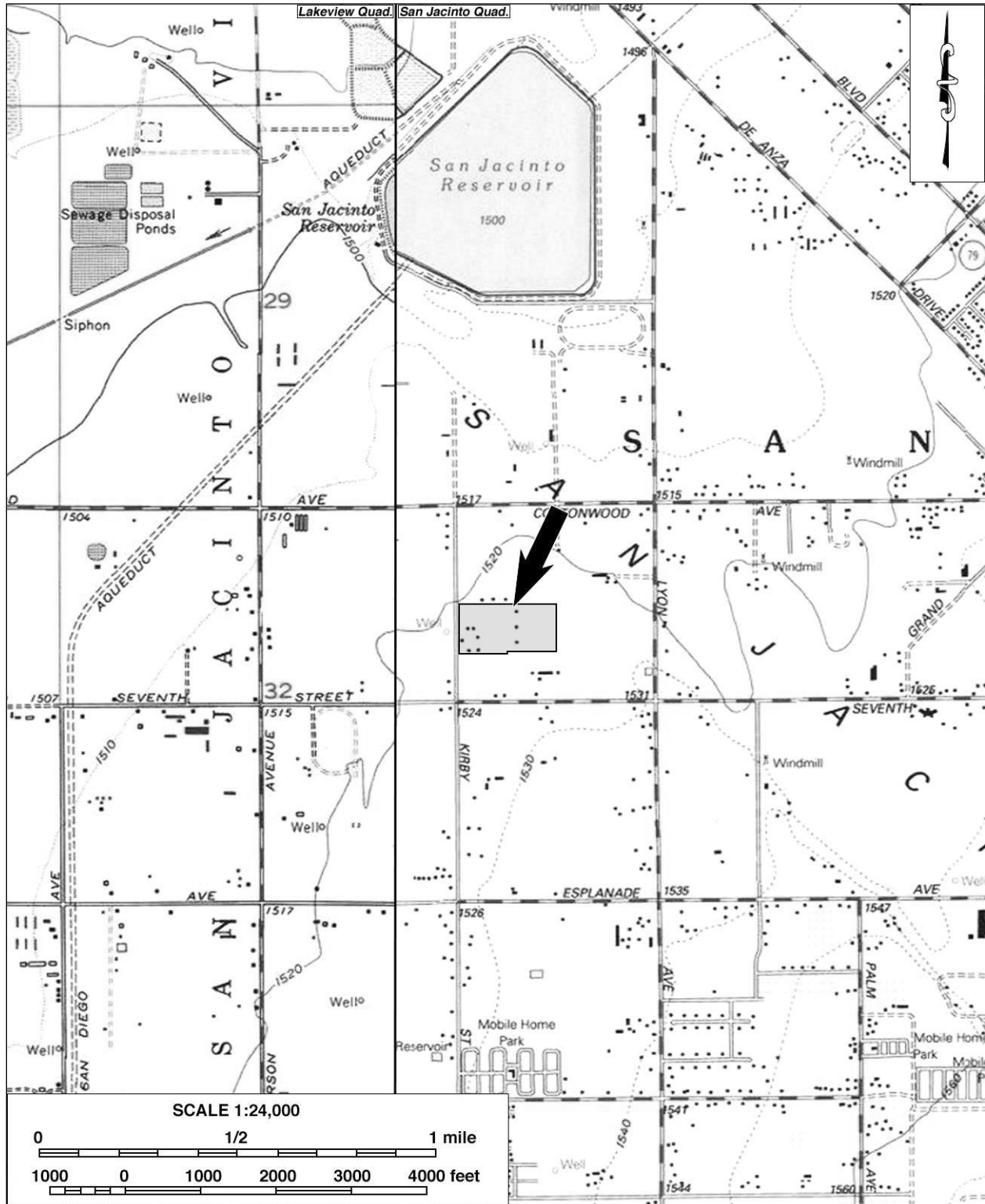
# LOCATION MAP

Trinomial \_\_\_\_\_

\*Map Name: Lakeview and San Jacinto, Calif.

\*Scale: 1:24,000

\*Date of Maps: 1979/1996



Recorded by: Hunter O'Donnell and Terri Jacquemain

\*Date: June 22 and 27, 2022

Continuation  Update

**\*P3a. Description (continued):** Located in the southwestern corner of the property, the main residence is a one-story brick building, generally square in shape, that rests on a poured concrete foundation. It is surmounted by a medium-pitched side-gable roof covered with narrow, red aluminum sheets connected by standing seams and ending in medium eaves with exposed rafter tails. The exterior walls of the main mass is built of bricks that are painted white, and what appears to be later fill-in under the roof at the rear is clad in stucco and vertical wood boards. The roof also shelters a small porch filling the southerly corner of the street-facing (western) façade, supported by two thick wood posts connected by a similar-looking beam overhead. Fenestration consists of vinyl-framed double-hung replacement windows. A patio in the rear is partially enclosed by a low concrete wall. The main entry on the porch is filled with a steel security screen. Side-by-side backdoors are found at the rear.

The T-shaped garage is composed of two connected masses on a poured concrete foundation and sports a medium-pitched corrugated metal cross-gable roof of differing heights. The lower side-facing gable surmounts the rear portion with brick exterior walls, and the high front-facing gable surmounts the living quarters clad with blue stucco and vertically grooved plywood panels. A corrugated metal roll-up door fills the northern side of the garage, and a wood-framed single door opens to the north from the living quarters, accompanied by a vinyl-framed double-hung window. The southern side sports two windows of the same type, while the brick portion has only untrimmed openings where the windows have been removed.

More than one hundred feet to the northeast of these buildings are two parallel goat sheds on poured concrete foundations, oriented north-south and with a fenced yard between them. The outward side of each wood-framed shed is clad with broad board-and-batten siding with plywood siding facing the interior. Low-pitched roof-framing is exposed, with most of the former plywood roof gone. Five paddock-style doors line the long sides of each building. Each structure also has two aluminum-framed sliding windows facing the interior courtyard.

A short distance to the northeast of the main residence, the pole barn is supported by a total of 14 steel poles connected to a network of four steel trusses and roof supports, topped by a side-gabled corrugated steel roof. The bottom half of the exterior is clad in grooved plywood planks with peeling white paint set in a chevron-pattern. Located in the former pastures in the eastern portion of the property, the three shade structures were supported by four vertical poles with lateral crossbeams connecting two poles each, and three large support beams were placed laterally on top of the crossbeams to support a roof. These rudimentary structures were topped by corrugated metal coverings and were organized north-south and spaced 170-180 feet apart. Currently two of these structures are mostly intact sans the roof while the third consists only of two vertical poles with fragments of the crossbeam atop them.

Two stone columns and a black wrought iron gate mark the main entrance to the ranch, attached on either side to chain-link fences that encloses the property. Another plain chain-link gate accesses the main residence. The property is currently in deteriorating condition.

\*B6. **Construction History (continued):** Despite a diligent search of available records, little information was found on the property owners during the historic period. It is possible the land was once part of a larger parcel belonging to members of the Rawson family, a well-known family of local pioneers in the San Jacinto-Hemet area, but no documented connection could be found in local historical accounts.

\*B10. **Significance (continued):** structures built in the 1960s-1970s, the property as a whole does not retain sufficient historic integrity to its original period of construction.

Neither the buildings and structures nor the ranch as a whole represent important examples of any particular style, construction methods, or property type. In its current condition as a collection of compromised historic-period buildings of common design and construction practice, the property does not exhibit a high level of artistic or aesthetic merit, nor does it hold the potential for any important historical/archaeological data for the study of rural development in San Jacinto during the early and mid-20th century. Based on these considerations, the ranch complex at 393 South Kirby Avenue does not appear eligible for listing in the National Register of Historic Places or the California Register of Historical Resources.

Recorded by: Hunter O'Donnell and Terri Jacquemain

\*Date: June 22 and 27, 2022

Continuation  Update

**Additional Photographs:**



Clockwise from top left: overview of the gate and buildings, view to the southeast; covered cistern and close-up of garage, view to the northwest; pole barn, view to the east; northernmost shade structure, view to the south.

**APPENDIX 4a**

GEOTECHNICAL INVESTIGATION  
PROPOSED RESIDENTIAL DEVELOPMENT  
393 SOUTH KIRBY STREET  
APN 436-490-011  
SAN JACINTO, CALIFORNIA

-Prepared By-

**Sladden Engineering**

450 Egan Avenue  
Beaumont, California 92223  
(951) 845-7743





# Sladden Engineering

45090 Golf Center Parkway, Suite F, Indio, California 92201 (760) 863-0713 Fax (760) 863-0847  
6782 Stanton Avenue, Suite C, Buena Park, CA 90621 (714) 523-0952 Fax (714) 523-1369  
450 Egan Avenue, Beaumont, CA 92223 (951) 845-7743 Fax (951) 845-8863

February 21, 2022

Project No. 644-22003

22-02-022

Tulloch Holdings, LLC  
32823 Temecula Parkway  
Temecula, California 92592

Subject: Geotechnical Investigation


Project: Proposed Residential Development  
393 South Kirby Street  
APN 436-490-011  
San Jacinto, California

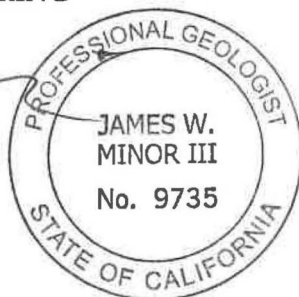
Sladden Engineering is pleased to present the results of the geotechnical investigation performed for the new residential development proposed for the property (APN 436-490-011) located at 393 South Kirby Street in the City of San Jacinto, California. Our services were completed in accordance with our proposal for geotechnical engineering services dated January 6, 2022 and your authorization to proceed with the work. The purpose of our investigation was to explore the subsurface conditions at the site to provide recommendations for foundation design and for the design of the various site improvements. Evaluation of environmental issues and hazardous wastes was not included within the scope of services provided.

The opinions, recommendations and design criteria presented in this report are based on our field exploration program, laboratory testing and engineering analyses. Based on the results of our investigation, it is our professional opinion that the proposed project should be feasible from a geotechnical perspective provided that the recommendations presented in this report are implemented in design and carried out through construction.

We appreciate the opportunity to provide service to you on this project. If you have any questions regarding this report, please contact the undersigned.

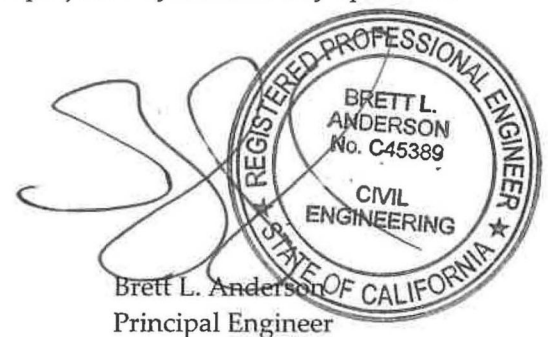
Respectfully submitted,  
SLADDEN ENGINEERING

  
James W. Minor III  
Senior Geologist



SER/jm

Copies: 2/Addressee



Brett L. Anderson  
Principal Engineer

GEOTECHNICAL INVESTIGATION  
 PROPOSED RESIDENTIAL DEVELOPMENT  
 393 SOUTH KIRBY STREET  
 APN 436-490-011  
 SAN JACINTO, CALIFORNIA

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APPENDIX A -	Field Exploration
APPENDIX B-	Laboratory Testing
APPENDIX C-	<ul style="list-style-type: none"> <li>Seismic Design Map and Report</li> <li>Site-Specific Seismic Design Parameter</li> </ul>

## INTRODUCTION

This report presents the results of the geotechnical investigation performed for the new residential development proposed for the property (APN 436-490-011) located at 393 South Kirby Street in the City of San Jacinto, California. The subject site is located at approximately 33.7828 degrees north latitude and 116.9959 degrees west longitude. The approximate location of the site is indicated on the Site Location Map (Figure 1).

Our investigation was conducted in order to evaluate the engineering properties of the subsurface materials, to evaluate their *in-situ* characteristics, and to provide engineering recommendations and design criteria for site preparation, foundation design and the design of various site improvements. This study also includes a review of published and unpublished geotechnical and geological literature regarding seismicity at and near the subject site.

## PROJECT DESCRIPTION

Based on the provided site plan (Blaine A. Womer, 2022), it is our understanding that the proposed project will consist of constructing a new residential development on the subject site. A retention basin, open spaces, paved roadways, concrete flatwork and various other associated site improvements are also anticipated for the project. For our analyses, we expect that the proposed structures will consist of relatively light weight wood-frame structures supported on conventional shallow spread footings and concrete slabs-on-grade.

Sladden expects that grading will be limited to minor cuts and fills in order to accomplish the desired elevations and to provide adequate gradients for site drainage. This does not include the removal and re-compaction of the loose surface soil and primary foundation bearing soil within the proposed building pad areas. Upon completion of precise grading plans, Sladden should be retained in order to verify that the recommendations presented within in this report are properly incorporated into the design of the proposed project.

Structural foundation loads were not available at the time of this report. Based on our experience with relatively lightweight structures, we expect that isolated column loads will be less than 20 kips and continuous wall loads will be less than 2.0 kips per linear foot. If these assumed loads vary significantly from the actual loads, we should be consulted to verify the applicability of the recommendations provided.

## SCOPE OF SERVICES

The purpose of our investigation was to determine specific engineering characteristics of the surface and near surface soil in order to develop foundation design criteria and recommendations for site preparation. Exploration of the site was achieved by advancing six (6) exploratory boreholes to depths ranging from approximately 11 and 51 feet below the existing ground surface (bgs). Specifically, our site characterization consisted of the following tasks:

- Site reconnaissance to assess the existing surface conditions on and adjacent to the site.
- Advancing six (6) exploratory boreholes to depths ranging from approximately 11 and 51 feet bgs in order to characterize the subsurface soil conditions. Representative samples of the soil were classified in the field and retained for laboratory testing and engineering analyses.
- Performing laboratory testing on selected samples to evaluate their engineering characteristics.
- Reviewing geologic literature and discussing geologic hazards.
- Performing site-specific ground motion analyses for the subject property.
- Performing engineering analyses to develop recommendations for foundation design and site preparation.
- The preparation of this report summarizing our work at the site.

## SITE CONDITIONS

The project site is located at 393 South Kirby Street in the City of San Jacinto, California. The site consists of one parcel that is formally identified by the County of Riverside as APN 436-490-011 and occupies approximately 19.08 acres. At the time of our investigation, the property was occupied by an existing residence and barns/sheds located near the southwestern corner of the property. Two wooden shade structures were present near the central portion of the site. A herd of goats were found traversing the site and feeding on scattered grasses and weeds that covered the site surface. The project site is bounded by Ivy Crest Drive to the east, an undeveloped parcel of land and Oostdam Drive to the south, a residential development to the north and by South Kirby Drive to the west.

Based on our review of the San Jacinto 7.5-Minute Quadrangle Map (USGS, 2015) and Google Earth (2022), the site is situated at an approximate elevation of 1,525 feet above mean sea level (MSL).

No natural ponding of water or surface seeps were observed at or near the site during our field investigation conducted on January 26, 2022. Site drainage appears to be controlled via sheet flow and surface infiltration.

## GEOLOGIC SETTING

The project site is located in the Peninsular Ranges Physiographic Province of California. The Peninsular Ranges are mountainous areas that extend from the western edge of the continental borderland to the Salton Trough and from the Transverse Ranges Physiographic Province in the north to the tip of Baja California in the south. The Peninsular Ranges Physiographic Province is characterized by northwest-trending topographic and structural features that locally include the San Jacinto Structural Block. The San Jacinto Structural Block is a northwest-southeast trending elongated structural block bounded on the southwest by the San Jacinto Fault and by the San Andreas Fault Zone to the northeast. The province is characterized by elongated, northwest-southeast trending mountain ranges and valleys and is truncated at its northern margin by the east-west grain of the Transverse Ranges. Mountainous areas of the Peninsular Ranges Physiographic Province generally consist of Igneous, metasedimentary and metavolcanic rocks. However, plutonic rocks of the Southern California Batholith are the dominant basement rock exposed.

The site has been mapped by Dibblee (2003) to be immediately underlain by Quaternary-age alluvium (Qa). The geologic setting for the site and site vicinity is illustrated on the Regional Geologic Map (Figure 2).

## SUBSURFACE CONDITIONS

The subsurface conditions at the site were investigated by six (6) exploratory boreholes to depths ranging from approximately 11 and 51 feet bgs. The approximate locations of the boreholes are illustrated on the Borehole Location Plan (Figure 3). The boreholes were advanced using a truck-mounted Mobile B-61 drill-rig equipped with 8-inch outside diameter hollow stem augers. A representative of Sladden was on-site to log the materials encountered and retrieve samples for laboratory testing and engineering analysis.

During our field investigation, a thin mantle of artificial fill/disturbed soil was encountered to a depth of approximately three (3) feet below the existing ground surface. Underlying the fill soil and extending to the maximum depths explored, native alluvium was encountered. The site soil consists primarily of silty sand (SM), clayey sand (SC), sandy silt (ML) and sandy clay (CL). Generally, the native earth materials appeared yellowish brown, grayish brown and olive brown, dry to moist, loose to very dense and fine-to-coarse grained. Cohesive layers appeared grayish brown to olive brown, slightly moist to moist, stiff to very stiff and exhibited low to high plasticity characteristics.

The final logs represent our interpretation of the contents of the field logs, and the results of the laboratory observations and tests of the field samples. The final logs are included in Appendix A of this report. The stratification lines represent the approximate boundaries between soil types although the transitions may be gradual and variable across the site.

Groundwater was not encountered within our exploratory bore holes during our field investigation on January 26, 2022. Accordingly, groundwater should not be a factor during construction of the proposed project.

## SEISMICITY AND FAULTING

The southwestern United States is a tectonically active and structurally complex region, dominated by northwest trending dextral faults. The faults of the region are often part of complex fault systems, composed of numerous subparallel faults which splay or step from main fault traces. Strong seismic shaking could be produced by any of these faults during the design life of the proposed project.

We consider the most significant geologic hazard to the project to be the potential for moderate to strong seismic shaking that is likely to occur during the design life of the project. The proposed project is located in the highly seismic Southern California region within the influence of several fault systems that are considered to be active or potentially active. An active fault is defined by the State of California as a "sufficiently active and well defined fault" that has exhibited surface displacement within the Holocene epoch (about the last 11,000 years). A potentially active fault is defined by the State as a fault with a history of movement within Pleistocene time (between 11,000 and 1.6 million years ago).

The subject site is not located within a State of California Delineated fault zone (Figure 4).

Table 2 lists the closest known potentially active faults that was generated in part using the EQFAULT computer program (Blake, 2000), as modified using the fault parameters from The Revised 2002 California Probabilistic Seismic Hazard Maps (Cao et al, 2003), Southern Earthquake Data Center (SCEDC, 2022), Riverside County (RCMMC, 2022), and the Quaternary Fault and Fold Database of the United States (USGS, 2022). This table does not identify the probability of reactivation or the on-site effects from earthquakes occurring on any of the other faults in the region.

**TABLE 1  
CLOSEST KNOWN ACTIVE FAULTS**

Fault Name	Distance (Km)	Maximum Event
San Jacinto – San Jacinto Valley	2.0	6.9
San Jacinto – Anza	8.7	7.2
San Andreas – Southern	27.7	7.2*
San Andreas – San Bernardino	27.7	7.5*
Elsinore – Temecula	33.7	6.8
San Jacinto – San Bernardino	34.3	6.7
Elsinore – Glen Ivy	36.1	6.8
Pinto Mountain	39.7	7.0

- II. Ground Shaking. The site has been subjected to past ground shaking by faults that traverse the region. Strong seismic shaking from nearby active faults is expected to produce strong seismic shaking during the design life of the proposed project. Based on site-specific ground motion parameters developed for the property (Appendix C), the site modified peak ground acceleration (PGAm) is estimated to be 0.942g.
- III. Liquefaction/Seismic Settlement. Liquefaction is the process in which loose, saturated granular soil loses strength as a result of cyclic loading. The strength loss is a result of a decrease in granular sand volume and a positive increase in pore pressures. Generally, liquefaction can occur if all of the following conditions apply; liquefaction-susceptible soil, groundwater within a depth of 50 feet or less, and strong seismic shaking. The site is located within a "moderate" liquefaction potential zone (RCMMC, 2022). Based on the depth to groundwater within the site vicinity the risks associated with liquefaction are considered "low".
- IV. Tsunamis and Seiches. Because the site is situated at an elevated inland location and is not immediately adjacent to any impounded bodies of water, risk associated with tsunamis and seiches is considered "negligible".
- V. Slope Failure, Landsliding, Rock Falls. The site is located on relatively flat ground and not immediately adjacent to any slopes or hillsides. Therefore, it is our professional opinion that risks associated with slope instability should be considered "negligible".
- VI. Expansive Soil. Generally, the near surface soil consists of silty sand (SM) and sandy silt (ML). Based on the results of our laboratory testing (EI = 26), the materials underlying the site are considered to have a "low" expansion potential. The expansion potential of the surface soil should be reevaluated after grading.
- VII. Static Settlement. Static settlement resulting from the anticipated foundation loads should be tolerable provided that the recommendations included in this report are considered in foundation design and construction. The ultimate static settlement is expected to be less than 1 inch when using the recommended allowable bearing pressures. As a practical matter, differential static settlement between footings can be assumed as one-half of the total settlement.
- VIII. Subsidence. Land subsidence can occur in valleys where aquifer systems have been subjected to extensive groundwater pumping, such that groundwater pumping exceeds groundwater recharge. Generally, pore water reduction can result in a rearrangement of skeletal grains and could result in elastic (recoverable) or inelastic (unrecoverable) deformation of an aquifer system.
- IX. Debris Flows. Debris flows are viscous flows consisting of poorly sorted mixtures of sediment and water and are generally initiated on slopes steeper than approximately six horizontal to one vertical (6H:1V)(Boggs, 2001). Based on the flat nature of the site and the composition of the surface soil, we judge that risks associated with debris flows should be considered remote.

### SITE SPECIFIC GROUND MOTION PARAMETERS

Sladden has reviewed the 2019 California Building Code (CBC) and ASCE7-16 and developed site specific ground motion parameters for the subject site. The project Seismic Design Maps and site-specific ground motion parameters are summarized in the following table and included within Appendix C. The project Structural Engineer should verify that all design parameters provided are applicable for the subject project.

**TABLE 2**  
**GROUND MOTION PARAMETERS**

Latitude / Longitude	33.6357/-117.2918
Risk Category	II
Site Class	D
Code Reference Documents	ASCE 7-16; Chapter 11 & 21

Description	Type	Map Based	Site-Specific
MCE <sub>R</sub> Ground Motion (0.2 second period)	S <sub>S</sub>	2.134	---
MCE <sub>R</sub> Ground Motion (1.0 second period)	S <sub>1</sub>	0.864	---
Site-Modified Spectral Acceleration Value	S <sub>MS</sub>	2.134	<b>2.382</b>
Site-Modified Spectral Acceleration Value	S <sub>M1</sub>	null	<b>2.539</b>
Numeric Seismic Design Value at 0.2 second SA	S <sub>DS</sub>	1.423	<b>1.588</b>
Numeric Seismic Design Value at 1.0 second SA	S <sub>D1</sub>	null	<b>1.693</b>
Site Amplification Factor at 0.2 second	F <sub>a</sub>	1	<b>1</b>
Site Amplification Factor at 1.0 second	F <sub>v</sub>	null	<b>2.5</b>
Site Peak Ground Acceleration	PGA <sub>M</sub>	1.041	<b>0.942</b>

### GEOLOGIC HAZARDS

The subject site is located in an active seismic zone and will likely experience strong seismic shaking during the design life of the proposed project. In general, the intensity of ground shaking will depend on several factors including: the distance to the earthquake focus, the earthquake magnitude, the response characteristics of the underlying materials, and the quality and type of construction. Geologic hazards and their relationship to the site are discussed below.

- I. Surface Rupture. Surface rupture is expected to occur along preexisting, known active fault traces. However, surface rupture could potentially splay or step from known active faults or rupture along unidentified traces. Based on our review of Jennings (1994), CDMG (1980), Dibblee (2003) and RCMMC (2022) known faults are not mapped on the site. In addition, no signs of active surface faulting were observed during our review of non-stereo digitized photographs of the site and site vicinity (Google, 2022). Finally, no signs of active surface fault rupture or secondary seismic effects (lateral spreading, lurching etc.) were identified on-site during our field investigation. Therefore, it is our opinion that risks associated with primary surface ground rupture should be considered "low".



- X. Flooding and Erosion. No signs of flooding or erosion were observed during our field investigation. However, risks associated with flooding and erosion should be evaluated and mitigated by the project design Civil Engineer.

## CONCLUSIONS

Based on the results of our investigation, it is our professional opinion that the project should be feasible from a geotechnical perspective provided that the recommendations included in this report are incorporated into design and carried out through construction. The main geotechnical concerns are the presence of artificial fill soil and the loose and potentially compressible condition of the near surface native soil.

We recommend remedial grading work within the proposed new building areas including over-excavation and re-compaction of the artificial fill soil and the primary foundation bearing soil. Specific recommendations for foundation area preparation are presented in the Earthwork and Grading section of this report.

Caving did occur to varying degrees within each of our exploratory bores and the surface soil may be susceptible to caving within deeper excavations. All excavations should be constructed in accordance with the normal CalOSHA excavation criteria. Based on our observations of the materials encountered, we anticipate that the subsoil will conform to that described by CalOSHA as Type C. Soil conditions should be verified in the field by a "Competent person" employed by the Contractor.

The following recommendations present more detailed design criteria that have been developed based on our field and laboratory investigation.

## EARTHWORK AND GRADING

All earthwork including excavation, backfill and preparation of the primary foundation and/or slab bearing soil should be performed in accordance with the geotechnical recommendations presented in this report and portions of the local regulatory requirements, as applicable. All earthwork should be performed under the observation and testing of a qualified geotechnical consultant. The following geotechnical engineering recommendations for the proposed project are based on observations from the field investigation program, laboratory testing and geotechnical engineering analyses.

- a. Stripping. Areas to be graded should be cleared of any existing shrubs, foundation elements, utilities, vegetation, associated root systems, and debris. All areas scheduled to receive fill should be cleared of old fills and any irreducible matter. The unsuitable material should be removed off site. Voids left by obstructions should be properly backfilled in accordance with the compaction recommendations of this report.

- b. Preparation of New Building Areas: In order to achieve firm and uniform foundation bearing conditions, we recommend over-excavation and re-compaction throughout the proposed new building areas. All low density near surface soil should be removed to a depth of at least 5 feet below existing grade or 3 feet below the bottom of the footings, whichever is deeper. Remedial grading should extend laterally a minimum of five feet beyond the building perimeters. The native soil exposed by over-excavation should be scarified, moisture conditioned to near optimum moisture content and compacted to at least 90 percent relative compaction prior to fill placement. The previously removed soil may then be replaced as engineered fill as recommended below.
  
- c. Compaction: Soil to be used as engineered fill should be free of organic material, debris, and other deleterious substances, and should not contain irreducible matter greater than three inches in maximum dimension. All fill materials should be placed in thin lifts, not exceeding six inches in a loose condition. If import fill is required, the material should be of a low to non-expansive nature and should meet the following criteria:

Plastic Index	Less than 12
Liquid Limit	Less than 35
Percent Soil Passing #200 Sieve	Between 15% and 35%
Maximum Aggregate Size	3 inches

The subgrade and all fill soil should be compacted with acceptable compaction equipment, to at least 90 percent relative compaction. The bottom of the exposed subgrade should be observed by a representative of Sladden Engineering prior to fill placement. Compaction testing should be performed on all lifts in order to ensure proper placement of the fill materials. Table 3 provides a summary of the excavation and compaction recommendations.

**TABLE 3  
SUMMARY OF RECOMMENDATIONS**

*Remedial Grading	Over-excavation and re-compaction within the building envelopes and extending laterally 5 feet beyond the building limits and to a minimum depth of 5 feet below existing grade or 3 feet below the bottom of the footings, whichever is deeper.
Native / Import Engineered Fill	Place in thin lifts not exceeding 6 inches in a loose condition, at near optimum moisture content and compact to a minimum of 90 percent relative compaction.
Asphalt Concrete Sections	Compact the top 12 inches to at least 95 percent compaction at near optimum moisture content.

\*Actual depth may vary and should be determined by a representative of Sladden Engineering in the field during construction.

- d. Shrinkage and Subsidence: Volumetric shrinkage of the material that is excavated and replaced as controlled compacted fill should be anticipated. We estimate that this shrinkage should be between 10 and 15 percent. Subsidence of the surfaces that are scarified and compacted should be between 1 tenth and 2 tenths of a foot. This will vary depending upon the type of equipment used, the moisture content of the soil at the time of grading and the actual degree of compaction attained.

### CONVENTIONAL SHALLOW SPREAD FOOTINGS

Conventional spread footings are expected to provide adequate support for the proposed residential structures. All footings should be founded upon properly compacted engineered fill soil and should have a minimum embedment depth of 12 inches measured from the lowest adjacent finished grade. Continuous and isolated footings should have minimum widths of 12 inches and 24 inches, respectively. Continuous and isolated footings supported upon properly compacted engineered fill soil may be designed using allowable (net) bearing pressures of 1800 and 2000 pounds per square foot (psf), respectively. Allowable increases of 200 psf for each additional 1 foot of width and 250 psf for each additional 6 inches of depth may be used if desired. The maximum allowable bearing pressure should be 2500 psf. The allowable bearing pressures apply to combined dead and sustained live loads. The allowable bearing pressures may be increased by one-third when considering transient live loads, including seismic and wind forces.

Based on the recommended allowable bearing pressures, the total static settlement of the shallow spread footings is anticipated to be less than one-inch provided foundation area preparation conforms to the recommendations included in this report. Static differential settlement is anticipated to be approximately one-half of the total static settlement for similarly loaded footings spaced up to approximately 40 feet apart.

Lateral load resistance for the shallow spread footings will be developed by passive pressure against the sides of the footings below grade and by friction acting at the base of the footings. An allowable passive pressure of 250 psf per foot of depth may be used for design purposes. An allowable coefficient of friction 0.40 may be used for dead and sustained live loads to compute the frictional resistance of the footing placed directly on compacted fill. Under seismic and wind loading conditions, the passive pressure and frictional resistance may be increased by one-third.

All footing excavations should be observed by a representative of the project geotechnical consultant to verify adequate embedment depths prior to placement of forms, steel reinforcement or concrete. The excavations should be trimmed neat, level and square. All loose, disturbed, sloughed or moisture-softened soils and/or any construction debris should be removed prior to concrete placement. Excavated soil generated from footing and/or utility trenches should not be stockpiled within the building envelope or in areas of exterior concrete flatwork. All footings should be reinforced in accordance with the project Structural Engineer's recommendations.

## SLABS-ON-GRADE

In order to provide uniform and adequate support, concrete slabs-on-grade must be placed on properly compacted engineered fill soil as outlined in the previous sections of this report. The slab subgrade should remain near optimum moisture content and should not be permitted to dry prior to concrete placement. Slab subgrade should be firm and unyielding. Disturbed soil should be removed and replaced with engineered fill soil compacted to a minimum of 90 percent relative compaction.

Slab thickness and reinforcement should be determined by the Structural Engineer. We recommend a minimum slab thickness of 4.0 inches and minimum reinforcement of #3 bars at 18 inches on center in both directions. All slab reinforcement should be supported on concrete chairs to ensure that reinforcement is placed at slab mid-height. Final floor slab design and reinforcement should be determined by the Structural Engineer based upon post-grading expansion index test results.

Slabs with moisture sensitive surfaces should be underlain with a moisture vapor retarder consisting of a polyvinyl chloride membrane such as 10-mil visqueen, or equivalent. All laps within the membrane should be sealed and at least 2 inches of clean sand should be placed over the membrane to promote uniform curing of the concrete. To reduce the potential for punctures, the membrane should be placed on a pad surface that has been graded smooth without any sharp protrusions. If a smooth surface can not be achieved by grading, consideration should be given to placing a 1-inch thick leveling course of sand across the pad surface prior to placement of the membrane.

## RETAINING WALLS

Minor retaining walls may be required to accomplish the proposed construction. Cantilever retaining walls may be designed using "active" pressures. Active pressures may be estimated using an equivalent fluid weight of 35 pcf for level native backfill soil acting in a triangular pressure distribution with drained backfill conditions. "At Rest" pressures should be utilized for restrained walls. "At rest" pressures may be estimated using an equivalent fluid weight of 55 pcf for native backfill soil with level drained backfill conditions.

## CORROSION SERIES

The soluble sulfate concentrations of the surface soil were determined to be 40 parts per million (ppm) (S1 Condition). The soil is considered to have a "negligible" corrosion potential with respect to concrete. The use of Type V cement and special sulfate resistant concrete mixes should not be necessary. The soluble sulfate content of the surface soil should be reevaluated after grading and appropriate concrete mix designs should be established based upon post-grading test results.

The pH levels of the surface soil was 7.8. Based on soluble chloride concentration testing (90 ppm) the soil is considered to have a "negligible" corrosion potential with respect to normal grade steel. The minimum resistivity of the surface soil was found to be 1,100 ohm-cm, that suggests the site soil is considered to have a "moderate" corrosion potential with respect to ferrous metal installations.

### UTILITY TRENCH BACKFILL

All utility trench backfill should be compacted to a minimum of 90 percent relative compaction. Trench backfill materials should be placed in lifts no greater than six inches in a loose condition, moisture conditioned (or air-dried) as necessary to achieve near optimum moisture content, and mechanically compacted to a minimum of 90 percent relative compaction. A representative of the project soil engineer should test the backfill to verify adequate compaction.

### EXTERIOR CONCRETE FLATWORK

In order to provide uniform support and minimize settlement related cracking of concrete flatwork, the subgrade soil within concrete flatwork areas should be compacted to a minimum of 90 percent relative compaction. A representative of the project geotechnical consultant should observe and verify the density and moisture content of the soil prior to concrete placement.

### DRAINAGE

All final grades should be provided with positive gradients away from foundations to provide rapid removal of surface water runoff to an adequate discharge point. No water should be allowed to be pond on or immediately adjacent to foundation elements. In order to reduce water infiltration into the subgrade soil, surface water should be directed away from building foundations to an adequate discharge point. Subgrade drainage should be evaluated upon completion of the precise grading plans and in the field during grading.

### LIMITATIONS

The findings and recommendations presented in this report are based upon an interpolation of the soil conditions between the exploratory bore locations and extrapolation of these conditions throughout the proposed building areas. Should conditions encountered during grading appear different than those indicated in this report, this office should be notified.

The use of this report by other parties or for other projects is not authorized. The recommendations of this report are contingent upon monitoring of the grading operation by a representative of Sladden Engineering. All recommendations are considered to be tentative pending our review of the grading operation and additional testing, if indicated. If others are employed to perform any soil testing, this office should be notified prior to such testing in order to coordinate any required site visits by our representative and to assure indemnification of Sladden Engineering.

We recommend that a pre-job conference be held on the site prior to the initiation of site grading. The purpose of this meeting will be to ensure a complete understanding of the recommendations presented in this report as they apply to the actual grading performed.

### ADDITIONAL SERVICES

Once completed, final project plans and specifications should be reviewed by use prior to construction to confirm that the full intent of the recommendations presented herein have been applied to design and construction. Following review of plans and specifications, observation should be performed by the Soil Engineer during construction to document that foundation elements are founded on/or extend into the properly compacted soil, and that suitable backfill soil is placed upon competent materials and properly compacted at the recommended moisture content.

Tests and observations should be performed during grading by the Soil Engineer or his representative in order to verify that the grading is being performed in accordance with the project specifications. Field density testing shall be performed in accordance with acceptable ASTM test methods. The minimum acceptable degree of compaction should be 90 percent for engineered fill soil and 95 percent for Class II aggregate base as obtained by ASTM Test Method D1557. Where testing indicates insufficient density, additional compactive effort shall be applied until retesting indicates satisfactory compaction.

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(Continue

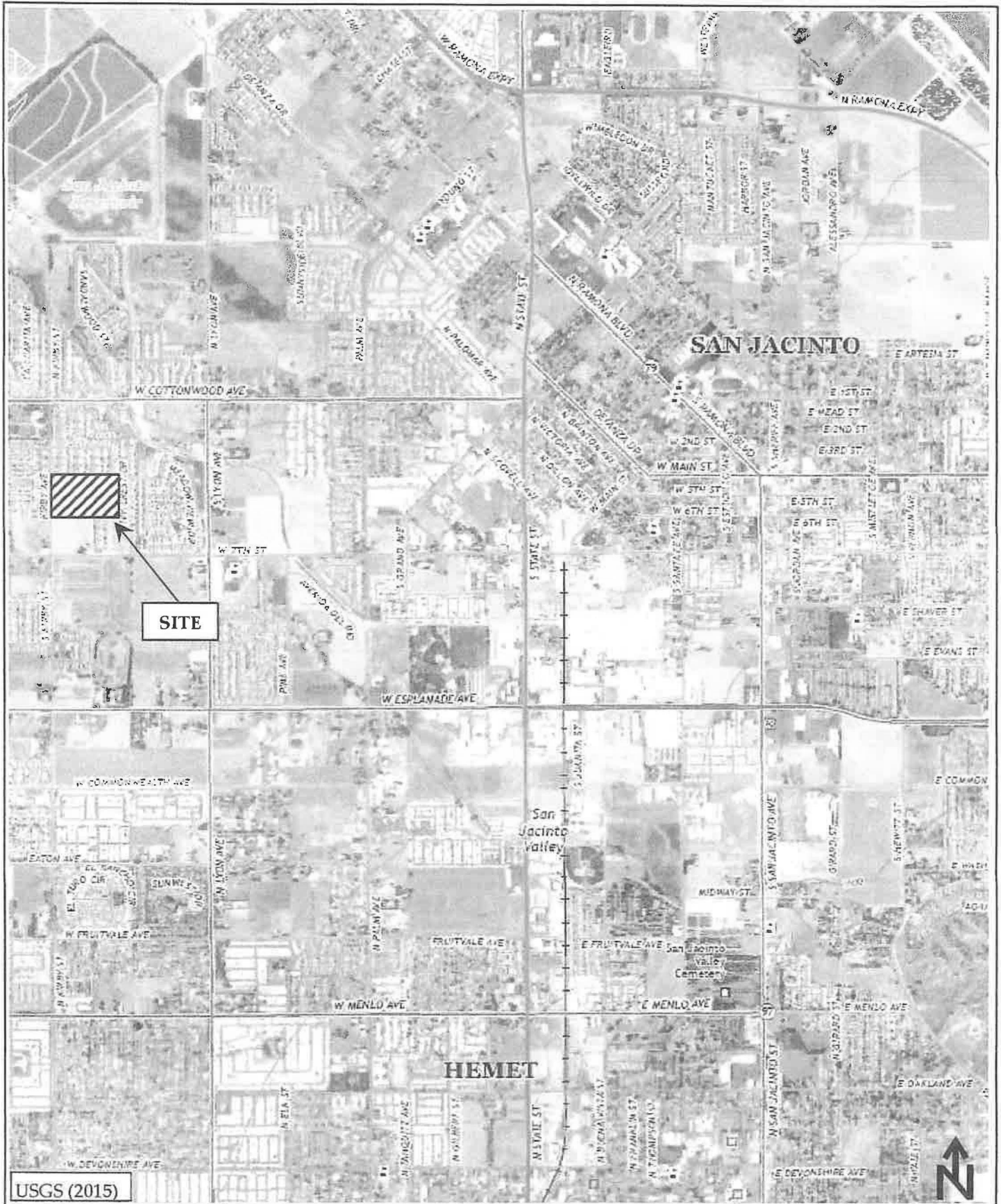
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**FIGURES**

SITE LOCATION MAP  
REGIONAL GEOLOGIC MAP  
BOREHOLE LOCATION PLAN  
FAULT ZONE MAP



USGS (2015)



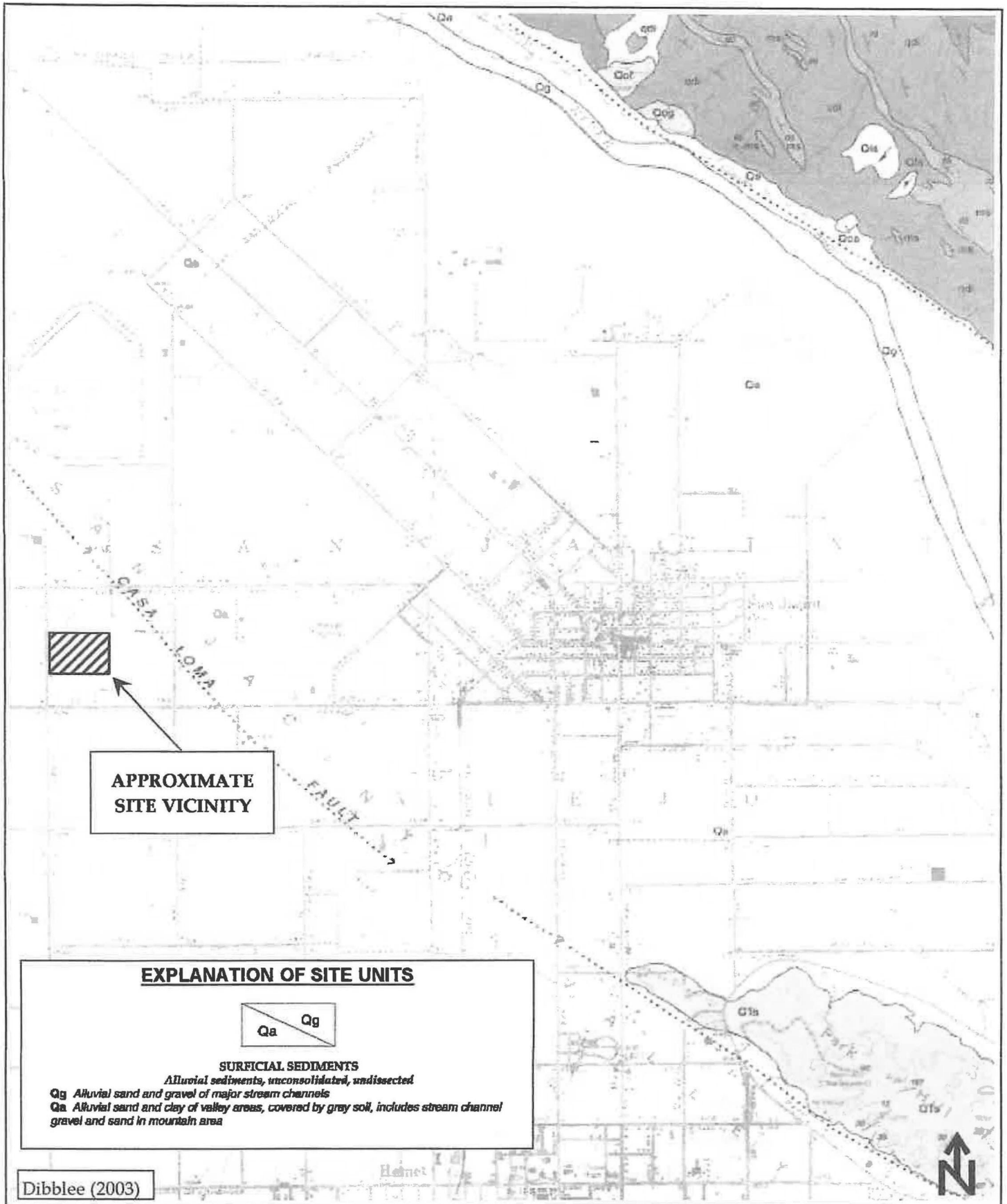
Sladden Engineering

## SITE LOCATION MAP

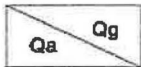
Project Number:	644-22003
Report Number:	22-02-022
Date:	February 14, 2022

FIGURE

1



**EXPLANATION OF SITE UNITS**



**SURFICIAL SEDIMENTS**

*Alluvial sediments, unconsolidated, undissected*

**Qg** *Alluvial sand and gravel of major stream channels*

**Qa** *Alluvial sand and clay of valley areas, covered by gray soil, includes stream channel gravel and sand in mountain area*

Dibblee (2003)



Sladden Engineering

**REGIONAL GEOLOGIC MAP**

Project Number:

644-22003

Report Number:

22-02-022

Date:

February 14, 2022

FIGURE

2

**EXPLANATION OF MAP SYMBOLS**

⊕ BH-6 Approximate Exploratory Borehole Location

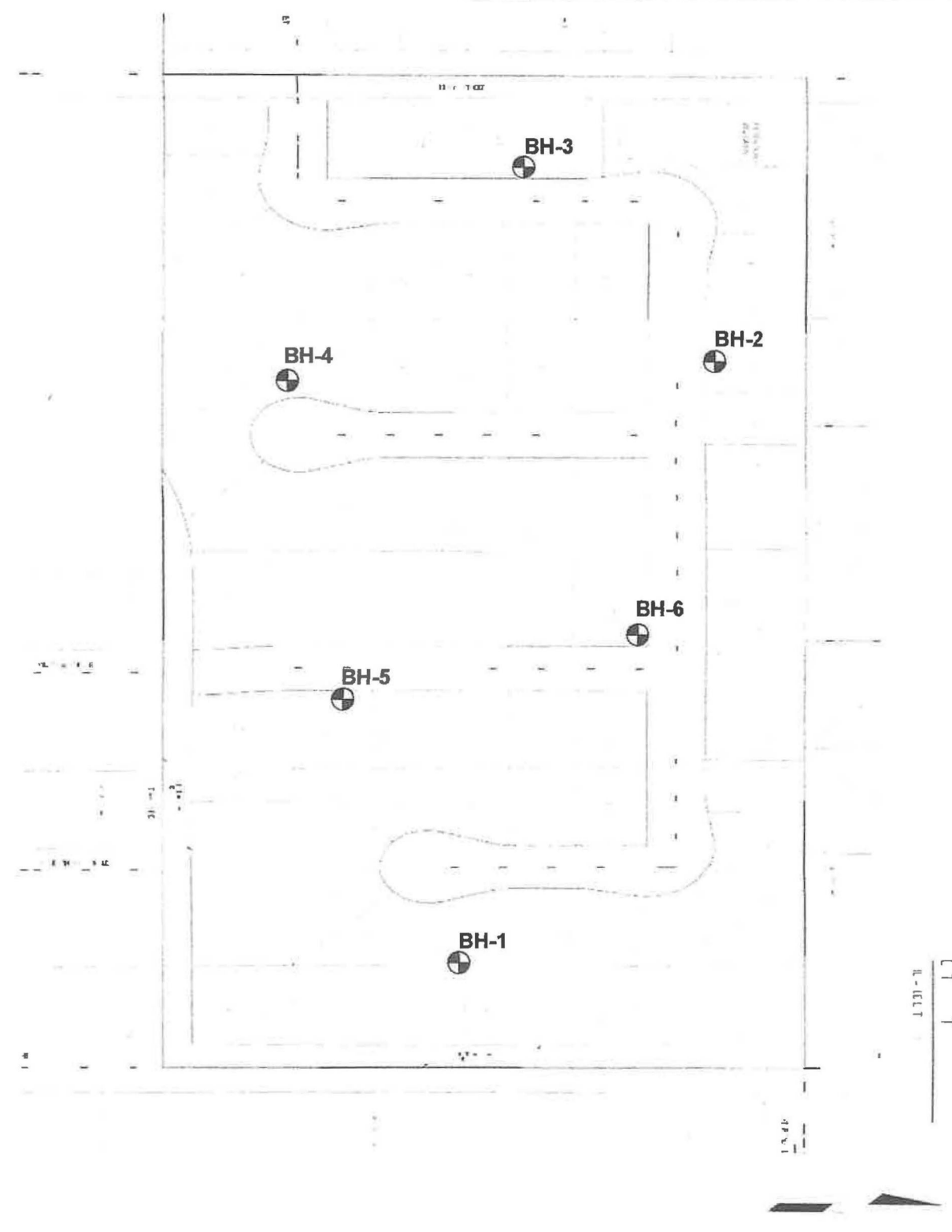
**DIG ALERT**

NO EXCAVATION OR DRILLING PERMITTED

DATE	TIME	LOCATION	REMARKS

BLANE & WINTER  
ENGINEERING

TUESDAY



**BOREHOLE LOCATION PLAN**

**FIGURE**

**3**

Project Number:

644-22003

Report Number:

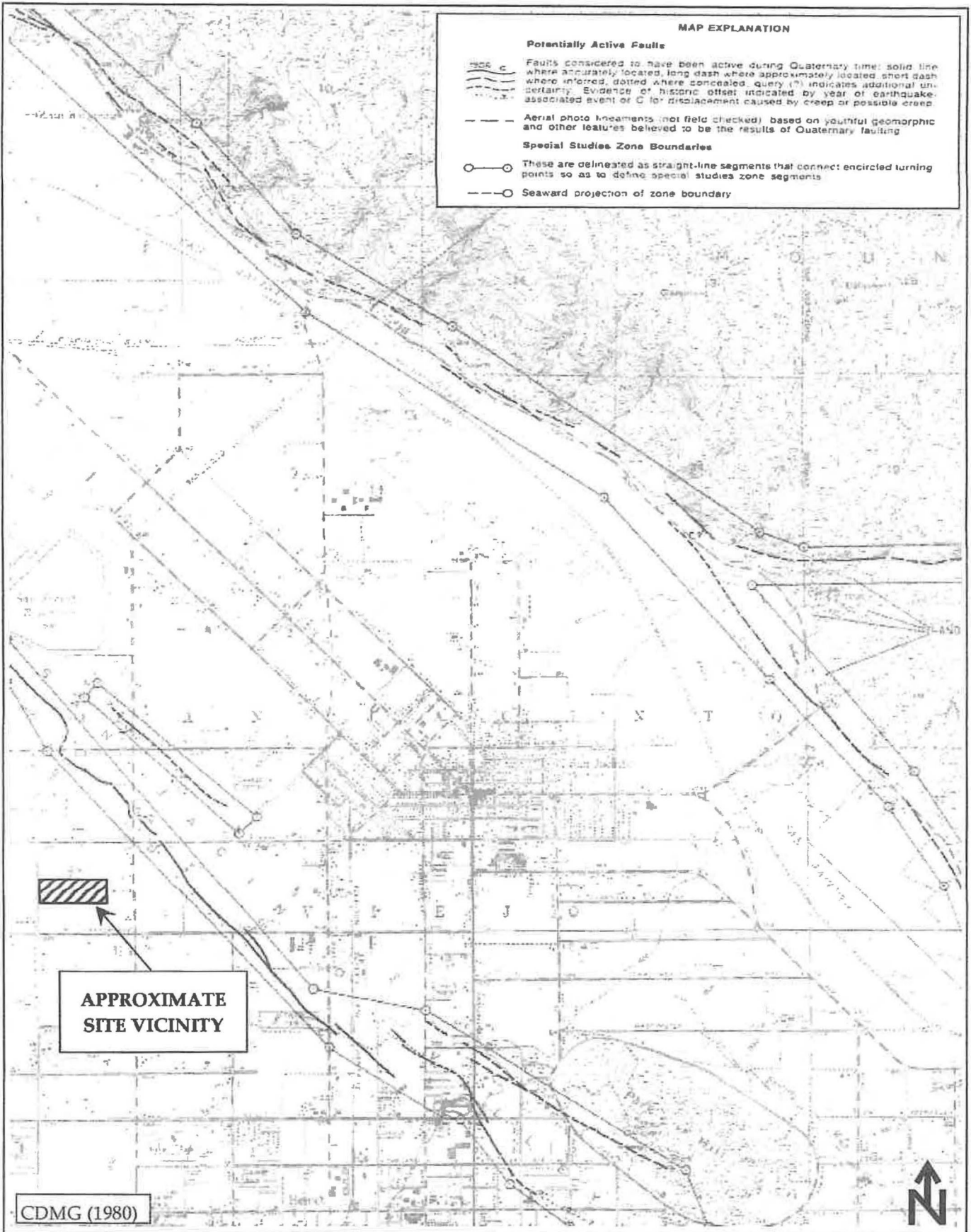
22-02-022

Date:

February 14, 2022



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## FAULT ZONE MAP

FIGURE



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Project Number:	644-22003
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Date:	February 14, 2022

4

**APPENDIX A**  
**FIELD EXPLORATION**

## APPENDIX A

### FIELD EXPLORATION

For our field investigation six (6) exploratory boreholes were excavated January 26, 2022 utilizing a truck mounted hollow stem auger rig (Mobile B-61). Continuous logs of the materials encountered were made by a representative of Sladden Engineering. Materials encountered in the boreholes were classified in accordance with the Unified Soil Classification System which is presented in this appendix.

Representative undisturbed samples were obtained within our borings by driving a thin-walled steel penetration sampler (California split spoon sampler) or a Standard Penetration Test (SPT) sampler with a 140 pound automatic-trip hammer dropping approximately 30 inches (ASTM D1586). The number of blows required to drive the samplers 18 inches was recorded in 6-inch increments and blowcounts are indicated on the boring logs.

The California samplers are 3.0 inches in diameter, carrying brass sample rings having inner diameters of 2.5 inches. The standard penetration samplers are 2.0 inches in diameter with an inner diameter of 1.5 inches. Undisturbed samples were removed from the sampler and placed in moisture sealed containers in order to preserve the natural soil moisture content. Bulk samples were obtained from the excavation spoils and samples were then transported to our laboratory for further observations and testing.

**SLADDEN ENGINEERING****BORE LOG**

Drill Rig:	Mobile B-51	Date Drilled:	1/26/2022
Elevation:	1525 Ft (MSL)	Boring No:	BH-1

Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Dry Density	Depth (Feet)	Graphic Lithology	Description
	5/7/11	1	26	60.0	4.7	98.7	2		Sandy Silt (ML); grayish brown, slightly moist, stiff, low plasticity, micaceous with trace gravel (Fill/Disturbed).
	7/9/11			19.7	1.7	104.7	4		Silty Sand (SM); grayish brown, slightly moist, medium dense, fine-grained, micaceous with trace gravel (Qa).
						6			
	4/4/4			24.8	3.4		10		
							12		
	5/8/8			3.3	1.1	97.5	14		
							16		Poorly-Graded Sand (SP); light yellowish brown, slightly moist, loose, fine-to-coarse grained (Qa).
						18			
	3/4/5			59.7	13.4		20		Sandy Silt (ML); grayish brown, moist, stiff, low plasticity, micaceous with clay (Qa).
							22		
	5/12/17			38.0	12.1	106.3	24		
							26		Silty Sand (SM); grayish brown, moist, medium dense, fine-grained, micaceous with clay (Qa).
						28			
	6/11/11			8.2	4.6		30		
							32		Poorly-Graded Sand (SP); light yellowish brown, slightly moist, medium dense, fine-to-coarse grained (Qa).
						34			
	10/16/21			4.3	2.7	99.9	36		
							38		Poorly-Graded Sand (SP); light yellowish brown, slightly moist, medium dense, fine-to-coarse grained (Qa).
						40			
	10/11/16			37.4	10.2		42		Clayey Sand (SC); olive brown, slightly moist to moist, medium dense, fine- to coarse-grained with gravel (Qa).
							44		
	16/22/33			6.3	3.2	113.5	46		Well-Graded Gravelly Sand (SW); yellowish brown, slightly moist, dense, fine-to-coarse grained (Qa).
							48		
	12/17/20			3.2	1.9		50		Well-Graded Gravelly Sand (SW); yellowish brown, slightly moist, dense, fine-to-coarse grained (Qa).

**Completion Notes:**

Terminated at -51.5 Feet bgs.  
 No Bedrock Encountered.  
 No Grounwater or Seepage Encountered.

**PROPOSED RESIDENTIAL DEVELOPMENT**

APN 436-490-011

Project No: 644-22003

Report No: 232-02-022

Page

1





**BORE LOG**

Drill Rig:	Mobile B-51	Date Drilled:	1/26/2022
Elevation:	1525 Ft (MSL)	Boring No:	BH-2

Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Dry Density	Depth (Feet)	Graphic Lithology	Description
							2		Sandy Silt (ML); grayish brown, slightly moist, low plasticity, micaceous with trace gravel (Fill/Disturbed).
	2/2/3			43.7	6.9		4		Silty Sand (SM); grayish brown, slightly moist, loose, fine-grained, micaceous with trace gravel (Qa).
						6			
	4/6/6			15.7	4.0	98.3	10		Silty Sand (SM); grayish brown, slightly moist, loose, fine-grained, micaceous with trace gravel (Qa).
						12			
	3/4/4			3.0	1.7		14		Poorly-Graded Sand (SP); light yellowish brown, slightly moist, loose, fine-to-coarse grained with gravel (Qa).
						16			
	3/5/6			86.6	32.9	90.9	20		Sandy Clay (CH/CL); olive brown, very moist, medium stiff, high plasticity (Qa).
						22			
	11/12/15			22.6	9.1		24		Clayey Sand (SC); olive brown, moist, medium dense, fine- to coarse-grained with gravel (Qa).
						26			
	9/12/17			2.3	1.3	97.8	30		Poorly-Graded Sand (SP); light yellowish brown, slightly moist, medium dense, fine-to-coarse grained (Qa).
						32			
	4/5/7			69.8	22.2		34		Sandy Clay (CH/CL); olive brown, very moist, medium stiff, high plasticity (Qa).
						36			
	7/10/12			46.2	16.1	116.0	40		Clayey Sand (SC); olive brown, moist, medium dense, fine- to coarse-grained with gravel (Qa).
						42			
	6/8/10			38.1	11.6		44		Clayey Sand (SC); olive brown, moist, medium dense, fine- to coarse-grained with gravel (Qa).
						46			
	14/19/26			21.5	6.6	111.1	50		Clayey Sand (SC); olive brown, slightly moist, medium dense, fine- to coarse-grained with gravel (Qa).

Completion Notes:  
 Terminated at ~51.5 Feet bgs.  
 No Bedrock Encountered.  
 No Grounwater or Seepage Encountered.

PROPOSED RESIDENTIAL DEVELOPMENT  
 APN 436-490-011



**BORE LOG**

Drill Rig:	Mobile B-51	Date Drilled:	1/26/2022
Elevation:	1525 Ft (MSL)	Boring No:	BH-3

Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Dry Density	Depth (Feet)	Graphic Lithology	Description
							2		Sandy Silt (ML); grayish brown, slightly moist, low plasticity, micaceous with trace gravel (Fill/Disturbed).
	4/6/7			58.1	4.8	91.0	4		Sandy Silt (ML); grayish brown, slightly moist, medium stiff, low plasticity, micaceous with trace gravel (Qa).
							6		
	3/3/3			32.6	7.4		10		Silty Sand (SM); grayish brown, slightly moist to moist, loose, fine-grained, micaceous with trace gravel (Qa).
							12		
	4/6/10			38.7	8.1	93.8	14		Silty Sand (SM); grayish brown, slightly moist to moist, loose, fine-grained, micaceous with trace gravel (Qa).
							16		
	3/5/6			73.5	24.6		20		Sandy Clay (CL); olive brown, very moist, stiff, high plasticity (Qa).
							22		<p>Terminated at -21.5 Feet bgs.            No Bedrock Encountered.            No Groundwater or Seepage Encountered.</p>
							24		
							26		
							28		
							30		
							32		
							34		
							36		
							38		
							40		
							42		
							44		
							46		
							48		
							50		



**BORE LOG**

Drill Rig:	Mobile B-51	Date Drilled:	1/26/2022
Elevation:	1525 Ft (MSL)	Boring No:	BH-4

Sample	Blow Counts	Bulk Sample	Expansion Index	% Mirus #200	% Moisture	Dry Density	Depth (Feet)	Graphic Lithology	Description
							2		Sandy Silt (ML); grayish brown, slightly moist, low plasticity, micaceous with trace gravel (Fill/Disturbed).
	5/7/10			80.7	4.6	92.5	4		Sandy Silt (ML); grayish brown, slightly moist, stiff, low plasticity, micaceous with trace gravel (Qa).
							6		
	4/4/5			46.6	7.2		10		Silty Sand (SM); grayish brown, slightly moist to moist, loose, fine-grained, micaceous with trace gravel (Qa).
							12		Poorly-Graded Sand (SP); light yellowish brown, slightly moist, loose, fine-to-coarse grained (Qa).
	4/7/8			3.3	1.1	101.9	14		
							16		
							18		<p>Terminated at ~16.5 Feet bgs.            No Bedrock Encountered.            No Groundwater or Seepage Encountered.</p>
							20		
							22		
							24		
							26		
							28		
							30		
							32		
							34		
							36		
							38		
							40		
							42		
							44		
							46		
							48		
							50		

Completion Notes:

PROPOSED RESIDENTIAL DEVELOPMENT  
APN 436-490-011

Project No:	644-22003
Report No:	232-02-022



**BORE LOG**

Drill Rig:	Mobile B-51	Date Drilled:	1/26/2022
Elevation:	1525 Ft (MSL)	Boring No:	BH-5

Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Dry Density	Depth (Feet)	Graphic Lithology	Description
							2		Sandy Silt (ML); grayish brown, slightly moist, low plasticity, micaceous with trace gravel (Fill/Disturbed).
	3/3/4			44.1	4.8		4		Silty Sand (SM); grayish brown, slightly moist, loose, fine-grained, micaceous with trace gravel (Qa).
	4/6/7			39.0	7.1	103.6	6		
							8		
	3/3/4			3.4	2.1		10		Silty Sand (SM); grayish brown, slightly moist to moist, loose, fine-grained, micaceous with trace gravel (Qa).
							12		Poorly-Graded Sand (SP); light yellowish brown, slightly moist, loose, fine-to-coarse grained (Qa).
							14		
	8/9/9			54.7	14.3	86.7	16		Sandy Silt (ML); grayish brown, moist, stiff, low plasticity, micaceous with clay (Qa).
							18		<p>Terminated at ~21.5 Feet bgs.                      No Bedrock Encountered.                      No Groundwater or Seepage Encountered.</p>
							20		
							22		
							24		
							26		
							28		
							30		
							32		
							34		
							36		
							38		
							40		
							42		
							44		
							46		
							48		
							50		

Completion Notes:

PROPOSED RESIDENTIAL DEVELOPMENT  
 APN 436-490-011

Project No: 644-22003  
 Report No: 232-02-022



**BORE LOG**

Drill Rig:	Mobile B-51	Date Drilled:	1/26/2022
Elevation:	1525 Ft (MSL)	Boring No:	BH-6

Sample	Blow Counts	Bulk Sample	Expansion Index	% Minus #200	% Moisture	Dry Density	Depth (Feet)	Graphic Lithology	Description
							2		Sandy Silt (ML); grayish brown, slightly moist, low plasticity, micaceous with trace gravel (Fill/Disturbed).
	5/7/11			59.3	5.0	97.4	4		Sandy Silt (ML); grayish brown, slightly moist, stiff, low plasticity, micaceous with trace gravel (Qa).
							6		
	3/3/3			23.4	2.9		10		Silty Sand (SM); grayish brown, slightly moist, loose, fine-grained, micaceous with trace gravel (Qa).
							12		<p>Terminated at ~11.5 Feet bgs.            No Bedrock Encountered.            No Groundwater or Seepage Encountered.</p>
							14		
							16		
							18		
							20		
							22		
							24		
							26		
							28		
							30		
							32		
							34		
							36		
							38		
							40		
							42		
							44		
							46		
							48		
							50		

Completion Notes:

PROPOSED RESIDENTIAL DEVELOPMENT  
APN 436-490-011

Project No:	644-22003
Report No:	232-02-022

**APPENDIX B**  
**LABORATORY TESTING**

## APPENDIX B

### LABORATORY TESTING

Representative bulk and relatively undisturbed soil samples were obtained in the field and returned to our laboratory for additional observations and testing. Laboratory testing was generally performed in two phases. The first phase consisted of testing in order to determine the compaction of the existing natural soil and the general engineering classifications of the soils underlying the site. This testing was performed in order to estimate the engineering characteristics of the soil and to serve as a basis for selecting samples for the second phase of testing. The second phase consisted of soil mechanics testing. This testing including consolidation, shear strength and expansion testing was performed in order to provide a means of developing specific design recommendations based on the mechanical properties of the soil.

### CLASSIFICATION AND COMPACTION TESTING

**Unit Weight and Moisture Content Determinations:** Each undisturbed sample was weighed and measured in order to determine its unit weight. A small portion of each sample was then subjected to testing in order to determine its moisture content. This was used in order to determine the dry density of the soil in its natural condition. The results of this testing are shown on the Boring Logs.

**Maximum Density-Optimum Moisture Determinations:** Representative soil types were selected for maximum density determinations. This testing was performed in accordance with the ASTM Standard D1557-91, Test Method A. Graphic representations of the results of this testing are presented in this appendix. The maximum densities are compared to the field densities of the soil in order to determine the existing relative compaction to the soil.

**Classification Testing:** Soil samples were selected for classification testing. This testing consists of mechanical grain size analyses. This provides information for developing classifications for the soil in accordance with the Unified Soil Classification System which is presented in the preceding appendix. This classification system categorizes the soil into groups having similar engineering characteristics. The results of this testing is very useful in detecting variations in the soil and in selecting samples for further testing.

### SOIL MECHANIC'S TESTING

**Expansion Testing:** One (1) bulk sample was selected for Expansion testing. Expansion testing was performed in accordance with the UBC Standard 18-2. This testing consists of remolding 4-inch diameter by 1-inch thick test specimens to a moisture content and dry density corresponding to approximately 50 percent saturation. The samples are subjected to a surcharge of 144 pounds per square foot and allowed to reach equilibrium. At that point the specimens are inundated with distilled water. The linear expansion is then measured until complete.

**Direct Shear Testing:** One (1) bulk sample was selected for Direct Shear testing. This test measures the shear strength of the soil under various normal pressures and is used to develop parameters for foundation design and lateral design. Tests were performed using a recompacted test specimen that was saturated prior to tests. Tests were performed using a strain controlled test apparatus with normal pressures ranging from 800 to 2300 pounds per square foot.

**Consolidation/Hydro-Collapse Testing:** Two (2) relatively undisturbed samples were selected for consolidation testing. For this test, a one-inch thick test specimen was subjected to vertical loads varying from 575 psf to 11520 psf applied progressively. The consolidation at each load increment was recorded prior to placement of each subsequent load.

**Corrosion Series Testing:** The soluble sulfate concentrations of the surface soil were determined in accordance with California Test Method Number (CA) 417. The pH and Minimum Resistivity were determined in accordance with CA 643. The soluble chloride concentrations were determined in accordance with CA 422.





# Sladden Engineering

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## Maximum Density/Optimum Moisture

ASTM D698/D1557

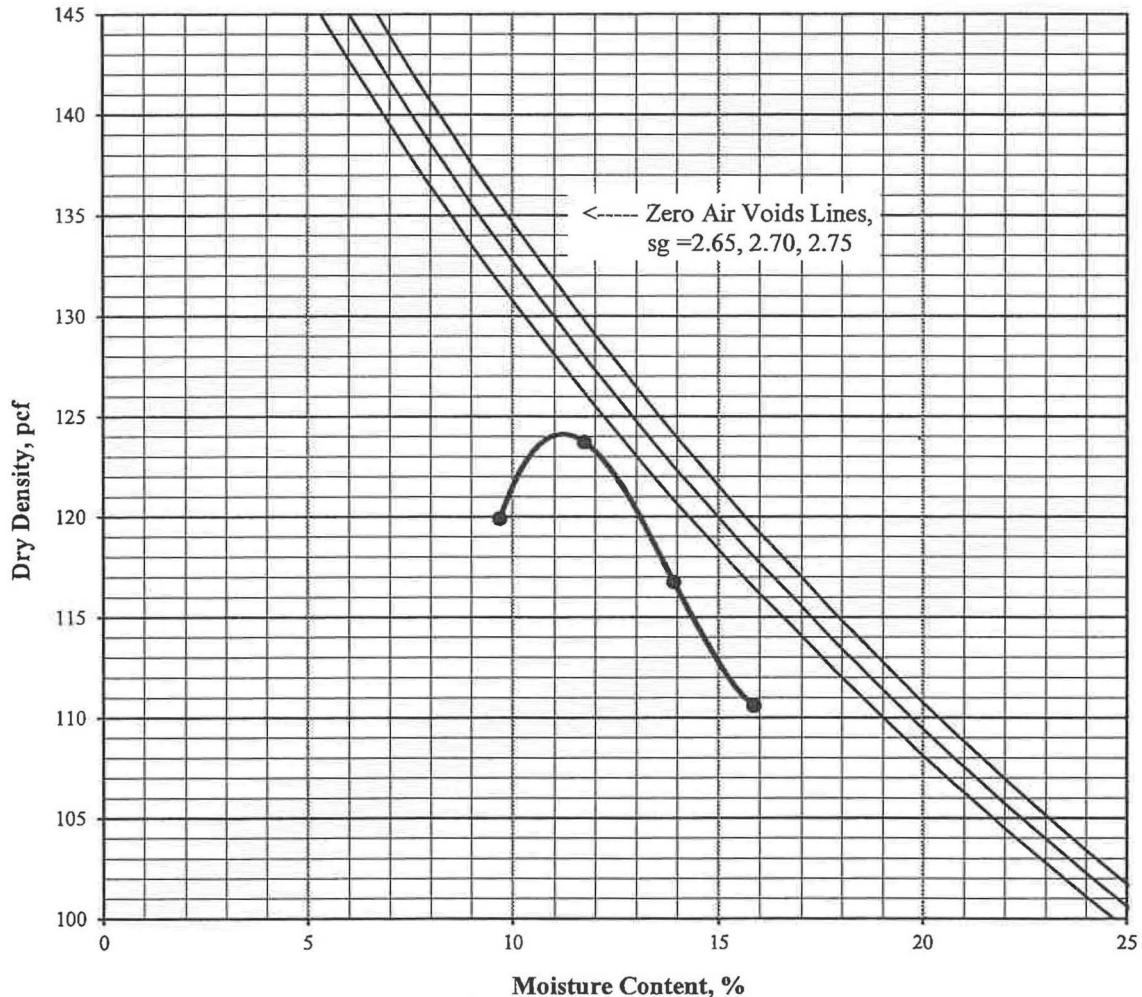
Project Number: 644-22003  
Project Name: 393 South Kirby Street  
Lab ID Number: LN6-22044  
Sample Location: BH-1 Bulk 1 @ 0-5'  
Description: Olive Brown Silty Sand (SM)

February 18, 2022

ASTM D-1557 A  
Rammer Type: Machine

Maximum Density: 124 pcf  
Optimum Moisture: 12%

Sieve Size	% Retained
3/4"	
3/8"	
#4	0.1





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## Expansion Index

ASTM D 4829

Job Number: 644-22003  
 Job Name: 393 South Kirby Street  
 Lab ID Number: LN6-22044  
 Sample ID: BH-1 Bulk 1 @ 0-5'  
 Soil Description: Olive Brown Silty Sand (SM)

February 18, 2022

Wt of Soil + Ring:	576.5
Weight of Ring:	194.8
Wt of Wet Soil:	381.7
Percent Moisture:	9.0%
Sample Height, in	0.95
Wet Density, pcf:	122.1
Dry Denstiy, pcf:	112.1

<b>% Saturation:</b>	48.2
----------------------	------

### Expansion

**Rack # 3**

Date/Time	2/16/2022	3:25 PM
Initial Reading	0.0000	
Final Reading	0.0259	

### Expansion Index

26

(Final - Initial) x 1000



# Sladden Engineering

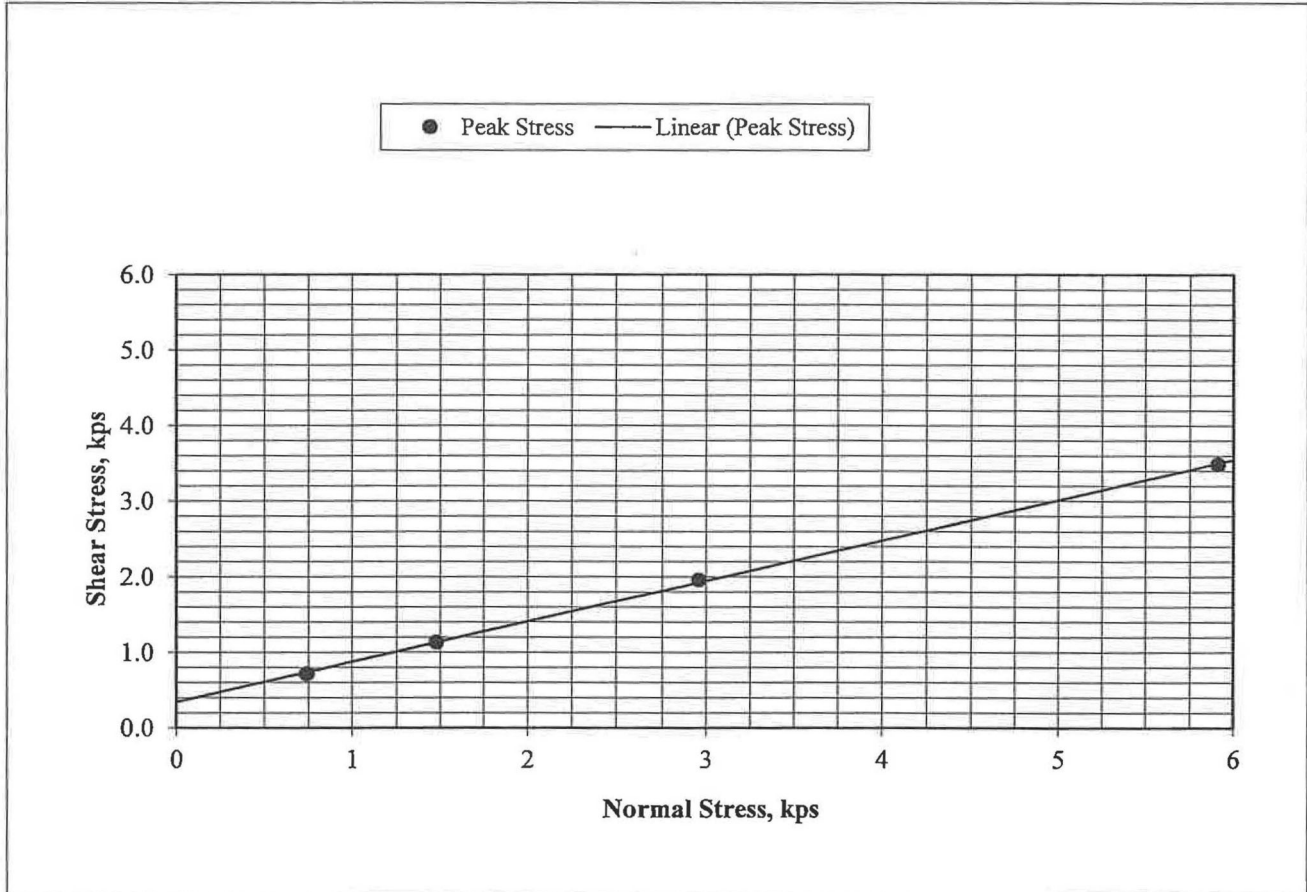
450 Egan Avenue, Beaumont, CA 92223 (951) 845-7743 Fax (951) 845-8863

## Direct Shear ASTM D 3080-04 (modified for unconsolidated condition)

Job Number: 644-22003  
Job Name 393 South Kirby Street  
Lab ID No. LN6-22044  
Sample ID BH-1 Bulk 1 @ 0-5'  
Classification Olive Brown Silty Sand (SM)  
Sample Type Remolded @ 90% of Maximum Density

February 18, 2022  
Initial Dry Density: 111.3 pcf  
Initial Moisture Content: 12.0 %  
Peak Friction Angle ( $\phi$ ): 28°  
Cohesion (c): 340 psf

Test Results	1	2	3	4	Average
Moisture Content, %	19.0	19.0	19.0	19.0	19.0
Saturation, %	100.0	100.0	100.0	100.0	100.0
Normal Stress, kps	0.739	1.479	2.958	5.916	
Peak Stress, kps	0.719	1.134	1.962	3.488	



Job Number: 644-22003  
Job Name: 393 South Kirby Street  
Date: 2/18/2022

Moisture Adjustment  
Wt of Soil: 1,000  
Moist As Is: 5.5  
Moist Wanted: 12.0

Remolded Shear Weight  
Max Dry Density: 124.0  
Optimum Moisture: 12.0

ml of Water to Add: 61.6

Wt Soil per Ring, g: 150.3

UBC



# Sladden Engineering

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## Gradation

ASTM C117 & C136

Project Number: 644-22003

February 18, 2022

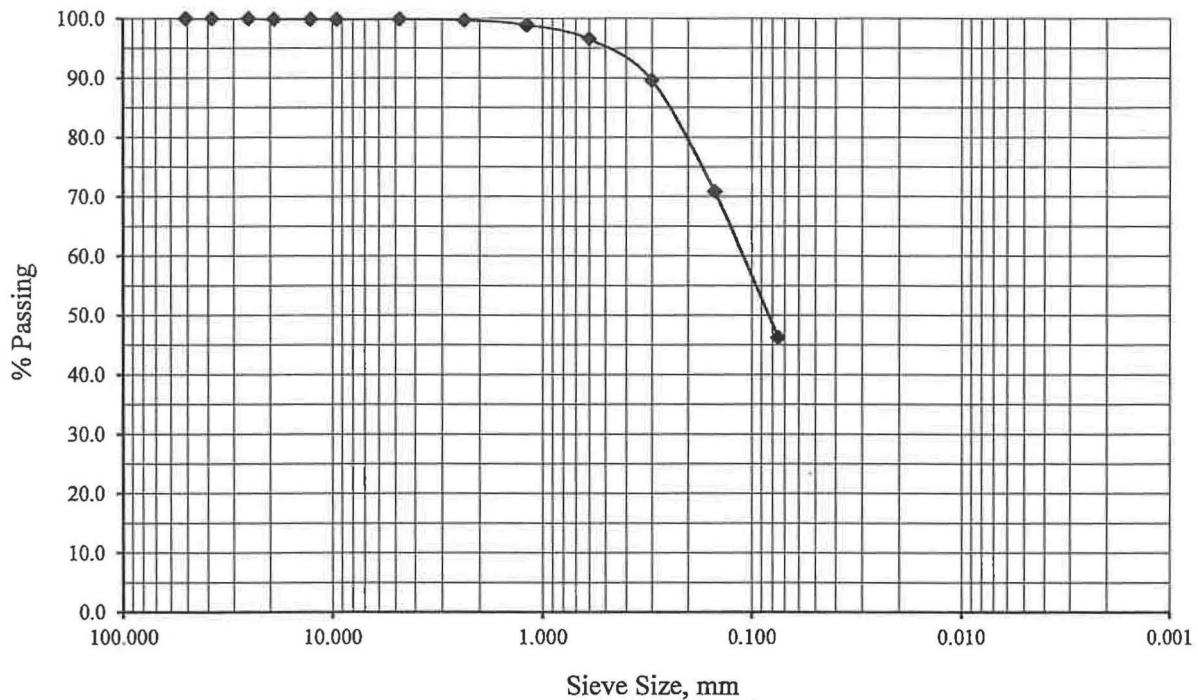
Project Name: 393 South Kirby Street

Lab ID Number: LN6-22044

Sample ID: BH-1 Bulk 1 @ 0-5'

Soil Classification: SM

Sieve Size, in	Sieve Size, mm	Percent Passing
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	100.0
3/4"	19.1	99.9
1/2"	12.7	99.9
3/8"	9.53	99.9
#4	4.75	99.9
#8	2.36	99.7
#16	1.18	98.9
#30	0.60	96.6
#50	0.30	89.6
#100	0.15	70.9
#200	0.075	46.3





# Sladden Engineering

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## Gradation

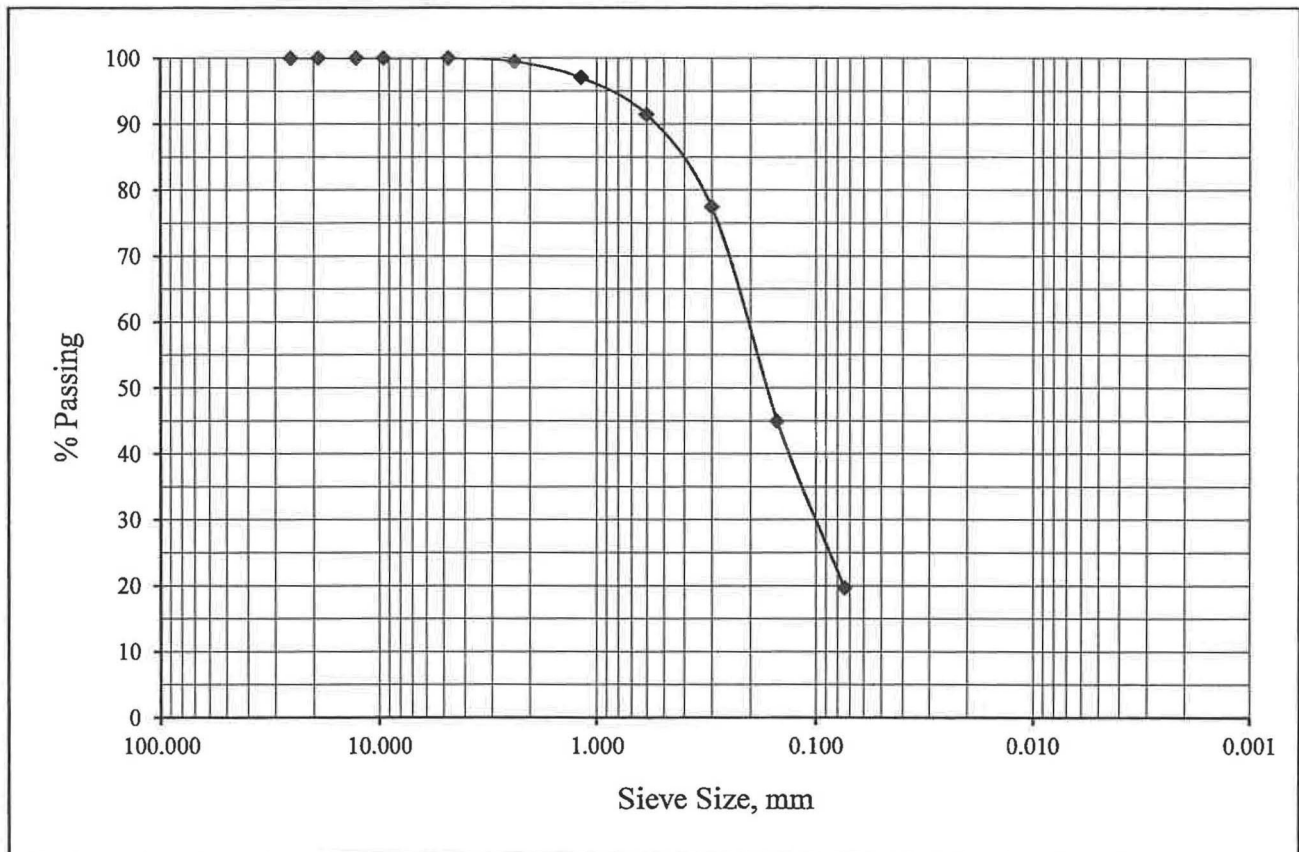
ASTM C117 & C136

Project Number: 644-22003  
Project Name: 393 South Kirby Street  
Lab ID Number: LN6-22044  
Sample ID: BH-1 R-2 @ 5'

February 18, 2022

Soil Classification: SM

Sieve Size, in	Sieve Size, mm	Percent Passing
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	100.0
3/8"	9.53	100.0
#4	4.75	100.0
#8	2.36	99.5
#16	1.18	97.1
#30	0.60	91.5
#50	0.30	77.5
#100	0.15	45.0
#200	0.074	19.7





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## Gradation

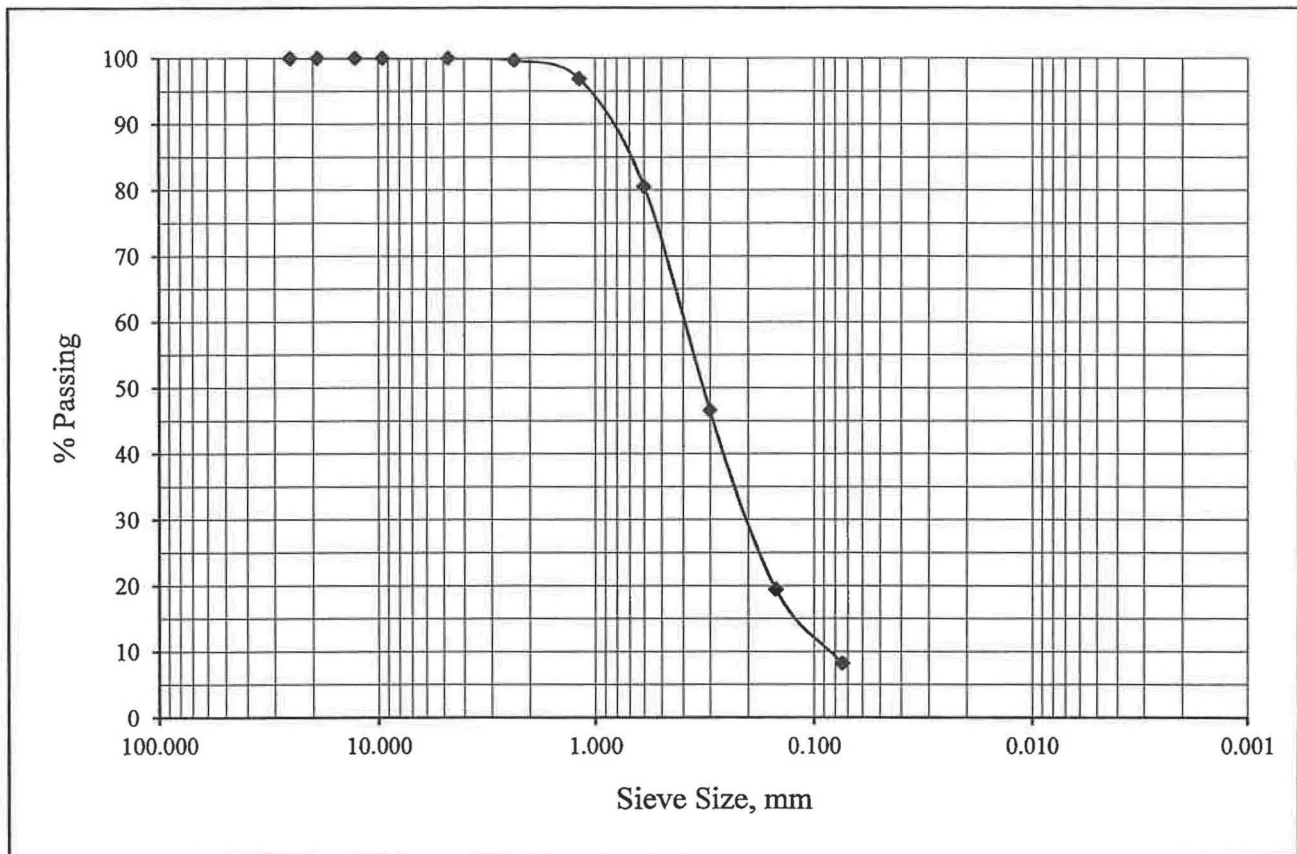
ASTM C117 & C136

Project Number: 644-22003  
Project Name: 393 South Kirby Street  
Lab ID Number: LN6-22044  
Sample ID: BH-1 S-7 @ 30'

February 18, 2022

Soil Classification: SP-SM

Sieve Size, in	Sieve Size, mm	Percent Passing
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	100.0
3/8"	9.53	100.0
#4	4.75	100.0
#8	2.36	99.7
#16	1.18	96.9
#30	0.60	80.6
#50	0.30	46.6
#100	0.15	19.4
#200	0.074	8.2





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## Gradation

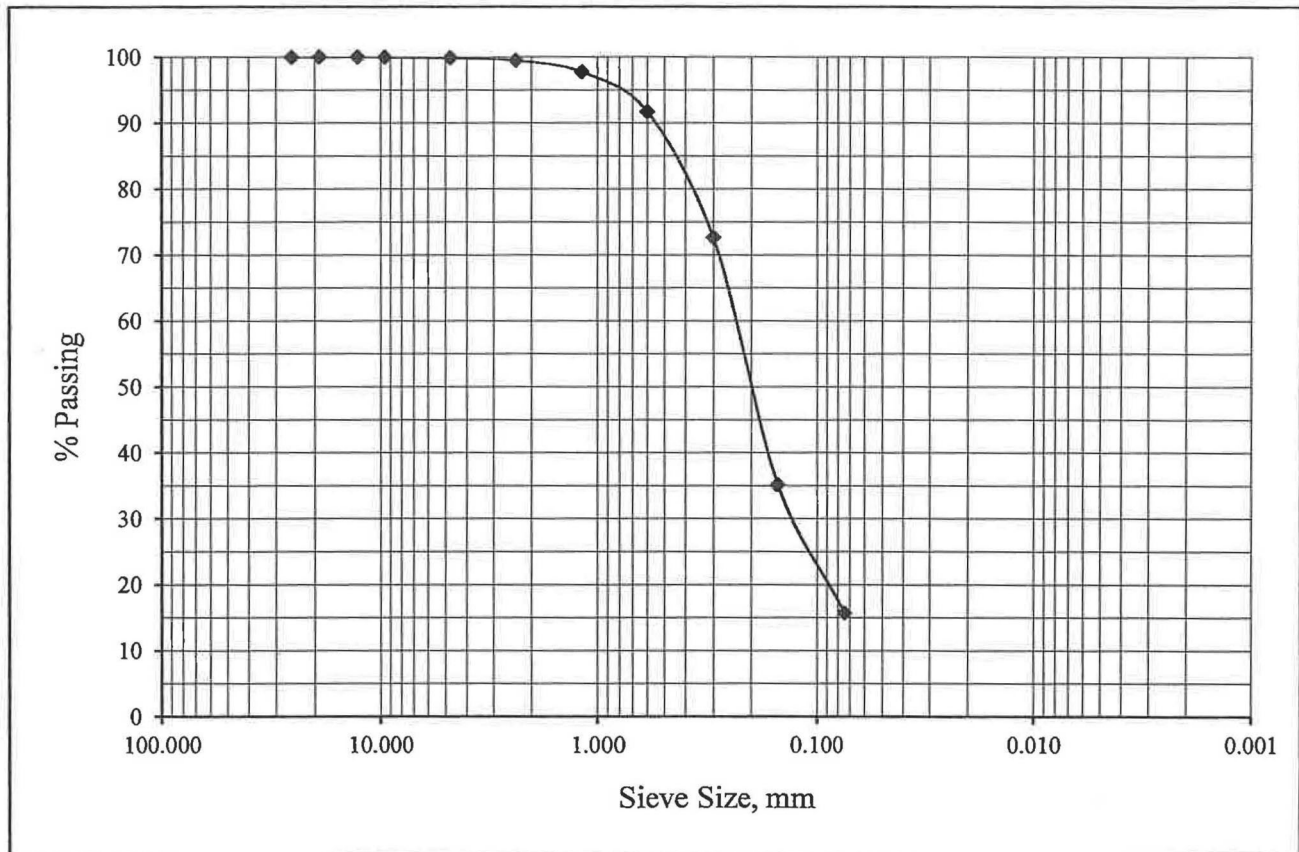
ASTM C117 & C136

Project Number: 644-22003  
Project Name: 393 South Kirby Street  
Lab ID Number: LN6-22044  
Sample ID: BH-2 R-2 @ 10'

February 18, 2022

Soil Classification: SM

Sieve Size, in	Sieve Size, mm	Percent Passing
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	100.0
3/8"	9.53	100.0
#4	4.75	99.9
#8	2.36	99.5
#16	1.18	97.8
#30	0.60	91.7
#50	0.30	72.7
#100	0.15	35.1
#200	0.074	15.7







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## Gradation

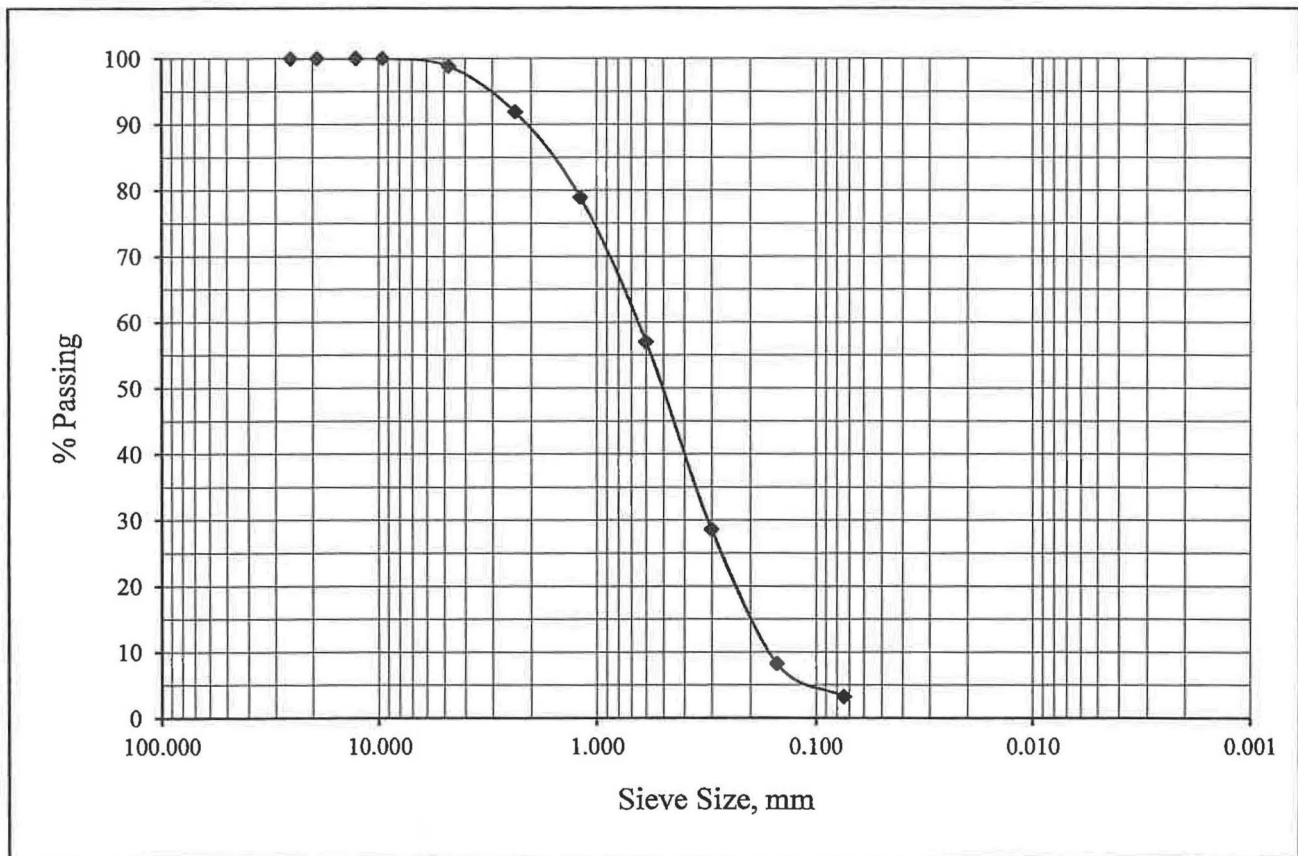
ASTM C117 & C136

Project Number: 644-22003  
Project Name: 393 South Kirby Street  
Lab ID Number: LN6-22044  
Sample ID: BH-4 R-3 @ 15'

February 18, 2022

Soil Classification: SP

Sieve Size, in	Sieve Size, mm	Percent Passing
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	100.0
3/8"	9.53	100.0
#4	4.75	98.8
#8	2.36	91.9
#16	1.18	79.0
#30	0.60	57.0
#50	0.30	28.6
#100	0.15	8.2
#200	0.074	3.3





# Sladden Engineering

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## Gradation

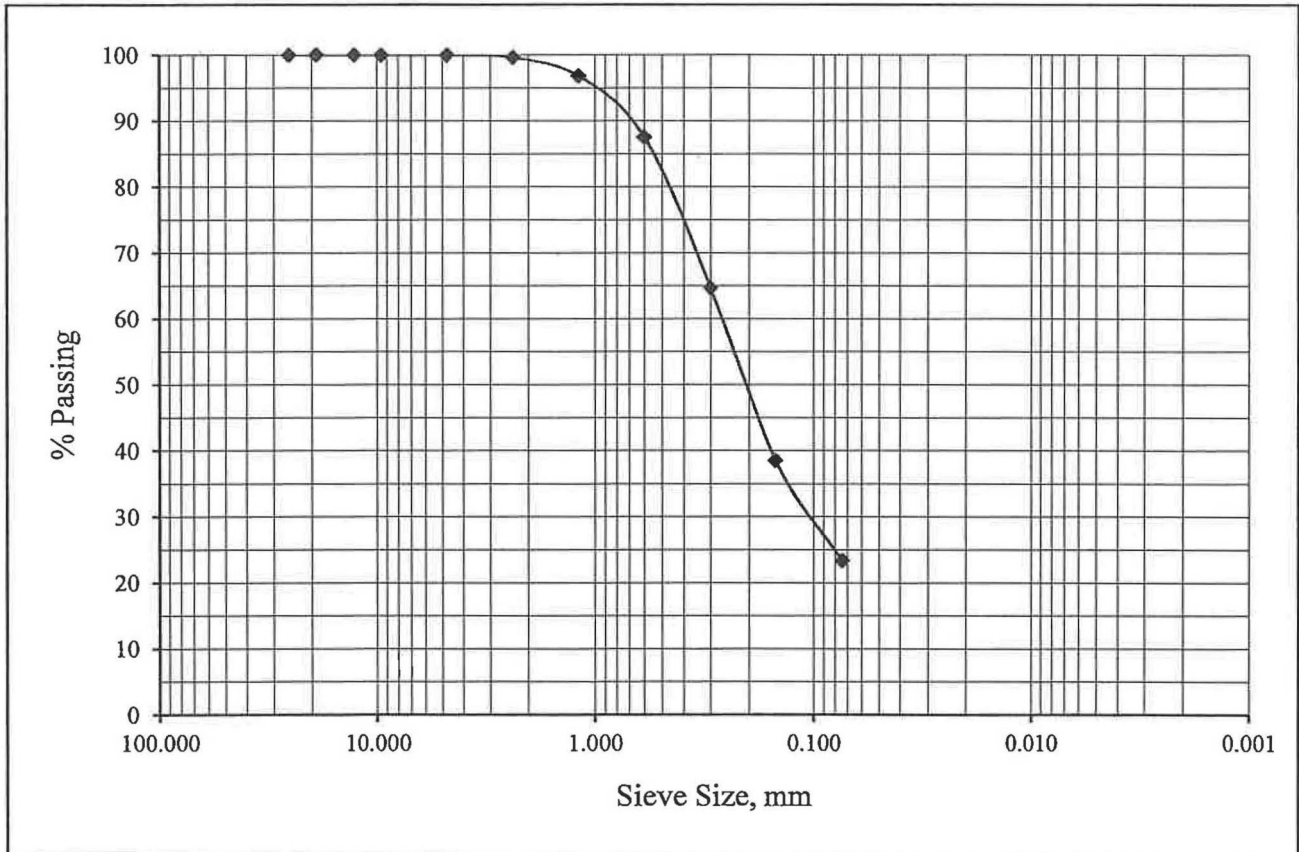
ASTM C117 & C136

Project Number: 644-22003  
Project Name: 393 South Kirby Street  
Lab ID Number: LN6-22044  
Sample ID: BH-6 S-2 @ 10'

February 18, 2022

Soil Classification: SM

Sieve Size, in	Sieve Size, mm	Percent Passing
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	100.0
3/8"	9.53	100.0
#4	4.75	100.0
#8	2.36	99.6
#16	1.18	96.8
#30	0.60	87.6
#50	0.30	64.7
#100	0.15	38.6
#200	0.074	23.4





# Sladden Engineering

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## One Dimensional Consolidation

ASTM D2435 & D5333

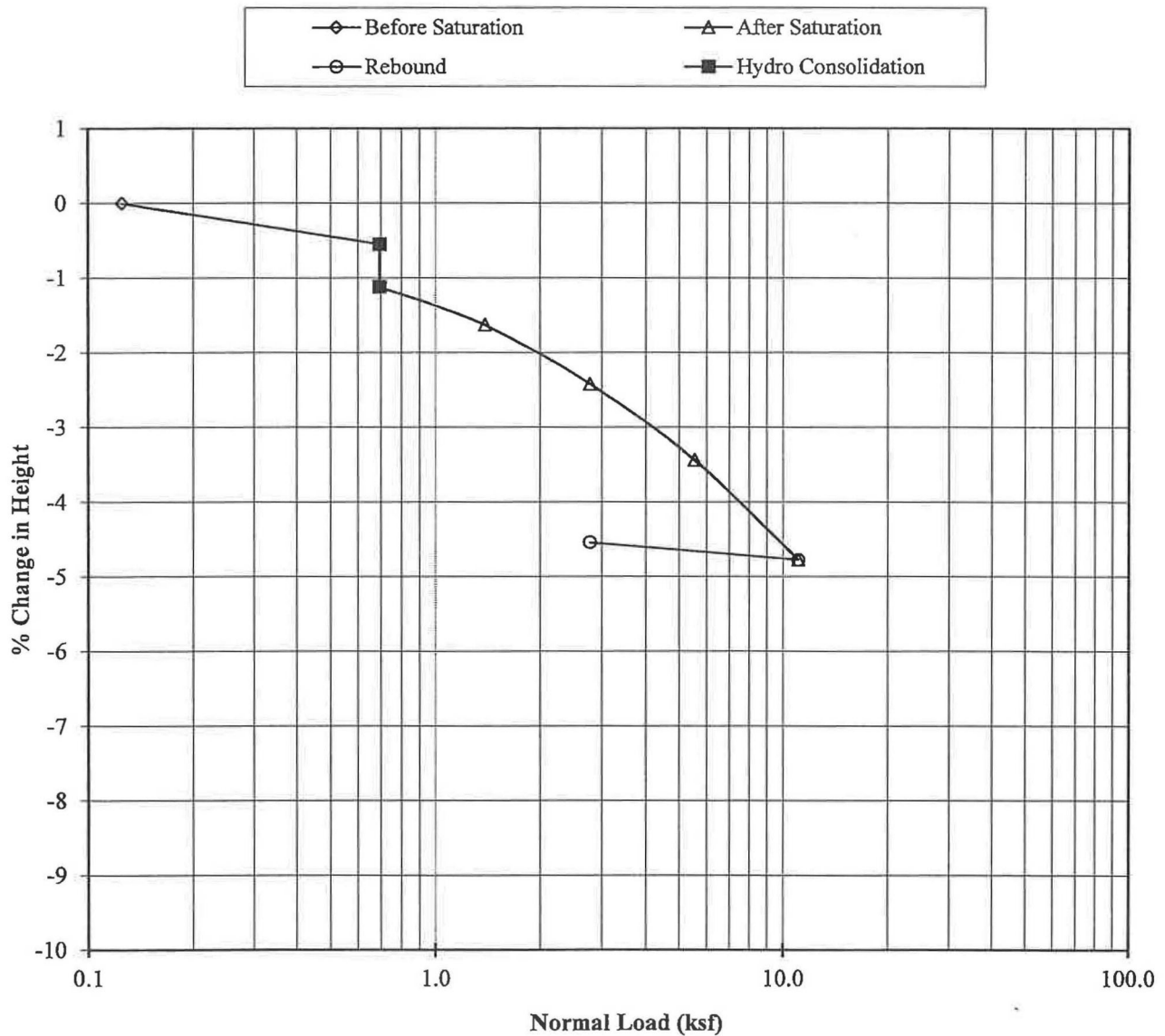
Job Number: 644-22003  
Job Name: 393 South Kirby Street  
Lab ID Number: LN6-22044  
Sample ID: BH-1 R-2 @ 5'  
Soil Description: Olive Brown Silty Sand (SM)

February 18, 2022

Initial Dry Density, pcf: 104.9  
Initial Moisture, %: 1.7  
Initial Void Ratio: 0.589  
Specific Gravity: 2.67

Hydrocollapse: 0.6% @ 0.694 ksf

% Change in Height vs Normal Pressure Diagram





# Sladden Engineering

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## One Dimensional Consolidation

ASTM D2435 & D5333

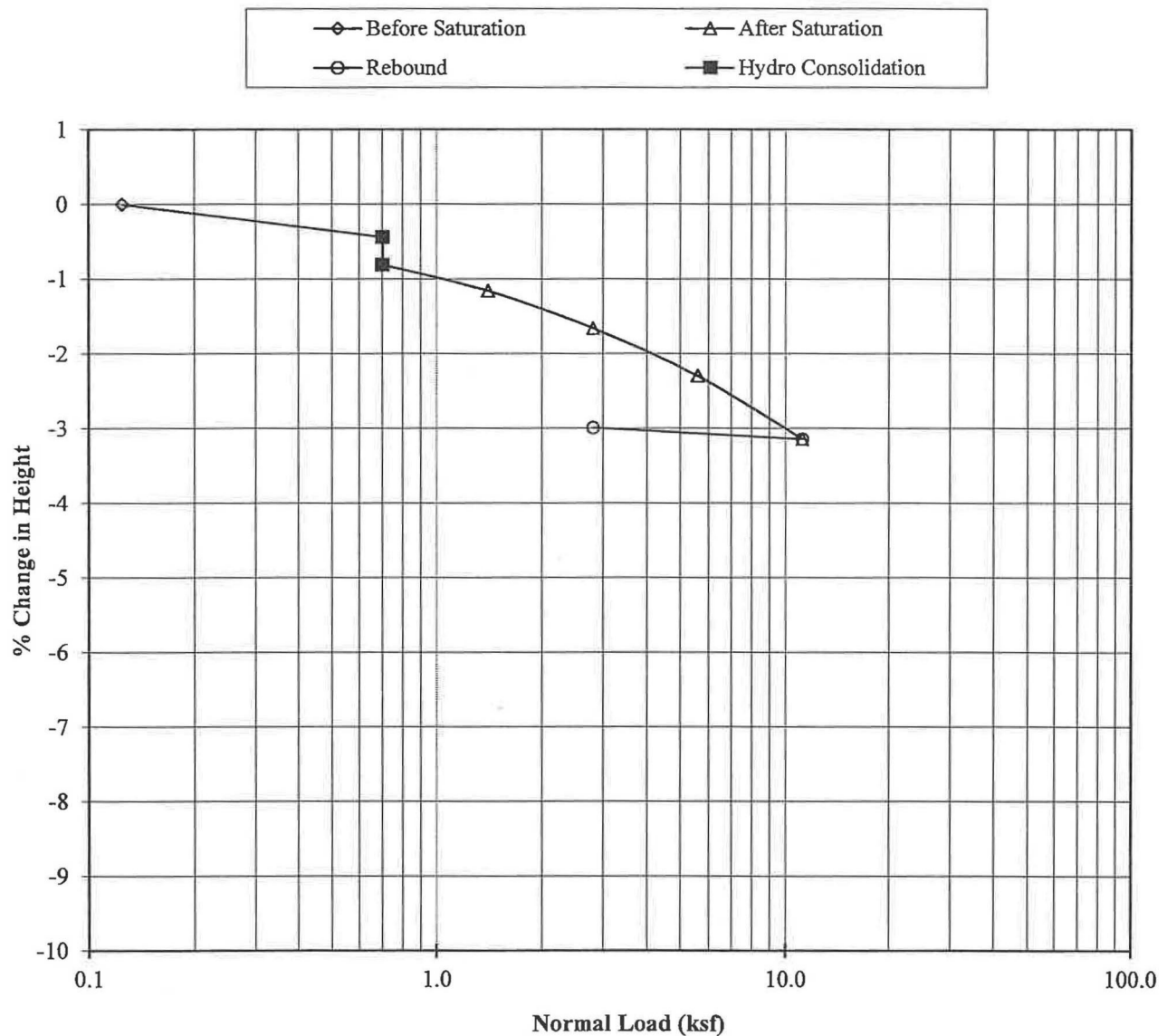
Job Number: 644-22003  
Job Name: 393 South Kirby Street  
Lab ID Number: LN6-22044  
Sample ID: BH-2 R-2 @ 10'  
Soil Description: Olive Brown Silty Sand (SM)

February 18, 2022

Initial Dry Density, pcf: 97.0  
Initial Moisture, %: 4.0  
Initial Void Ratio: 0.719  
Specific Gravity: 2.67

Hydrocollapse: 0.4% @ 0.702 ksf

% Change in Height vs Normal Pressure Diagram





# Sladden Engineering

6782 Stanton Ave., Suite A, Buena Park, CA 90621 (714) 523-0952 Fax (714) 523-1369  
45090 Golf Center Pkwy, Suite F, Indio CA 92201 (760) 863-0713 Fax (760) 863-0847  
450 Egan Avenue, Beaumont, CA 92223 (951) 845-7743 Fax (951) 845-8863

Date: February 18, 2022

Account No.: 644-22003

Customer: Tulloch Holdings LLC

Location: APN 436-490-011, 393 South Kirby Street, San Jacinto

## Analytical Report

---

### Corrosion Series

	pH per CA 643	Soluble Sulfates per CA 417 ppm	Soluble Chloride per CA 422 ppm	Min. Resistivity per CA 643 ohm-cm
BH-1 @ 0-5'	7.8	40	90	1100

**APPENDIX C**

**SEISMIC DESIGN MAP AND REPORT  
SITE-SPECIFIC SEISMIC DESIGN PARAMETERS**

Project: APN 456-490-011

Project Number: 644-22003

Client: Tulloch Holdings, LLC

Site Lat/Long: 33.7828/ -116.9959

Controlling Seismic Source: San Jacinto

REFERENCE	NOTATION	VALUE	REFERENCE	NOTATION	VALUE
Site Class	C, D, D default, or E	D measured	F <sub>v</sub> (Table 11.4-2)[Used for General Spectrum]	F <sub>v</sub>	1.7
Site Class D - Table 11.4-1	F <sub>a</sub>	1.0	Design Maps	S <sub>2</sub>	2.134
Site Class D - 21.3(ii)	F <sub>v</sub>	2.5	Design Maps	S <sub>1</sub>	0.864
0.2*(S <sub>DS</sub> /S <sub>DS</sub> )	T <sub>0</sub>	0.138	Equation 11.4-1 - F <sub>A</sub> *S <sub>2</sub>	S <sub>MS</sub>	2.134*
S <sub>DS</sub> /S <sub>DS</sub>	T <sub>5</sub>	0.688	Equation 11.4-3 - 2/3*S <sub>MS</sub>	S <sub>DS</sub>	1.423*
Fundamental Period (12.8.2)	T	Period	Design Maps	PGA	0.946
Seismic Design Maps or Fig 22-14	T <sub>L</sub>	8	Table 11.8-1	F <sub>PEA</sub>	1.1
Equation 11.4-4 - 2/3*S <sub>M1</sub>	S <sub>D1</sub>	0.9792*	Equation 11.8-1 - F <sub>PEA</sub> *PGA	PGA <sub>M</sub>	1.041*
Equation 11.4-2 - F <sub>v</sub> *S <sub>1</sub>	S <sub>M1</sub>	1.4688*	Section 21.5.3	80% of PGA <sub>M</sub>	0.832
<b><u>RISK COEFFICIENT</u></b>					
Cr - At Periods <=0.2, Cr=C <sub>RS</sub>	C <sub>RS</sub>	0.891	Design Maps	C <sub>RS</sub>	0.891
Cr - At Periods >=1.0, Cr=C <sub>R1</sub>	C <sub>R1</sub>	0.878	Design Maps	C <sub>R1</sub>	0.878
Cr - At Periods between 0.2 and 1.0 use trendline formula to complete	Period	Cr			
	0.200	0.891			
	0.300	0.889			
	0.400	0.888			
	0.500	0.886			
	0.600	0.885			
	0.680	0.883			
	1.000	0.878			

\* Code based design value. See accompanying data for Site Specific Design values.

Mapped values from <https://seismicmaps.org/>



**Sladden Engineering**

PROBABILISTIC SPECTRA<sup>1</sup>  
2% In 50 year Exceedence

Project No: 644-22003

Period	UGHM	RTHM	Max Directional Scale Factor <sup>2</sup>	Probabilistic MCE
0.010	0.942	0.885	1.19	1.053
0.100	1.516	1.475	1.19	1.755
0.200	1.977	1.938	1.20	2.326
0.300	2.293	2.169	1.22	2.646
0.500	2.358	2.150	1.23	2.645
0.750	2.037	1.818	1.24	2.254
1.000	1.774	1.573	1.24	1.951
2.000	1.097	0.957	1.24	1.187
3.000	0.777	0.677	1.25	0.846
4.000	0.570	0.496	1.25	0.620
5.000	0.438	0.379	1.26	0.478

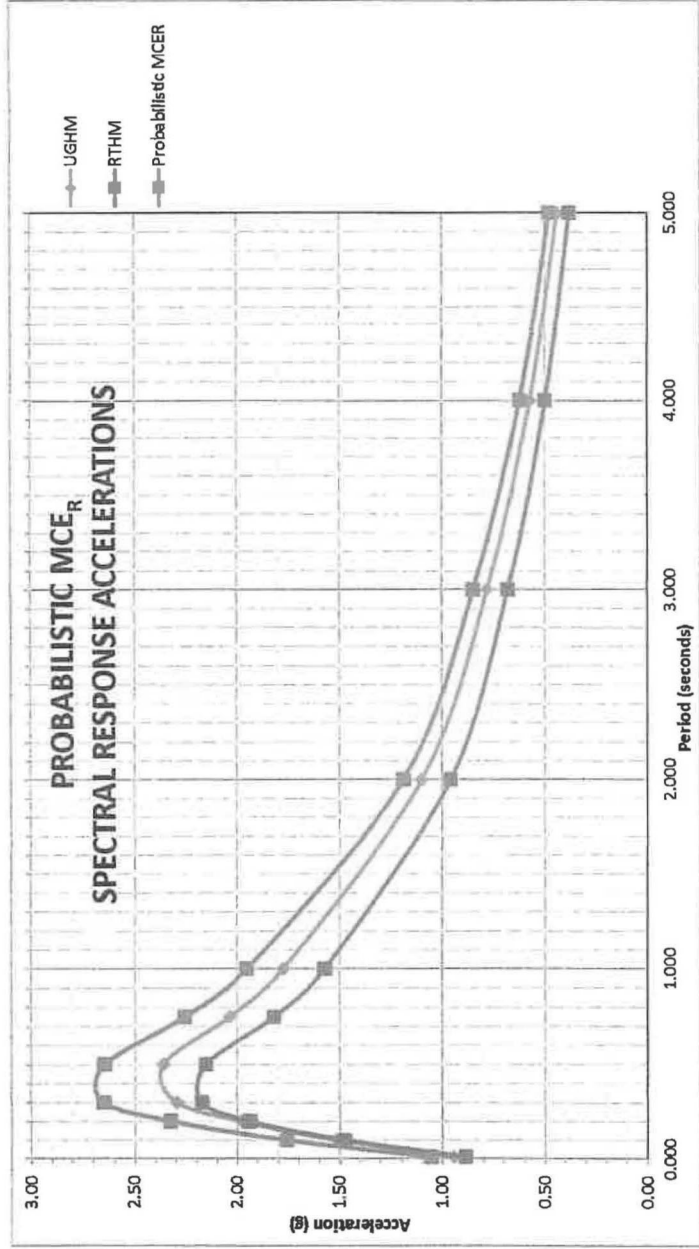
<sup>1</sup> Data Sources:

<https://earthquake.usgs.gov/hazards/interactive/>  
<https://earthquake.usgs.gov/designmaps/itgm/>

<sup>2</sup> Shahi-Baker RotD100/RotD50 Factors (2014)

Probabilistic PGA: 0.942

Is Probabilistic  $S_{a(max)} < 1.2F_g$ ? NO





**DETERMINISTIC SPECTRUM**

Largest Amplitudes of Ground Motions Considering All Sources Calculated using Weighted Mean of Attenuation Equations\*

Controlling Source: San Jacinto

Is Probabilistic  $S_a(\max) < 1.2 \cdot F_a$ ? **NO**

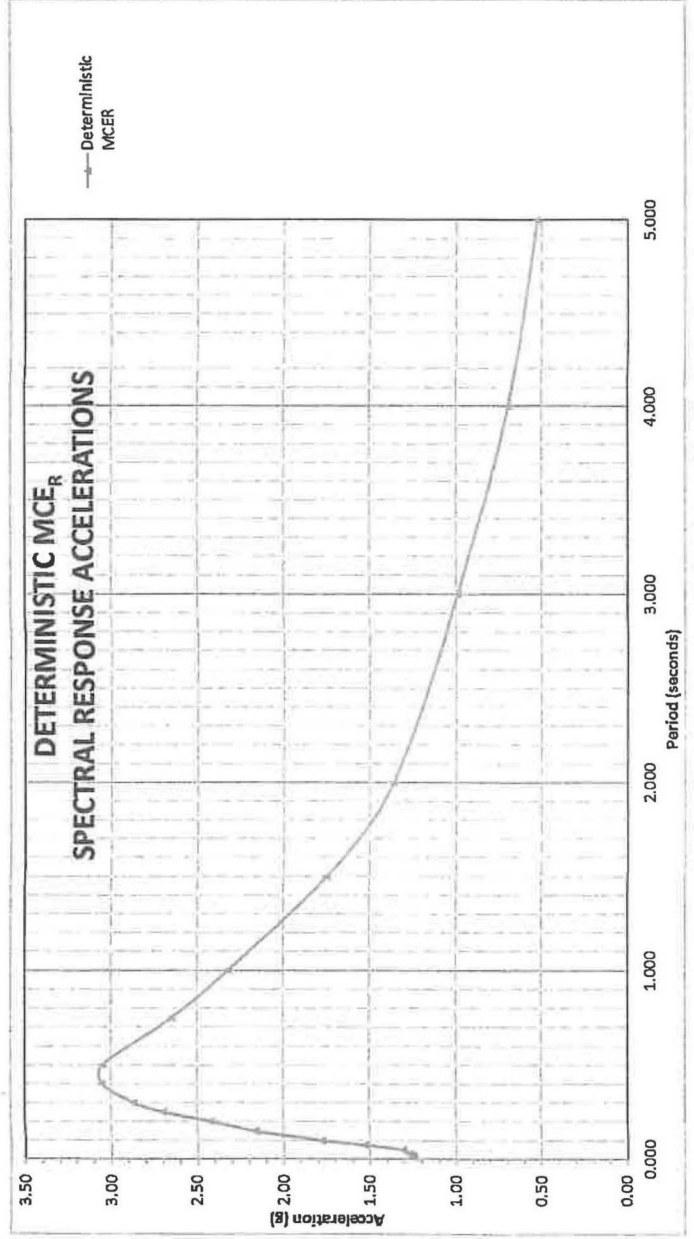
Project No: 644-22003

Period	Deterministic $P_s a$ Median + 1.0 for 5% Damping	Max Directional Scale Factor <sup>2</sup>	Deterministic MCE	Section 21.2.2 Scaling Factor Applied
0.010	1.047	1.19	1.245	1.245
0.020	1.055	1.19	1.255	1.255
0.030	1.065	1.19	1.267	1.267
0.050	1.098	1.19	1.306	1.306
0.075	1.284	1.19	1.527	1.527
0.100	1.497	1.19	1.781	1.781
0.150	1.801	1.20	2.161	2.161
0.200	2.017	1.20	2.420	2.420
0.250	2.228	1.21	2.695	2.695
0.300	2.351	1.22	2.868	2.868
0.400	2.481	1.23	3.052	3.052
0.500	2.478	1.23	3.048	3.048
0.750	2.133	1.24	2.645	2.645
1.000	1.872	1.24	2.321	2.321
1.500	1.409	1.24	1.747	1.747
2.000	1.099	1.24	1.363	1.363
3.000	0.791	1.25	0.988	0.988
4.000	0.556	1.25	0.695	0.695
5.000	0.416	1.26	0.524	0.524

Is Deterministic  $S_a(\max) < 1.5 \cdot F_a$ ? **NO**  
 Section 21.2.2 Scaling Factor: **N/A**  
 Deterministic PGA: **1.047**  
 Is Deterministic PGA  $\geq F_{PGA} * 0.5$ ? **YES**

<sup>1</sup> NGA West 2 GMPE worksheet and Uniform California Earthquake Rupture Forecast, Version 3 (UCERF3) - Time Dependent Model

<sup>2</sup> Shahi-Baker RetD100/RetD50 Factors (2014)



**SITE SPECIFIC SPECTRA**

Period	Probabilistic MCE	Deterministic MCE	Site-Specific MCE	Design Response Spectrum (Sa)
0.010	1.053	1.245	1.053	0.702
0.100	1.755	1.781	1.755	1.170
0.200	2.326	2.420	2.326	1.550
0.300	2.646	2.868	2.646	1.764
0.500	2.645	3.048	2.645	1.763
0.750	2.254	2.645	2.254	1.503
1.000	1.951	2.321	1.951	1.300
2.000	1.187	1.363	1.187	0.791
3.000	0.846	0.988	0.846	0.564
4.000	0.620	0.695	0.620	0.413
5.000	0.478	0.524	0.478	0.318

**ASCE 7-16: Section 21.4**

Site Specific	
Calculated Value	Design Value
1.588	1.588
1.693	1.693
2.382	2.382
2.539	2.539
0.942	0.942

SDS: 1.588  
 SD1: 1.693  
 SMS: 2.382  
 SM1: 2.539  
 Site Specific PGAm: 0.942  
 Site Class: D measured

Seismic Design Category - Short\* E

Seismic Design Category - 1s\* E

\* Risk Categories I, II, or III

Period	ASCE 7 SECTION 11.4.6 General Spectrum	80% General Response Spectrum
0.005	0.600	0.480
0.010	0.631	0.505
0.020	0.693	0.554
0.030	0.755	0.604
0.050	0.879	0.703
0.060	0.941	0.753
0.075	1.034	0.827
0.090	1.127	0.902
0.100	1.189	0.951
0.110	1.251	1.001
0.120	1.313	1.051
0.136	1.412	1.130
0.150	1.423	1.138
0.160	1.423	1.138
0.170	1.423	1.138
0.180	1.423	1.138
0.200	1.423	1.138
0.250	1.423	1.138
0.300	1.423	1.138
0.400	1.423	1.138
0.500	1.423	1.138
0.600	1.423	1.138
0.640	1.423	1.138
0.680	1.423	1.138
0.850	1.152	0.922
0.900	1.088	0.870
0.950	1.031	0.825
1.000	0.979	0.783
1.500	0.653	0.522
2.000	0.490	0.392
3.000	0.326	0.261
4.000	0.245	0.196
5.000	0.196	0.157

Project No: 644-22003







Latitude, Longitude: 33.7828, -116.9959



<b>Date</b>	2/14/2022, 8:40:56 AM
<b>Design Code Reference Document</b>	ASCE7-16
<b>Risk Category</b>	II
<b>Site Class</b>	D - Stiff Soil

Type	Value	Description
S <sub>S</sub>	2.134	MCE <sub>R</sub> ground motion. (for 0.2 second period)
S <sub>1</sub>	0.864	MCE <sub>R</sub> ground motion. (for 1.0s period)
S <sub>MS</sub>	2.134	Site-modified spectral acceleration value
S <sub>M1</sub>	null -See Section 11.4.8	Site-modified spectral acceleration value
S <sub>DS</sub>	1.423	Numeric seismic design value at 0.2 second SA
S <sub>D1</sub>	null -See Section 11.4.8	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	null -See Section 11.4.8	Seismic design category
F <sub>a</sub>	1	Site amplification factor at 0.2 second
F <sub>v</sub>	null -See Section 11.4.8	Site amplification factor at 1.0 second
PGA	0.946	MCE <sub>G</sub> peak ground acceleration
F <sub>PGA</sub>	1.1	Site amplification factor at PGA
PGA <sub>M</sub>	1.041	Site modified peak ground acceleration
T <sub>L</sub>	8	Long-period transition period in seconds
SsRT	2.134	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	2.395	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	2.245	Factored deterministic acceleration value. (0.2 second)
S1RT	0.864	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.984	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.896	Factored deterministic acceleration value. (1.0 second)
PGAd	0.946	Factored deterministic acceleration value. (Peak Ground Acceleration)
C <sub>RS</sub>	0.891	Mapped value of the risk coefficient at short periods
C <sub>R1</sub>	0.878	Mapped value of the risk coefficient at a period of 1 s

## DISCLAIMER

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**APPENDIX 4b**

Soil Map—Western Riverside Area, California  
(CL-293)



Map Scale: 1:2,180 if printed on A landscape (11" x 8.5") sheet.

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

## MAP LEGEND

	Area of Interest (AOI)		Spoil Area
	Soils		Stony Spot
	Soil Map Unit Polygons		Very Stony Spot
	Soil Map Unit Lines		Wet Spot
	Soil Map Unit Points		Other
	<b>Special Point Features</b>		Special Line Features
	Blowout		
	Borrow Pit		
	Clay Spot		
	Closed Depression		
	Gravel Pit		
	Gravelly Spot		
	Landfill		
	Lava Flow		
	Marsh or swamp		
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		
	<b>Water Features</b>		
	Streams and Canals		
	<b>Transportation</b>		
	Rails		
	Interstate Highways		
	US Routes		
	Major Roads		
	Local Roads		
	<b>Background</b>		
	Aerial Photography		

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Western Riverside Area, California  
Survey Area Data: Version 14, Sep 13, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Nov 23, 2020—Feb 6, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
SeA	San Emigdio fine sandy loam, 0 to 2 percent slopes, occasional frost	14.3	71.1%
SfA	San Emigdio fine sandy loam, deep, 0 to 2 percent slopes	5.8	28.9%
<b>Totals for Area of Interest</b>		<b>20.1</b>	<b>100.0%</b>

**APPENDIX 5**

**GHG IMPACT ANALYSIS**  
**TTM NO. 38339**  
**KIRBY STREET PROJECT**  
**SAN JACINTO, CALIFORNIA**

Prepared by:



Sara Friedman Gerrick  
Senior Engineer  
Giroux & Associates

Prepared for:

Tom Dodson & Associates  
Attn: Kaitlyn Dodson  
PO Box 2307  
San Bernardino, CA 92406-2307

Date:

November 29, 2022

Project No.: P22-049 GHG

## BACKGROUND

The project proposes the subdivision of an 18.5-acre property to enable the development of 76 single-family residences within the City of San Jacinto. GHG emissions associated with project construction and operation are presented in this report.

## GHG EMISSIONS THRESHOLDS

On December 5, 2008 the SCAQMD Governing Board adopted an Interim quantitative GHG Significance Threshold for industrial projects where the SCAQMD is the lead agency (e.g., stationary source permit projects, rules, plans, etc.) of 10,000 Metric Tons (MT) CO<sub>2</sub> equivalent/year CO<sub>2</sub>e. In September 2010, the SCAQMD CEQA Significance Thresholds GHG Working Group released revisions which recommended a threshold of 3,000 MT CO<sub>2</sub>e for all land use projects. This 3,000 MT/year recommendation has been used as a guideline for this analysis. In the absence of an adopted numerical threshold of significance, project related GHG emissions in excess of the guideline level are presumed to trigger a requirement for enhanced GHG reduction at the project level.

## PROJECT GHG EMISSIONS GENERATION

### Construction Activity GHG Emissions

The project is assumed to require less than one year for construction. During project construction, the CalEEMod2022 computer model predicts that the construction activities will generate the annual CO<sub>2</sub>e emissions identified below.

#### Construction Emissions (Metric Tons CO<sub>2</sub>e)

	CO <sub>2</sub> e
Year 2023	340
<b>Amortized</b>	<b>11.3</b>

CalEEMod Output provided in appendix

SCAQMD GHG emissions policy from construction activities is to amortize emissions over a 30-year lifetime. The amortized level is also provided. GHG impacts from construction are considered individually less-than-significant.

### Project Operational GHG Emissions

The input assumptions for operational GHG emissions calculations and the GHG conversion from consumption to annual regional CO<sub>2</sub>e emissions are summarized in the CalEEMod2022 output files found in the appendix of this report.

The total operational and annualized construction emissions for the proposed project are identified as follows:

<b>Operational Emissions</b>	
<b>Consumption Source</b>	
Area Sources	19.5
Energy Utilization	257.0
Mobile Source	12.2
Waste	6.7
Water	0.1
Refrigeration	0.3
Vegetation	8.5
Construction	11.3
<b>Total</b>	<b>315.6</b>
Guideline Threshold	3,000
Exceeds Threshold?	No

Total project GHG emissions would be substantially below the proposed significance threshold of 3,000 MT suggested by the SCAQMD. Hence, the project would not result in generation of a significant level of greenhouse gases.

## **CONSISTENCY WITH GHG PLANS, PROGRAMS AND POLICIES**

### **Western Riverside Council of Governments (WRCOG) Subregional Climate Action Plan**

The City of San Jacinto is participating the Western Riverside Council of Governments (WRCOG) Subregional Climate Action Plan. The WRCOG Subregional CAP establishes a community-wide emissions reduction target of 15% below 2010, following guidance from CARB and the Governor’s Office of Planning and Research. CARB and the California Attorney General have determined this approach to be consistent with the state-wide AB 32 goal of reducing emissions to 1990 levels.

The project’s total operational and amortized construction emissions are 315.6 MT CO<sub>2</sub>e per year and do not exceed the SCAQMD draft threshold. The proposed project would also be anticipated to be consistent with the WRCOG Subregional CAP with the following project design features, which include standard rules and requirements and recognized building design elements which will help reduce GHG emissions.

#### Operational Design Features:

- No wood burning fireplaces will be installed in any residential dwelling.
- The future residences would be outfitted with low flow toilets and energy efficient appliances. Solar would be installed concurrent with development of each residence as required by the California Energy Code.

- The project will include a landscaping consistent with the requirements of the City’s Development Code Chapter 17.325, Water Efficient Landscape and Irrigation. Additionally, the proposed subdivision would comply with the City’s Landscape Design Guidelines.
- The project will comply with the mandatory requirements of California Building Standards Code Title 24 Part 6 (Energy Code) and Title 24 Part 11 (CAL Green).
- The project will comply with the mandatory requirements of City of San Jacinto/CalRecycle’s residential recycling program.
- The homeowner’s association will encourage residents and landscape maintenance crews to use electric landscaping equipment, such as lawn mowers and leaf blowers. Therefore, the project will not conflict with an applicable plan, policy, or regulation for the purpose of reducing the emissions of greenhouse gases and the impact is considered less than significant.

**SB 32/2017 Scoping Plan Consistency**

The 2017 Scoping Plan Update reflects the 2030 target of a 40% reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. The Table below summarizes the project’s consistency with the 2017 Scoping Plan. As summarized, the project will not conflict with any of the provisions of the Scoping Plan and in fact supports seven of the action categories.

**2017 SCOPING PLAN CONSISTENCY SUMMARY**

Action	Responsible Parties	Consistency
Implement SB 350 by 2030		
Increase the Renewables Portfolio Standard to 50% of retail sales by 2030 and ensure grid reliability.	CPUC, CEC, CARB	Consistent. This measure is not directly applicable to development projects, but the proposed project would use energy from Southern California Edison, which has committed to diversify its portfolio of energy sources by increasing energy from wind and solar sources. Additionally, as the project structures are less than 4-stories, they would be required to install solar PV systems to increase renewable energy availability for the project.
Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.		Consistent. Although this measure is directed towards policymakers, the proposed project would be designed consistent with Title 24 2019, which increases in overall energy efficiency from Title 24 2016.

Action	Responsible Parties	Consistency
Reduce GHG emissions in the electricity sector through the implementation of the above measures and other actions as modeled in Integrated Resource Planning (IRP) to meet GHG emissions reductions planning targets in the IRP process. Load-serving entities and publicly- owned utilities meet GHG emissions reductions planning targets through a combination of measures as described in IRPs.		Not applicable. This measure is not within the purview of this project.
Implement Mobile Source Strategy (Cleaner Technology and Fuels)		
At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025.	CARB, California State Transportation Agency (CalSTA), Strategic Growth Council (SGC), California Department of Transportation (Caltrans), CEC, OPR, Local Agencies	No conflict. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
At least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030.		No conflict. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean cars regulations.		No conflict. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Medium- and Heavy-Duty GHG Phase 2.		No conflict. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20% of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100% of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NO <sub>x</sub> standard.		Not applicable. This measure is not within the purview of this project.
Last Mile Delivery: New regulation that would result in the use of low NO <sub>x</sub> or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5% of new Class 3–7 truck sales in local fleets starting in 2020,		Not applicable. This project is not responsible for implementation of SB 375 and would therefore not conflict with this measure.

Action	Responsible Parties	Consistency
increasing to 10% in 2025 and remaining flat through 2030.		
Further reduce VMT through continued implementation of SB 375 and regional Sustainable Communities Strategies; forthcoming statewide implementation of SB 743; and potential additional VMT reduction strategies not specified in the Mobile Source Strategy but included in the document “Potential VMT Reduction Strategies for Discussion.”		No conflict. This project is not responsible for implementation of SB 375 and would therefore not conflict with this measure.
Increase stringency of SB 375 Sustainable Communities Strategy (2035 targets).	CARB	Not applicable. The project is not within the purview of SB 375 and would therefore not conflict with this measure.
By 2019, adjust performance measures used to select and design transportation facilities		
Harmonize project performance with emissions reductions and increase competitiveness of transit and active transportation modes (e.g., via guideline documents, funding programs, project selection, etc.).	CalSTA, SGC, OPR, CARB, Governor’s Office of Business and Economic Development (GO Biz), California Infrastructure and Economic Development Bank, Department of Finance, California Transportation Commission (CTC), Caltrans	Not applicable. Although this is directed towards CARB and Caltrans, the proposed project would be designed to promote and support pedestrian activity on-site and in the project site area.
By 2019, develop pricing policies to support low-GHG transportation (e.g., low-emission vehicle zones for heavy duty, road user, parking pricing, transit discounts).	CalSTA, Caltrans, CTC, OPR,	Not applicable. Although this measure is directed towards policymakers, the proposed project would comply with AB 939, which sets a statewide policy that not less than 65% of solid waste generated be source reduced, recycled, or composted.



Action	Responsible Parties	Consistency
	SGC, CARB	Additionally, the proposed project would be required to participate in the City of San Jacinto recycling program and recycling collection. During construction, the proposed project shall recycle and reuse construction and demolition waste per City of Whittier solid waste procedures.
Implement California Sustainable Freight Action Plan		
Improve freight system efficiency.	CalSTA, CalEPA,	Not applicable. This measure is not within the purview of this project.
Deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.	CNRA, CARB, Caltrans, CEC, GO-Biz	Not applicable. This measure is not within the purview of this project.
Adopt a Low Carbon Fuel Standard with a Carbon Intensity reduction of 18%.	CARB	No conflict. This measure would apply to all fuel purchased and used by the project in the state.
Implement the Short-Lived Climate Pollutant Strategy by 2030		
40% reduction in methane and hydrofluorocarbon emissions below 2013 levels.	CARB, CalRecycle,	Not applicable. This measure is not within the purview of this project.
50% reduction in black carbon emissions below 2013 levels.	CDFA, SWRCB, Local Air Districts	Not applicable. This measure is not within the purview of this project.
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	CARB, CalRecycle, CDFA SWRCB, Local Air Districts	Not applicable. This measure is not within the purview of this project.
Implement the post-2020 Cap-and-Trade Program with declining annual caps.	CARB	Not applicable. This measure is not within the purview of this project.
By 2018, develop Integrated Natural and Working Lands Implementation Plan to secure California's land base as a net carbon sink		

Action	Responsible Parties	Consistency
Protect land from conversion through conservation easements and other incentives.	CNRA, Departments Within CDFA, CalEPA, CARB	Not applicable. This measure is not within the purview of this project.
Increase the long-term resilience of carbon storage in the land base and enhance sequestration capacity		Not applicable. This measure is not within the purview of this project.
Utilize wood and agricultural products to increase the amount of carbon stored in the natural and built environments		Not applicable. This measure is not within the purview of this project.
Establish scenario projections to serve as the foundation for the Implementation Plan		Not applicable. This measure is not within the purview of this project.
Establish a carbon accounting framework for natural and working lands as described in SB 859 by 2018	CARB	Not applicable. This measure is not within the purview of this project.
Implement Forest Carbon Plan	CNRA,  California Department of Forestry and Fire Protection,  CalEPA and Departments Within	Not applicable. This measure is not within the purview of this project.
Identify and expand funding and financing mechanisms to support GHG reductions across all sectors.	State Agencies & Local Agencies	Not applicable. This measure is not within the purview of this project.

As shown above, the project would not conflict with any of the 2017 Scoping Plan elements as any regulations adopted would apply directly or indirectly to the project. Further, recent studies show that the State’s existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40% below 1990 levels by 2030.

**APPENDIX 6a**



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February 14, 2022

Project No. 644-22003  
22-02-023

Tulloch Holdings, LLC  
32823 Temecula Parkway  
Temecula, California 92592

Project: Proposed Residential Development  
393 South Kirby Street  
APN 436-490-011  
San Jacinto, California

Subject: Infiltration Testing for On-Site Storm Water Management

In accordance with your request, we have performed infiltration testing on the subject site to evaluate the infiltration potential of the near surface soil to assist in storm water management system design. The infiltration rates determined by testing should be useful in the assessment of on-site storm water management needs. The approximate locations of the tests are indicated on the attached Test Location Plan (Figure 2).

Infiltration testing was performed on February 10, 2022 utilizing double ring infiltrometers. The tests were performed at depths of approximately 5.0 feet below the existing ground surface (bgs) for DR-1 & DR-2. The soil conditions encountered within the test hole locations consisted of silty sand (SM) and sandy silt (ML). Testing was performed in general accordance with the *Standard Test Method for Infiltration Rate of Soils in Field Using Double-Ring Infiltrometer* (ASTM D-3385).

## INFILTRATION TEST RESULTS

Test Location No.	Depth Below Existing Ground Surface (ft)	Infiltration Rate (in/hr)
DR-1	5.0	3.4
DR-2	5.0	1.7

The rates determined represent ultimate rates and an appropriate safety factor should be incorporated into the design to account for long-term saturation and potential "silting" of the surface soil. The safety factor should be determined with consideration to other factors considered in the storm water retention system design (specifically storm water volume estimates) and the safety factors associated with the related design components.

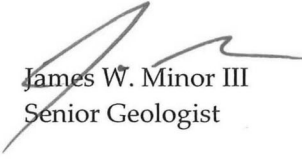
February 14, 2022

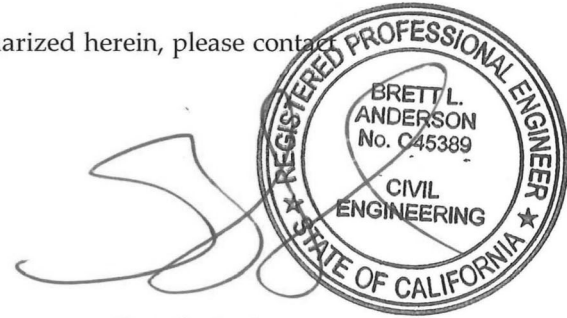
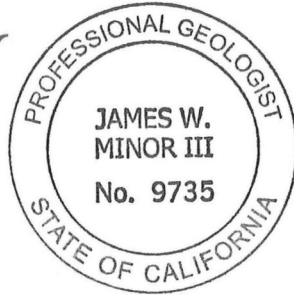
-2-

Project No. 644-22003  
22-02-023

If you have any questions regarding this memo or the testing summarized herein, please contact the undersigned.

Respectfully submitted,  
**SLADDEN ENGINEERING**

  
James W. Minor III  
Senior Geologist

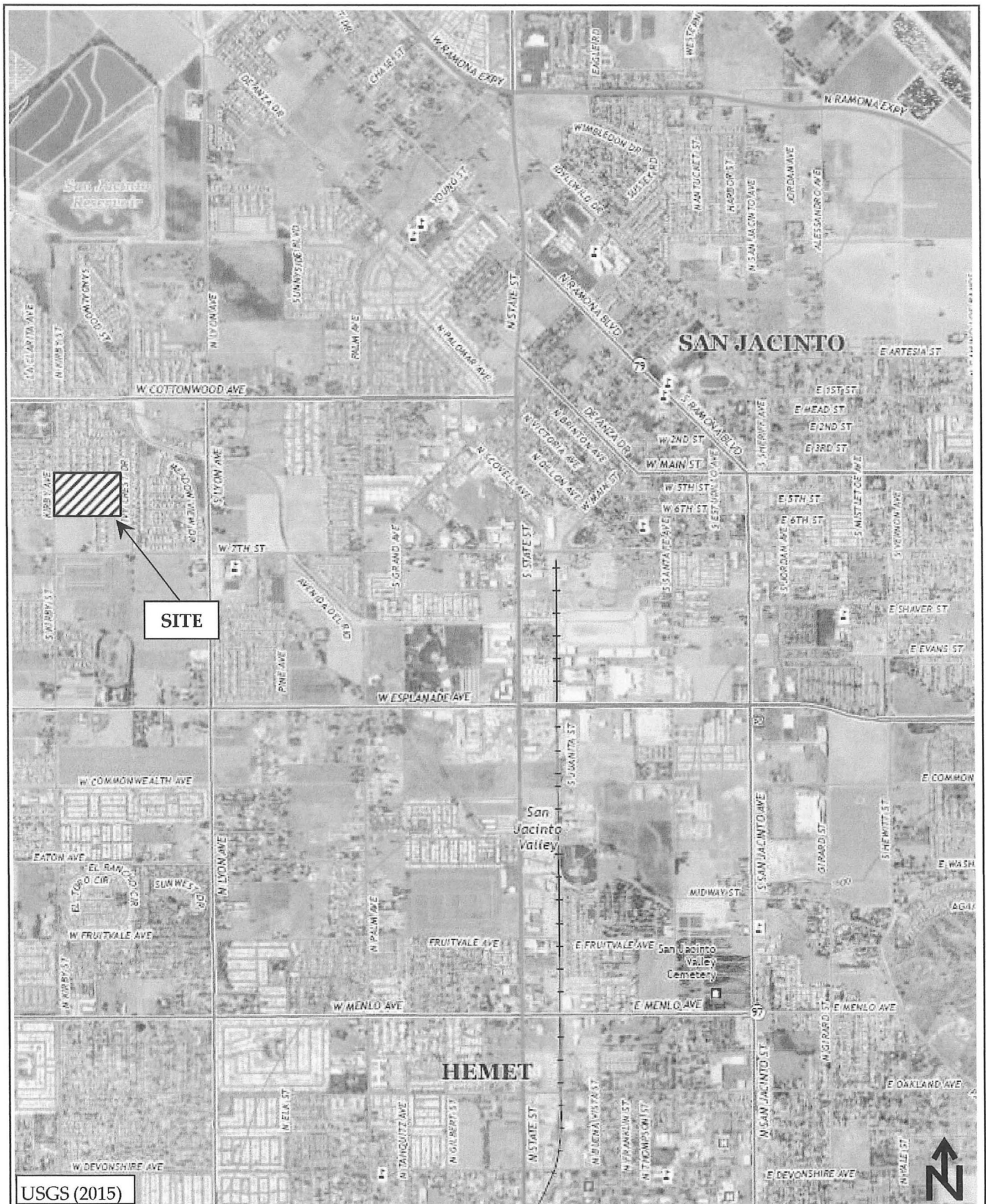


Brett L. Anderson  
Principal Engineer

Copies: 4 / Addressee

**FIGURES**

SITE LOCATION MAP  
TEST LOCATION PLAN



USGS (2015)

## SITE LOCATION MAP

FIGURE



Sladden Engineering

Project Number:

644-22003

Report Number:

22-02-022

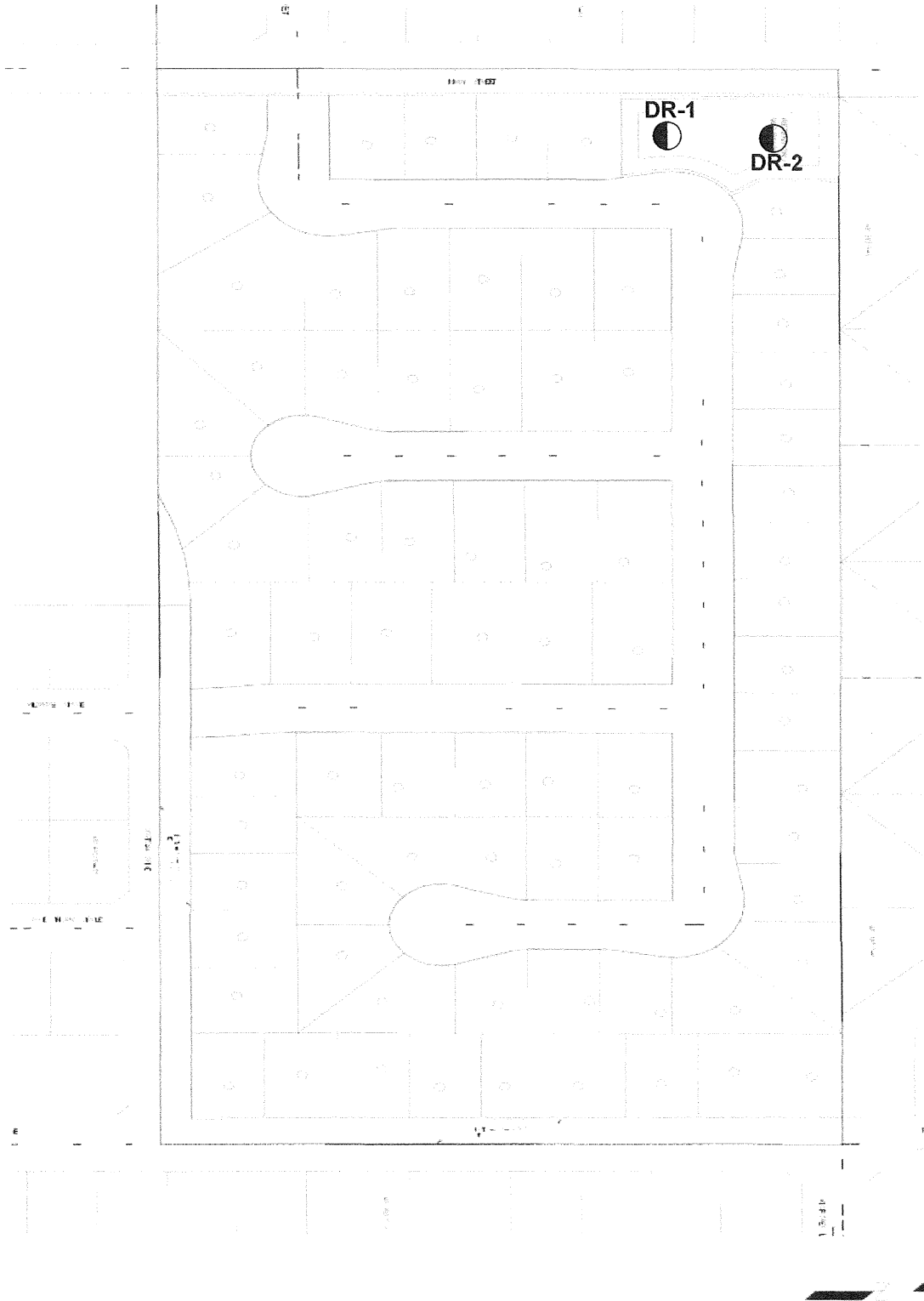
Date:

February 14, 2022

1

**EXPLANATION OF MAP SYMBOLS**

● DR-2 Approximate Infiltration Test Location



**DIG ALERT**  
 CALL 811  
 BEFORE YOU DIG

APPROVED BY: [Signature]  
 DATE: [Date]

PROJECT NO. [Number]  
 SHEET NO. [Number]

**BLANE A. WILSON**  
 CIVIL ENGINEERING  
 INC.

SCALE: [Scale]

TITLE SHEET

**TEST LOCATION PLAN**

**FIGURE**

Project Number:	644-22003
Report Number:	22-02-022
Date:	February 14, 2022

**2**



**Sladden Engineering**



APPENDIX A

DOUBLE-RING TESTING DATA SHEETS

**DOUBLE RING PERCOLATION RATE CALCULATIONS**

**INNER RING**

Interval Number	Initial Water(cm)	Final Water(cm)	Con. Factor (cm to in)	Water (in)	Area Mar. (in <sup>2</sup> )	Volume (in <sup>3</sup> )	Area IR (in <sup>2</sup> )	Time (min)	Time (hr)	Vir (in/hr)
1	46.9	6.6	0.39	15.9	8.9	141.9	113.1	15	0.25	5.0
2	46.8	22.1	0.39	9.7	8.9	87.0	113.1	15	0.25	3.1
3	46.1	25.6	0.39	8.1	8.9	72.2	113.1	15	0.25	2.6
4	45.9	27.3	0.39	7.3	8.9	65.5	113.1	15	0.25	2.3
5	46.2	17.6	0.39	11.3	8.9	100.7	113.1	30	0.50	1.8
6	46.8	19.3	0.39	10.8	8.9	96.8	113.1	30	0.50	1.7
7	46.6	19.6	0.39	10.6	8.9	95.1	113.1	30	0.50	1.7
8	44.2	18.2	0.39	10.2	8.9	91.5	113.1	30	0.50	1.6
9	46.3	17.7	0.39	11.3	8.9	100.7	113.1	30	0.50	1.8
10	46.4	19.4	0.39	10.6	8.9	95.1	113.1	30	0.50	1.7
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

AVERAGE RATE\* = 3.4  
(in/hr)

Job No. 644-22003  
Test Hole DR-1

**DOUBLE RING PERCOLATION RATE CALCULATIONS**

**INNER RING**

Interval Number	Initial Water(cm)	Final Water(cm)	Con. Factor (cm to in)	Water (in)	Area Mar. (in2)	Volume (in3)	Area IR (in2)	Time (min)	Time (hr)	Vir (in/hr)
1	46.7	4.3	0.39	16.7	8.9	149.3	113.1	15	0.25	5.3
2	46.4	21.9	0.39	9.6	8.9	86.3	113.1	15	0.25	3.1
3	46.3	25.7	0.39	8.1	8.9	72.5	113.1	15	0.25	2.6
4	45.8	26.9	0.39	7.4	8.9	66.5	113.1	15	0.25	2.4
5	46.7	17.8	0.39	11.4	8.9	101.7	113.1	15	0.25	3.6
6	45.4	18.9	0.39	10.4	8.9	93.3	113.1	30	0.50	1.6
7	46.2	19.1	0.39	10.7	8.9	95.4	113.1	30	0.50	1.7
8	45.5	19.9	0.39	10.1	8.9	90.1	113.1	30	0.50	1.6
9	46.1	19.3	0.39	10.6	8.9	94.4	113.1	30	0.50	1.7
10	46.3	18.9	0.39	10.8	8.9	96.5	113.1	30	0.50	1.7
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

AVERAGE RATE\* = 1.7  
(in/hr)

Job No. 644-22003  
Test Hole DR-2

**APPENDIX 6b**

**PRELIMINARY  
HYDROLOGY STUDY**

**FOR**

**TENTATIVE TRACT NO. 38339**

**Prepared by:**

**BLAINE A. WOMER CIVIL ENGINEERING  
41555 East Florida Avenue, Suite G  
Hemet, CA 92544**

**January 31, 2022**

# Table of Contents

- 1: Study Narrative and Runoff Summary
- Appendix A: Vicinity Map, Soils Group Map, Precipitation Plates, Runoff Index Plate
- Appendix B: 10-Year and 100-Year Rational Hydrology Calculations, Undeveloped Condition. Hydrology Exhibit Undeveloped Condition
- Appendix C: 10-Year and 100-Year Rational Hydrology Calculations, Developed Condition. Hydrology Exhibit Developed Condition
- Appendix D: Preliminary Basin Sizing Hydrology for Mitigating Incremental Increase
- 10-Year, 24 Hour Unit Hydrograph, Undeveloped Condition
  - 10-Year, 24 Hour Unit Hydrograph, Developed Condition
  - Unit Hydrograph Exhibit - Undeveloped Condition
  - Unit Hydrograph Exhibit - Developed Condition
  - Supporting Data

**TENTATIVE TRACT NO. 38339**  
**PRELIMINARY HYDROLOGY STUDY**

**NARRATIVE:**

Tentative Tract No. 38339 is a 76 lot subdivision on 20.0 acres located on the east side of Kirby Street, approximately 661 feet north of Seventh Street. The site naturally drains to the north/northwest and the project has been conceptually designed to honor that drainage pattern. Site soils are 'B' according to the Hydrologic Soils Group Map. The site has been designed to drain to an onsite detention/infiltration basin located at the northwest corner of the property. The basin serves as a water quality mitigation basin, as well as stormwater mitigation, the design of which is discussed in the project P-WQMP. With respect to stormwater mitigation, the basin has been designed to retain the volumetric difference between the developed and undeveloped condition 10-year, 24 hour storm in accordance with Riverside County Flood Control and Water Conservation District preliminary design criteria. Unit hydrograph calculations for the preliminary design are included in Appendix D of this report.

The site is not subject to offsite flows due to existing development and the associated drainage infrastructure immediately east and south of the site.

The following report also includes rational hydrology calculations for the 10-year and 100-year recurrence interval for the undeveloped and developed site conditions. Stormwater flows are intercepted via an onsite storm drain system and discharged to the infiltration/detention basin discussed above. The peak runoff flows for the site are summarized as follows:

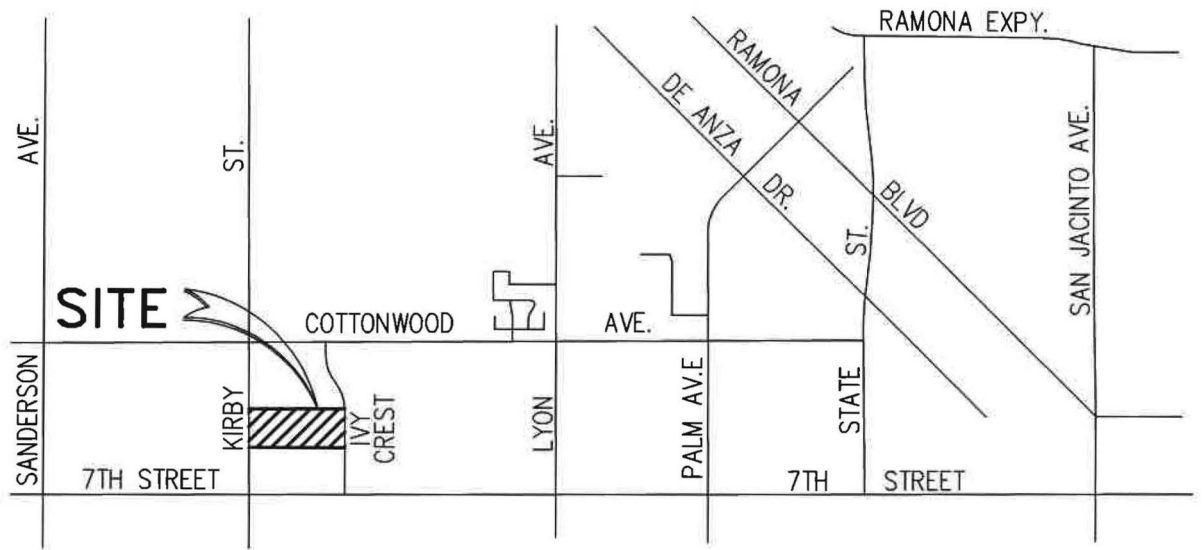
**Rational Hydrology Runoff Summary**

<b><u>Drainage Area Designation*</u></b>	<b><u>Area (Ac)</u></b>	<b><u>Q<sub>10</sub>(cfs)</u></b>	<b><u>Q<sub>100</sub> (cfs)</u></b>
Undeveloped Site – Area A	19.6	16.4	26.6
Area B	3.3	3.3	5.2
Area C	15.6	16.2	25.6

\* See Rational Hydrology Exhibits in Appendix B and C

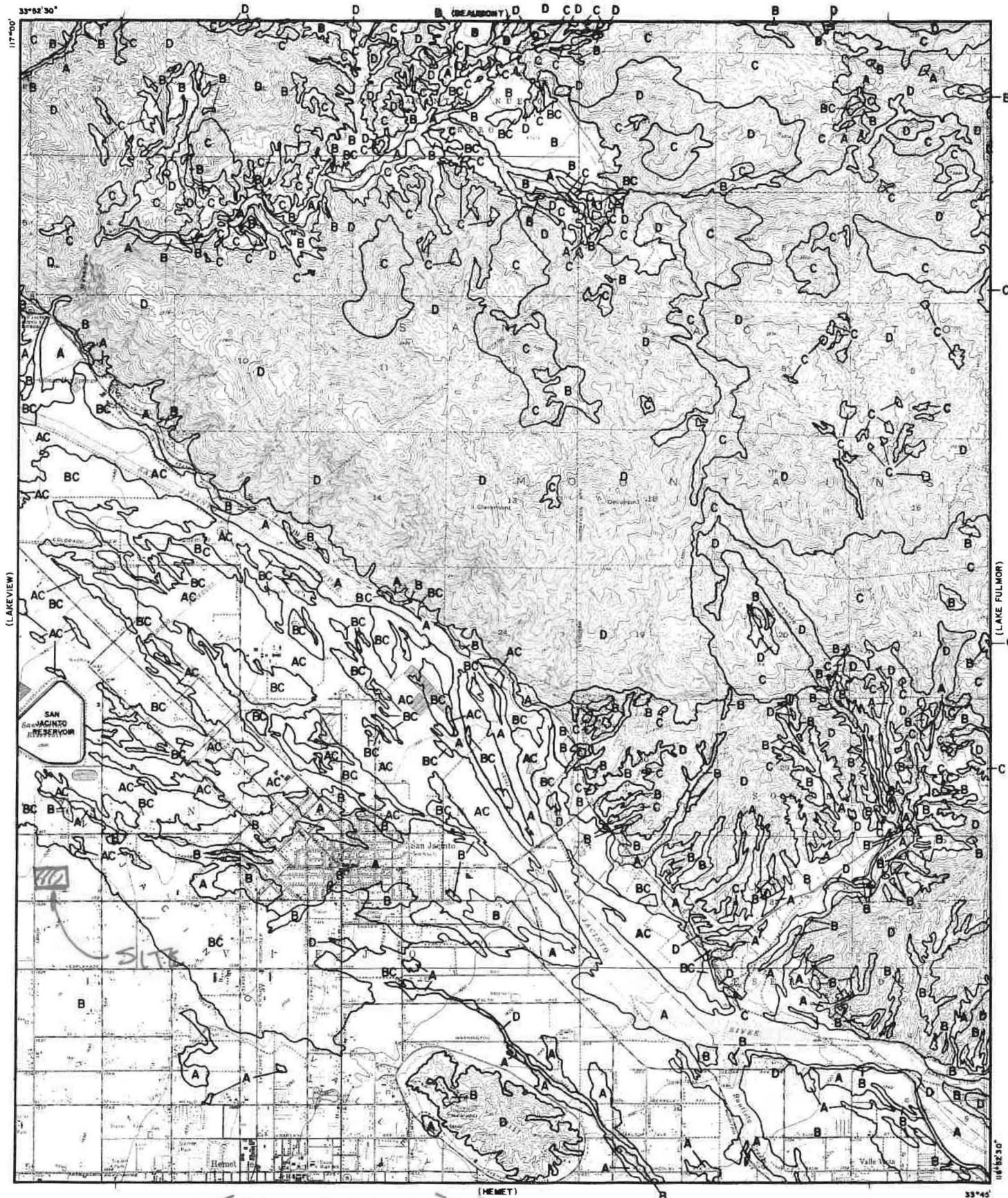
**APPENDIX 'A'**





**VICINITY MAP**

N.T.S.



**LEGEND**

— SOILS GROUP BOUNDARY

A SOILS GROUP DESIGNATION

**RCFC & WCD**

HYDROLOGY MANUAL

0 FEET 5000

**HYDROLOGIC SOILS GROUP MAP**

**FOR**

**SAN JACINTO**

# RAINFALL INTENSITY—INCHES PER HOUR

RIVERSIDE			RIVERSIDE (FOOTHILL AREAS)			RUBIDOUX			SAN JACINTO			SUN CITY		
DURATION MINUTES	FREQUENCY		DURATION MINUTES	FREQUENCY		DURATION MINUTES	FREQUENCY		DURATION MINUTES	FREQUENCY		DURATION MINUTES	FREQUENCY	
	10 YEAR	100 YEAR		10 YEAR	100 YEAR		10 YEAR	100 YEAR		10 YEAR	100 YEAR		10 YEAR	100 YEAR
5	2.75	3.92	5	3.14	4.71	5	3.18	4.71	5	2.81	4.16	5	3.25	4.85
6	2.48	3.55	6	2.84	4.26	6	2.87	4.26	6	2.56	3.79	6	2.95	4.40
7	2.28	3.26	7	2.61	3.91	7	2.64	3.91	7	2.37	3.51	7	2.72	4.06
8	2.12	3.03	8	2.42	3.63	8	2.45	3.63	8	2.22	3.29	8	2.53	3.78
9	1.99	2.84	9	2.27	3.41	9	2.30	3.41	9	2.09	3.10	9	2.38	3.55
10	1.88	2.68	10	2.14	3.21	10	2.17	3.21	10	1.98	2.94	10	2.25	3.36
11	1.78	2.54	11	2.03	3.05	11	2.06	3.05	11	1.89	2.80	11	2.14	3.19
12	1.70	2.42	12	1.94	2.91	12	1.96	2.91	12	1.81	2.68	12	2.04	3.05
13	1.62	2.32	13	1.86	2.78	13	1.88	2.78	13	1.74	2.58	13	1.96	2.92
14	1.56	2.23	14	1.78	2.67	14	1.80	2.67	14	1.68	2.48	14	1.88	2.81
15	1.50	2.14	15	1.71	2.57	15	1.74	2.57	15	1.62	2.40	15	1.81	2.71
16	1.45	2.07	16	1.66	2.48	16	1.68	2.48	16	1.57	2.32	16	1.75	2.62
17	1.40	2.00	17	1.60	2.40	17	1.62	2.40	17	1.52	2.25	17	1.70	2.54
18	1.36	1.94	18	1.55	2.33	18	1.57	2.33	18	1.48	2.19	18	1.65	2.46
19	1.32	1.88	19	1.51	2.26	19	1.52	2.26	19	1.44	2.13	19	1.60	2.39
20	1.28	1.83	20	1.46	2.20	20	1.48	2.20	20	1.40	2.08	20	1.56	2.33
22	1.22	1.74	22	1.39	2.08	22	1.41	2.08	22	1.34	1.98	22	1.48	2.21
24	1.16	1.66	24	1.32	1.99	24	1.34	1.99	24	1.28	1.90	24	1.41	2.11
26	1.11	1.58	26	1.27	1.90	26	1.28	1.90	26	1.23	1.82	26	1.36	2.03
28	1.06	1.52	28	1.22	1.82	28	1.23	1.82	28	1.19	1.76	28	1.30	1.95
30	1.02	1.46	30	1.17	1.76	30	1.19	1.76	30	1.15	1.70	30	1.26	1.88
32	0.99	1.41	32	1.13	1.70	32	1.14	1.70	32	1.11	1.64	32	1.21	1.81
34	0.96	1.37	34	1.09	1.64	34	1.11	1.64	34	1.08	1.59	34	1.18	1.76
36	0.93	1.32	36	1.06	1.59	36	1.07	1.59	36	1.05	1.55	36	1.14	1.70
38	0.90	1.29	38	1.03	1.54	38	1.04	1.54	38	1.02	1.51	38	1.11	1.66
40	0.87	1.25	40	1.00	1.50	40	1.01	1.50	40	0.99	1.47	40	1.08	1.61
45	0.82	1.17	45	0.94	1.41	45	0.95	1.41	45	0.94	1.39	45	1.01	1.51
50	0.77	1.11	50	0.88	1.33	50	0.90	1.33	50	0.89	1.31	50	0.96	1.43
55	0.73	1.05	55	0.84	1.26	55	0.85	1.26	55	0.85	1.25	55	0.91	1.36
60	0.70	1.00	60	0.80	1.20	60	0.81	1.20	60	0.81	1.20	60	0.87	1.30
65	0.67	0.96	65	0.77	1.15	65	0.78	1.15	65	0.78	1.15	65	0.83	1.25
70	0.64	0.92	70	0.73	1.10	70	0.74	1.10	70	0.75	1.11	70	0.80	1.20
75	0.62	0.88	75	0.71	1.06	75	0.72	1.06	75	0.72	1.07	75	0.77	1.15
80	0.60	0.85	80	0.68	1.02	80	0.69	1.02	80	0.70	1.04	80	0.75	1.12
85	0.58	0.83	85	0.66	0.99	85	0.67	0.99	85	0.68	1.01	85	0.72	1.08
SLOPE = .550			SLOPE = .550			SLOPE = .550			SLOPE = .500			SLOPE = .530		

**RCFC & WCD**  
HYDROLOGY MANUAL

STANDARD  
INTENSITY - DURATION  
CURVES DATA

RUNOFF INDEX NUMBERS OF HYDROLOGIC SOIL-COVER COMPLEXES FOR PERVIOUS AREAS-AMC II

Cover Type (3)	Quality of Cover (2)	Soil Group			
		A	B	C	D
<u>NATURAL COVERS -</u>					
Barren (Rockland, eroded and graded land)		78	86	91	93
Chaparrel, Broadleaf (Manzonita, ceanothus and scrub oak)	Poor	53	70	80	85
	Fair	40	63	75	81
	Good	31	57	71	78
Chaparrel, Narrowleaf (Chamise and redshank)	Poor	71	82	88	91
	Fair	55	72	81	86
Grass, Annual or Perennial	Poor	67	78	86	89
	Fair	50	69	79	84
	Good	38	61	74	80
Meadows or Cienegas (Areas with seasonally high water table, principal vegetation is sod forming grass)	Poor	63	77	85	88
	Fair	51	70	80	84
	Good	30	58	72	78
Open Brush (Soft wood shrubs - buckwheat, sage, etc.)	Poor	62	76	84	88
	Fair	46	66	77	83
	Good	41	63	75	81
Woodland (Coniferous or broadleaf trees predominate. Canopy density is at least 50 percent)	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	28	55	70	77
Woodland, Grass (Coniferous or broadleaf trees with canopy density from 20 to 50 percent)	Poor	57	73	82	86
	Fair	44	65	77	82
	Good	33	58	72	79
<u>URBAN COVERS -</u>					
Residential or Commercial Landscaping (Lawn, shrubs, etc.)	Good	32	56	69	75
Turf (Irrigated and mowed grass)	Poor	58	74	83	87
	Fair	44	65	77	82
	Good	33	58	72	79
<u>AGRICULTURAL COVERS -</u>					
Fallow (Land plowed but not tilled or seeded)		76	85	90	92

**RCFC & WCD**  
HYDROLOGY MANUAL

RUNOFF INDEX NUMBERS  
FOR  
PERVIOUS AREA

RUNOFF INDEX NUMBERS OF HYDROLOGIC SOIL-COVER COMPLEXES FOR PERVIOUS AREAS-AMC II

Cover Type (3)	Quality of Cover (2)	Soil Group			
		A	B	C	D
<u>AGRICULTURAL COVERS</u> (cont.) -					
Legumes, Close Seeded (Alfalfa, sweetclover, timothy, etc.)	Poor	66	77	85	89
	Good	58	72	81	85
Orchards, Deciduous (Apples, apricots, pears, walnuts, etc.)		See Note 4			
Orchards, Evergreen (Citrus, avocados, etc.)	Poor	57	73	82	86
	Fair	44	65	77	82
	Good	33	58	72	79
Pasture, Dryland (Annual grasses)	Poor	67	78	86	89
	Fair	50	69	79	84
	Good	38	61	74	80
Pasture, Irrigated (Legumes and perennial grass)	Poor	58	74	83	87
	Fair	44	65	77	82
	Good	33	58	72	79
Row Crops (Field crops - tomatoes, sugar beets, etc.)	Poor	72	81	88	91
	Good	67	78	85	89
Small Grain (Wheat, oats, barley, etc.)	Poor	65	76	84	88
	Good	63	75	83	87
Vineyard		See Note 4			

Notes:

1. All runoff index (RI) numbers are for Antecedent Moisture Condition (AMC) II.
2. Quality of cover definitions:  
 Poor-Heavily grazed or regularly burned areas. Less than 50 percent of the ground surface is protected by plant cover or brush and tree canopy.  
 Fair-Moderate cover with 50 percent to 75 percent of the ground surface protected.  
 Good-Heavy or dense cover with more than 75 percent of the ground surface protected.
3. See Plate C-2 for a detailed description of cover types.
4. Use runoff index numbers based on ground cover type. See discussion under "Cover Type Descriptions" on Plate C-2.
5. Reference Bibliography item 17.

**RCFC & WCD**  
HYDROLOGY MANUAL

**RUNOFF INDEX NUMBERS  
FOR  
PERVIOUS AREA**

**APPENDIX 'B'**

**10-YEAR RATIONAL HYDROLOGY  
UNDEVELOPED CONDITION  
Area A**

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989 - 2005 Version

7.1

Rational Hydrology Study

Date: 01/28/22

File:TTM38339UNDEV10YR.out

-----  
TENTATIVE TRACT 38339  
UNDEVELOPED CONDITION  
AREA A  
10 YEAR STORM  
-----

-----  
\*\*\*\*\* Hydrology Study Control Information \*\*\*\*\*

English (in-lb) Units used in input data file  
-----

-----  
Program License Serial Number 4061  
-----

-----  
Rational Method Hydrology Program based on  
Riverside County Flood Control & Water Conservation District  
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)

For the [ San Jacinto ] area used.

10 year storm 10 minute intensity = 1.980(In/Hr)

10 year storm 60 minute intensity = 0.810(In/Hr)

100 year storm 10 minute intensity = 2.940(In/Hr)

100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 10.0

Calculated rainfall intensity data:

1 hour intensity = 0.810(In/Hr)

Slope of intensity duration curve = 0.5000

++++

Process from Point/Station 1.000 to Point/Station

2.000

\*\*\*\* INITIAL AREA EVALUATION \*\*\*\*  
-----

Initial area flow distance = 760.000(Ft.)

Top (of initial area) elevation = 28.000(Ft.)

Bottom (of initial area) elevation = 24.800(Ft.)

Difference in elevation = 3.200(Ft.)

Slope = 0.00421 s(percent)= 0.42



TC =  $k(0.530)*[(\text{length}^3)/(\text{elevation change})]^{0.2}$   
 Initial area time of concentration = 22.477 min.  
 Rainfall intensity = 1.323(In/Hr) for a 10.0 year storm  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.701  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 1.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 0.000  
 RI index for soil(AMC 2) = 78.00  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Initial subarea runoff = 8.440(CFS)  
 Total initial stream area = 9.100(Ac.)  
 Pervious area fraction = 1.000

+++++  
 ++++ Process from Point/Station 2.000 to Point/Station  
 3.000 \*\*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*\*

---

Top of natural channel elevation = 24.800(Ft.)  
 End of natural channel elevation = 23.000(Ft.)  
 Length of natural channel = 710.000(Ft.)  
 Estimated mean flow rate at midpoint of channel = 13.310(CFS)

Natural valley channel type used  
 L.A. County flood control district formula for channel velocity:  
 Velocity(ft/s) =  $(7 + 8(q(\text{English Units})^{.352})(\text{slope}^{.5}))$   
 Velocity using mean channel flow = 1.35(Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0025  
 Corrected/adjusted channel slope = 0.0025  
 Travel time = 8.74 min. TC = 31.21 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.674  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 1.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 0.000  
 RI index for soil(AMC 2) = 78.00  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 1.123(In/Hr) for a 10.0 year storm  
 Subarea runoff = 7.950(CFS) for 10.500(Ac.)  
Total runoff = 16.390(CFS) Total area = 19.600(Ac.)  
 End of computations, total study area = 19.60 (Ac.)

The following figures may  
 be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000  
 Area averaged RI index number = 78.0

**100-YEAR RATIONAL HYDROLOGY  
UNDEVELOPED CONDITION  
Area A**

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989 - 2005 Version

7.1

Rational Hydrology Study

Date: 01/28/22

File:TTM38339UNDEV100YR.out

-----  
TENTATIVE TRACT 38339  
UNDEVELOPED CONDITION  
AREA A  
100 YEAR STORM  
-----

-----  
\*\*\*\*\* Hydrology Study Control Information \*\*\*\*\*

English (in-lb) Units used in input data file  
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-----  
Program License Serial Number 4061  
-----

-----  
Rational Method Hydrology Program based on  
Riverside County Flood Control & Water Conservation District  
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)

For the [ San Jacinto ] area used.

10 year storm 10 minute intensity = 1.980(In/Hr)

10 year storm 60 minute intensity = 0.810(In/Hr)

100 year storm 10 minute intensity = 2.940(In/Hr)

100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 100.0

Calculated rainfall intensity data:

1 hour intensity = 1.200(In/Hr)

Slope of intensity duration curve = 0.5000

++++

Process from Point/Station 1.000 to Point/Station

2.000

\*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

-----  
Initial area flow distance = 760.000(Ft.)

Top (of initial area) elevation = 28.000(Ft.)

Bottom (of initial area) elevation = 24.800(Ft.)

Difference in elevation = 3.200(Ft.)

Slope = 0.00421 s(percent)= 0.42

$TC = k(0.530) * [(length^3) / (elevation\ change)]^{0.2}$   
 Initial area time of concentration = 22.477 min.  
 Rainfall intensity = 1.961(In/Hr) for a 100.0 year storm  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.755  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 1.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 0.000  
 RI index for soil(AMC 2) = 78.00  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Initial subarea runoff = 13.473(CFS)  
 Total initial stream area = 9.100(Ac.)  
 Pervious area fraction = 1.000

+++++  
 +++++  
 Process from Point/Station 2.000 to Point/Station  
 3.000  
 \*\*\*\* NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

---

Top of natural channel elevation = 24.800(Ft.)  
 End of natural channel elevation = 23.000(Ft.)  
 Length of natural channel = 710.000(Ft.)  
 Estimated mean flow rate at midpoint of channel = 21.246(CFS)

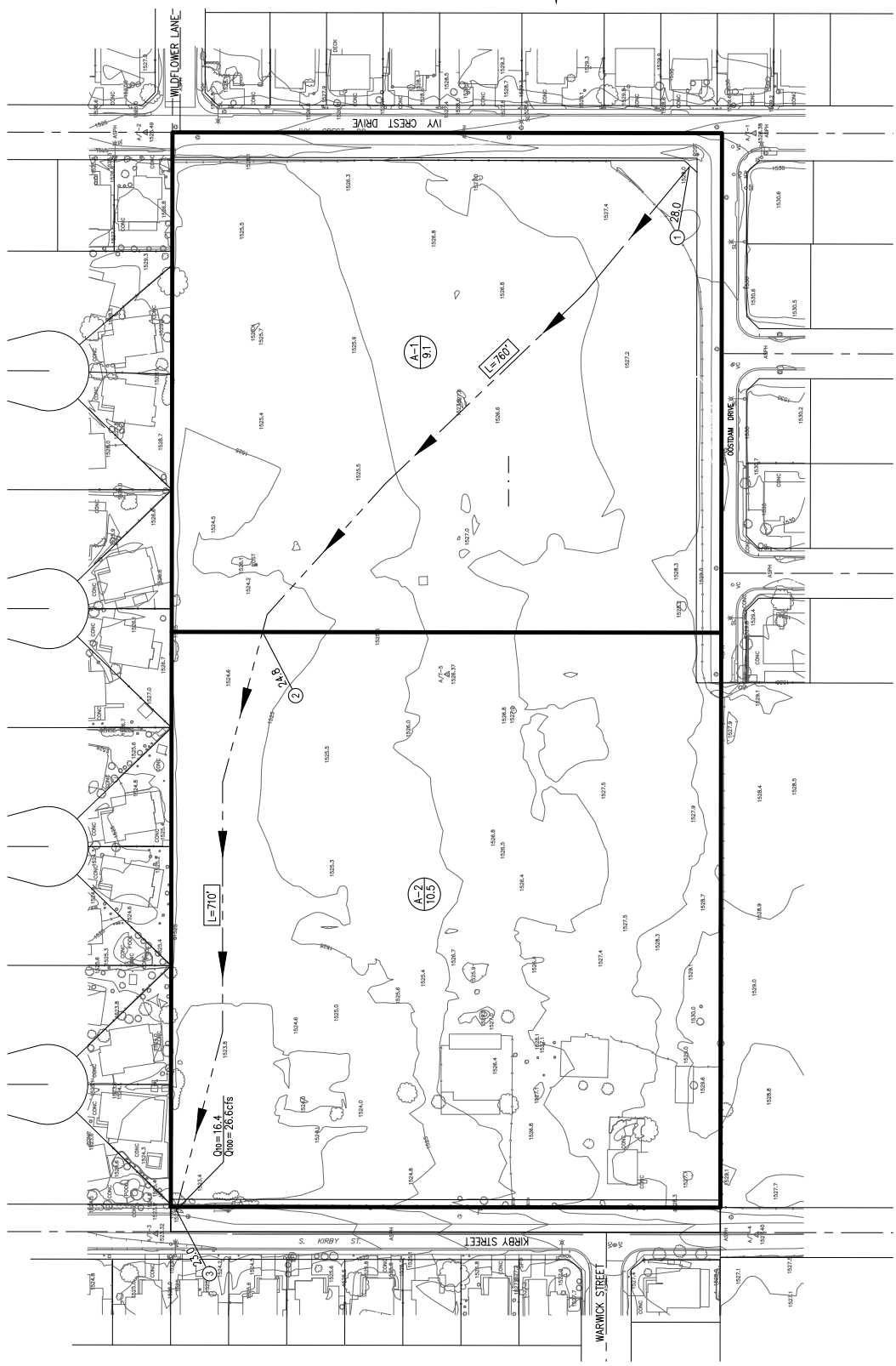
Natural valley channel type used  
 L.A. County flood control district formula for channel velocity:  
 $Velocity(ft/s) = (7 + 8(q(English\ Units)^{.352})(slope^{.5}))$   
 Velocity using mean channel flow = 1.53(Ft/s)

Correction to map slope used on extremely rugged channels with  
 drops and waterfalls (Plate D-6.2)  
 Normal channel slope = 0.0025  
 Corrected/adjusted channel slope = 0.0025  
 Travel time = 7.72 min. TC = 30.19 min.

Adding area flow to channel  
 UNDEVELOPED (poor cover) subarea  
 Runoff Coefficient = 0.736  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 1.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 0.000  
 RI index for soil(AMC 2) = 78.00  
 Pervious area fraction = 1.000; Impervious fraction = 0.000  
 Rainfall intensity = 1.692(In/Hr) for a 100.0 year storm  
 Subarea runoff = 13.078(CFS) for 10.500(Ac.)  
 Total runoff = 26.551(CFS) Total area = 19.600(Ac.)  
 End of computations, total study area = 19.60 (Ac.)

The following figures may  
 be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000  
 Area averaged RI index number = 78.0



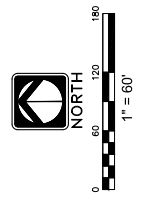
**LEGEND**

--- DRAINAGE BOUNDARY

→ FLOW DIRECTION

① NODE NUMBER

⊙ C AREA DESIGNATION  
3.7 AREA IN ACRES



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 1-800-227-2600  
 AT LEAST TWO DAYS  
 BEFORE YOU DIG  
 UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

NO.	DATE	BY	REVISIONS	DESIGNED BY	CHECKED BY	CITY



**APPROVED BY:** \_\_\_\_\_ DATE: \_\_\_\_\_  
**R.C.E. NO.** \_\_\_\_\_ **EXP. DATE** \_\_\_\_\_  
**PREPARED BY:** \_\_\_\_\_ DATE: \_\_\_\_\_  
**R.C.E. NO.** \_\_\_\_\_ **EXP. DATE** \_\_\_\_\_

**B W** **BLAINE A. WOMER**  
 CIVIL ENGINEERING  
 15000 WILLOW CREEK DRIVE, SUITE 100, WESTLAKE, CA 91361  
 (818) 499-1111  
**SCALE** \_\_\_\_\_ **DATE** JAN. 2022  
**BENCHMARK** \_\_\_\_\_

CITY OF SAN JACINTO  
**TENTATIVE TRACT MAP**  
**NO. 38339**  
**HYDROLOGY EXHIBIT**  
**UNDEVELOPED CONDITION**

SHEET NO. **1**  
 OF 1 SHEETS  
 FILE NO. \_\_\_\_\_

**APPENDIX 'C'**

**10-YEAR RATIONAL HYDROLOGY  
DEVELOPED CONDITION  
Areas B & C**

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989 - 2005 Version

7.1

Rational Hydrology Study

Date: 02/01/22

File:TTM38339DEVAREAB10YR.out

-----  
TENTATIVE TRACT 38339  
DEVELOPED CONDITION  
AREA B  
10 YEAR STORM  
-----

-----  
\*\*\*\*\* Hydrology Study Control Information \*\*\*\*\*

English (in-lb) Units used in input data file  
-----

-----  
Program License Serial Number 4061  
-----

-----  
Rational Method Hydrology Program based on  
Riverside County Flood Control & Water Conservation District  
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)

For the [ San Jacinto ] area used.

10 year storm 10 minute intensity = 1.980(In/Hr)

10 year storm 60 minute intensity = 0.810(In/Hr)

100 year storm 10 minute intensity = 2.940(In/Hr)

100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 10.0

Calculated rainfall intensity data:

1 hour intensity = 0.810(In/Hr)

Slope of intensity duration curve = 0.5000

++++  
++++

Process from Point/Station 1.000 to Point/Station

2.000

\*\*\*\* INITIAL AREA EVALUATION \*\*\*\*  
-----

Initial area flow distance = 1000.000(Ft.)

Top (of initial area) elevation = 28.600(Ft.)

Bottom (of initial area) elevation = 25.600(Ft.)

Difference in elevation = 3.000(Ft.)

Slope = 0.00300 s(percent)= 0.30



TC =  $k(0.390)*[(\text{length}^3)/(\text{elevation change})]^{0.2}$   
Initial area time of concentration = 19.753 min.  
Rainfall intensity = 1.412(In/Hr) for a 10.0 year storm  
SINGLE FAMILY (1/4 Acre Lot)  
Runoff Coefficient = 0.708  
Decimal fraction soil group A = 0.000  
Decimal fraction soil group B = 1.000  
Decimal fraction soil group C = 0.000  
Decimal fraction soil group D = 0.000  
RI index for soil(AMC 2) = 56.00  
Pervious area fraction = 0.500; Impervious fraction = 0.500  
Initial subarea runoff = 3.300(CFS)  
Total initial stream area = 3.300(Ac.)  
Pervious area fraction = 0.500  
End of computations, total study area = 3.30 (Ac.)  
The following figures may  
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction( $A_p$ ) = 0.500  
Area averaged RI index number = 56.0

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989 - 2005 Version

7.1

Rational Hydrology Study

Date: 02/01/22

File:TTM38339DEVAREAC10YR.out

-----  
TENTATIVE TRACT 38339  
DEVELOPED CONDITION  
AREA C  
10 YEAR STORM  
-----

-----  
\*\*\*\*\* Hydrology Study Control Information \*\*\*\*\*

English (in-lb) Units used in input data file  
-----

-----  
Program License Serial Number 4061  
-----

-----  
Rational Method Hydrology Program based on  
Riverside County Flood Control & Water Conservation District  
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)

For the [ San Jacinto ] area used.

10 year storm 10 minute intensity = 1.980(In/Hr)

10 year storm 60 minute intensity = 0.810(In/Hr)

100 year storm 10 minute intensity = 2.940(In/Hr)

100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 10.0

Calculated rainfall intensity data:

1 hour intensity = 0.810(In/Hr)

Slope of intensity duration curve = 0.5000

++++  
++++

Process from Point/Station 3.000 to Point/Station

4.000

\*\*\*\* INITIAL AREA EVALUATION \*\*\*\*  
-----

Initial area flow distance = 540.000(Ft.)

Top (of initial area) elevation = 28.200(Ft.)

Bottom (of initial area) elevation = 25.900(Ft.)

Difference in elevation = 2.300(Ft.)

Slope = 0.00426 s(percent)= 0.43

TC =  $k(0.390)*[(length^3)/(elevation\ change)]^{0.2}$   
 Initial area time of concentration = 14.393 min.  
 Rainfall intensity = 1.654(In/Hr) for a 10.0 year storm  
 SINGLE FAMILY (1/4 Acre Lot)  
 Runoff Coefficient = 0.725  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 1.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 0.000  
 RI index for soil(AMC 2) = 56.00  
 Pervious area fraction = 0.500; Impervious fraction = 0.500  
 Initial subarea runoff = 4.679(CFS)  
 Total initial stream area = 3.900(Ac.)  
 Pervious area fraction = 0.500

+++++  
 \*\*\*\*  
 5.000 Process from Point/Station 4.000 to Point/Station  
 \*\*\*\*\* STREET FLOW TRAVEL TIME + SUBAREA FLOW ADDITION \*\*\*\*\*

---

Top of street segment elevation = 25.900(Ft.)  
 End of street segment elevation = 23.600(Ft.)  
 Length of street segment = 640.000(Ft.)  
 Height of curb above gutter flowline = 6.0(In.)  
 Width of half street (curb to crown) = 20.000(Ft.)  
 Distance from crown to crossfall grade break = 18.000(Ft.)  
 Slope from gutter to grade break (v/hz) = 0.020  
 Slope from grade break to crown (v/hz) = 0.020  
 Street flow is on [2] side(s) of the street  
 Distance from curb to property line = 10.000(Ft.)  
 Slope from curb to property line (v/hz) = 0.020  
 Gutter width = 2.000(Ft.)  
 Gutter hike from flowline = 2.000(In.)  
 Manning's N in gutter = 0.0150  
 Manning's N from gutter to grade break = 0.0150  
 Manning's N from grade break to crown = 0.0150  
 Estimated mean flow rate at midpoint of street = 10.527(CFS)  
 Depth of flow = 0.460(Ft.), Average velocity = 1.817(Ft/s)  
 Streetflow hydraulics at midpoint of street travel:  
 Halfstreet flow width = 16.643(Ft.)  
 Flow velocity = 1.82(Ft/s)  
 Travel time = 5.87 min. TC = 20.26 min.  
 Adding area flow to street  
 SINGLE FAMILY (1/4 Acre Lot)  
 Runoff Coefficient = 0.707  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 1.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 0.000  
 RI index for soil(AMC 2) = 56.00  
 Pervious area fraction = 0.500; Impervious fraction = 0.500  
 Rainfall intensity = 1.394(In/Hr) for a 10.0 year storm  
 Subarea runoff = 11.528(CFS) for 11.700(Ac.)  
Total runoff = 16.207(CFS) Total area = 15.600(Ac.)  
 Street flow at end of street = 16.207(CFS)  
 Half street flow at end of street = 8.104(CFS)  
 Depth of flow = 0.526(Ft.), Average velocity = 1.961(Ft/s)  
 Warning: depth of flow exceeds top of curb

Distance that curb overflow reaches into property = 1.31(Ft.)  
Flow width (from curb towards crown)= 19.974(Ft.)  
End of computations, total study area = 15.60 (Ac.)  
The following figures may  
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction( $A_p$ ) = 0.500  
Area averaged RI index number = 56.0

**100-YEAR RATIONAL HYDROLOGY  
DEVELOPED CONDITION  
Areas B & C**

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989 - 2005 Version

7.1

Rational Hydrology Study

Date: 02/01/22

File:TTM38339DEVAREAB100YR.out

-----  
TENTATIVE TRACT 38339  
DEVELOPED CONDITION  
AREA B  
100 YEAR STORM  
-----

-----  
\*\*\*\*\* Hydrology Study Control Information \*\*\*\*\*

English (in-lb) Units used in input data file  
-----

-----  
Program License Serial Number 4061  
-----

-----  
Rational Method Hydrology Program based on  
Riverside County Flood Control & Water Conservation District  
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)

For the [ San Jacinto ] area used.

10 year storm 10 minute intensity = 1.980(In/Hr)

10 year storm 60 minute intensity = 0.810(In/Hr)

100 year storm 10 minute intensity = 2.940(In/Hr)

100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 100.0

Calculated rainfall intensity data:

1 hour intensity = 1.200(In/Hr)

Slope of intensity duration curve = 0.5000

++++  
++++

Process from Point/Station 1.000 to Point/Station

2.000

\*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

-----  
Initial area flow distance = 1000.000(Ft.)

Top (of initial area) elevation = 28.600(Ft.)

Bottom (of initial area) elevation = 25.600(Ft.)

Difference in elevation = 3.000(Ft.)

Slope = 0.00300 s(percent)= 0.30

TC =  $k(0.390)*[(\text{length}^3)/(\text{elevation change})]^{0.2}$   
Initial area time of concentration = 19.753 min.  
Rainfall intensity = 2.091(In/Hr) for a 100.0 year storm  
SINGLE FAMILY (1/4 Acre Lot)  
Runoff Coefficient = 0.750  
Decimal fraction soil group A = 0.000  
Decimal fraction soil group B = 1.000  
Decimal fraction soil group C = 0.000  
Decimal fraction soil group D = 0.000  
RI index for soil(AMC 2) = 56.00  
Pervious area fraction = 0.500; Impervious fraction = 0.500  
Initial subarea runoff = 5.175(CFS)  

---

Total initial stream area = 3.300(Ac.)  
Pervious area fraction = 0.500  
End of computations, total study area = 3.30 (Ac.)  
The following figures may  
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction( $A_p$ ) = 0.500  
Area averaged RI index number = 56.0

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989 - 2005 Version  
7.1

Rational Hydrology Study Date: 02/01/22  
File:TTM38339DEVAREAC100YR.out

-----  
TENTATIVE TRACT 38339  
DEVELOPED CONDITION  
AREA C  
100 YEAR STORM  
-----

-----  
\*\*\*\*\* Hydrology Study Control Information \*\*\*\*\*

English (in-lb) Units used in input data file  
-----

-----  
Program License Serial Number 4061  
-----

-----  
Rational Method Hydrology Program based on  
Riverside County Flood Control & Water Conservation District  
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)  
For the [ San Jacinto ] area used.

10 year storm 10 minute intensity = 1.980(In/Hr)  
10 year storm 60 minute intensity = 0.810(In/Hr)  
100 year storm 10 minute intensity = 2.940(In/Hr)  
100 year storm 60 minute intensity = 1.200(In/Hr)

Storm event year = 100.0  
Calculated rainfall intensity data:  
1 hour intensity = 1.200(In/Hr)  
Slope of intensity duration curve = 0.5000

++++  
++++  
Process from Point/Station 3.000 to Point/Station  
4.000  
\*\*\*\* INITIAL AREA EVALUATION \*\*\*\*

-----  
Initial area flow distance = 540.000(Ft.)  
Top (of initial area) elevation = 28.200(Ft.)  
Bottom (of initial area) elevation = 25.900(Ft.)  
Difference in elevation = 2.300(Ft.)  
Slope = 0.00426 s(percent)= 0.43



TC =  $k(0.390)*[(\text{length}^3)/(\text{elevation change})]^{0.2}$   
 Initial area time of concentration = 14.393 min.  
 Rainfall intensity = 2.450(In/Hr) for a 100.0 year storm  
 SINGLE FAMILY (1/4 Acre Lot)  
 Runoff Coefficient = 0.765  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 1.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 0.000  
 RI index for soil(AMC 2) = 56.00  
 Pervious area fraction = 0.500; Impervious fraction = 0.500  
 Initial subarea runoff = 7.312(CFS)  
 Total initial stream area = 3.900(Ac.)  
 Pervious area fraction = 0.500

+++++  
 ++++ Process from Point/Station 4.000 to Point/Station  
 5.000  
 \*\*\*\* STREET FLOW TRAVEL TIME + SUBAREA FLOW ADDITION \*\*\*\*

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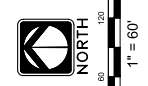
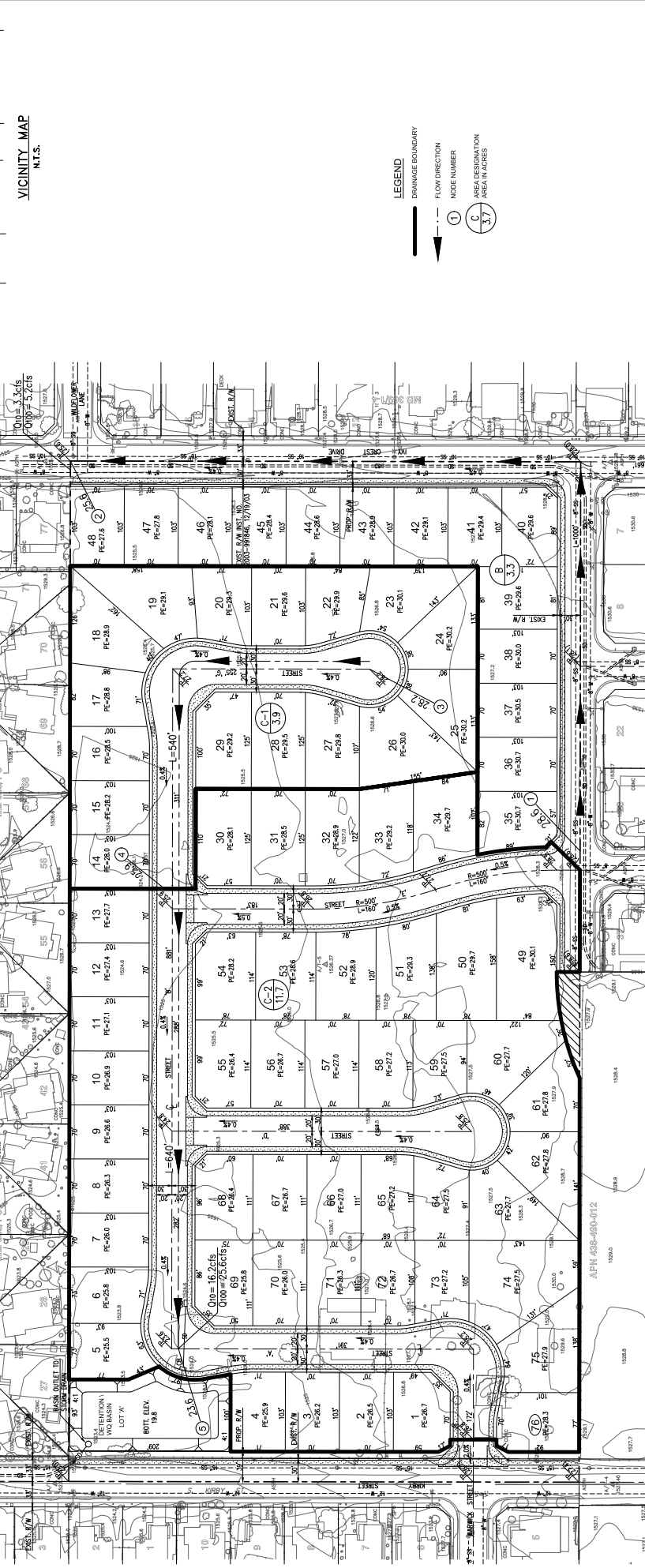
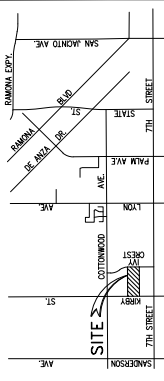
Top of street segment elevation = 25.900(Ft.)  
 End of street segment elevation = 23.600(Ft.)  
 Length of street segment = 640.000(Ft.)  
 Height of curb above gutter flowline = 6.0(In.)  
 Width of half street (curb to crown) = 20.000(Ft.)  
 Distance from crown to crossfall grade break = 18.000(Ft.)  
 Slope from gutter to grade break (v/hz) = 0.020  
 Slope from grade break to crown (v/hz) = 0.020  
 Street flow is on [2] side(s) of the street  
 Distance from curb to property line = 10.000(Ft.)  
 Slope from curb to property line (v/hz) = 0.020  
 Gutter width = 2.000(Ft.)  
 Gutter hike from flowline = 2.000(In.)  
 Manning's N in gutter = 0.0150  
 Manning's N from gutter to grade break = 0.0150  
 Manning's N from grade break to crown = 0.0150  
 Estimated mean flow rate at midpoint of street = 16.533(CFS)  
 Depth of flow = 0.529(Ft.), Average velocity = 1.970(Ft/s)  
 Warning: depth of flow exceeds top of curb  
 Note: depth of flow exceeds top of street crown.  
 Distance that curb overflow reaches into property = 1.45(Ft.)  
 Streetflow hydraulics at midpoint of street travel:  
 Halfstreet flow width = 20.000(Ft.)  
 Flow velocity = 1.97(Ft/s)  
 Travel time = 5.41 min. TC = 19.81 min.  
 Adding area flow to street  
 SINGLE FAMILY (1/4 Acre Lot)  
 Runoff Coefficient = 0.750  
 Decimal fraction soil group A = 0.000  
 Decimal fraction soil group B = 1.000  
 Decimal fraction soil group C = 0.000  
 Decimal fraction soil group D = 0.000  
 RI index for soil(AMC 2) = 56.00  
 Pervious area fraction = 0.500; Impervious fraction = 0.500  
 Rainfall intensity = 2.089(In/Hr) for a 100.0 year storm  
 Subarea runoff = 18.319(CFS) for 11.700(Ac.)  
 Total runoff = 25.631(CFS) Total area = 15.600(Ac.)  
 Street flow at end of street = 25.631(CFS)

Half street flow at end of street = 12.815(CFS)  
Depth of flow = 0.598(Ft.), Average velocity = 2.215(Ft/s)  
Warning: depth of flow exceeds top of curb  
Note: depth of flow exceeds top of street crown.  
Distance that curb overflow reaches into property = 4.88(Ft.)  
Flow width (from curb towards crown)= 20.000(Ft.)  
End of computations, total study area = 15.60 (Ac.)  
The following figures may  
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction( $A_p$ ) = 0.500  
Area averaged RI index number = 56.0



**IN THE CITY OF SAN JACINTO  
TENTATIVE TRACT MAP NO. 38339  
HYDROLOGY EXHIBIT-DEVELOPED CONDITION**



**NORTH**  
1" = 60'

	<p>APPROVED BY: _____ DATE: _____</p> <p>ENGINEER: _____ EXP. DATE: _____</p> <p>PREPARED BY: _____ DATE: _____</p> <p>SCALE: _____ DATE: JAN, 2022</p>	<p>SHEET NO. <b>1</b></p> <p>OF 1 SHEETS</p> <p>FILE NO.</p>	<p>CITY OF SAN JACINTO</p> <p><b>TENTATIVE TRACT MAP</b></p> <p><b>NO. 38339</b></p> <p><b>HYDROLOGY EXHIBIT</b></p> <p><b>DEVELOPED CONDITION</b></p>
<p><b>BLAINE A. WOMER</b> CIVIL ENGINEERING PUBLIC WORKS</p>		<p>FOR _____</p>	
<p>DESIGNED BY: _____</p> <p>DRAWN BY: _____</p> <p>CHECKED BY: _____</p> <p>REVISIONS:</p>		<p>BENCHMARK: _____</p>	

**DIG ALERT**  
DIAL TOLL FREE  
1-800-277-2600  
AT LEAST TWO DAYS  
BEFORE YOU DIG  
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

**APPENDIX 'D'**

BASIN VOLUME:

$$\text{VOL UNDEV} = 21,878 \text{ CF}$$

$$\text{VOL DEV} = 82,413 \text{ CF}$$

$$\Delta V = 82,413 - 21,878 = 60,535 \text{ CF}$$

$$\text{BASIN CAPACITY} = 60,782 \text{ CF} \quad \therefore \text{CAPACITY OK}$$

**UNIT HYDROGRAPH CALCULATIONS  
UNDEVELOPED CONDITION  
10-YEAR, 24 HOUR STORM**

Unit Hydrograph Analysis

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2008, Version

8.1

Study date 02/01/22 File:  
ttm38339undev10yr24hr2410.out

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Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4061

English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used  
English Units used in output format

TENTATIVE TRACT 38339  
UNDEVELOPED CONDITION  
10 YEAR, 24 HOUR STORM

Drainage Area = 19.60(Ac.) = 0.031 Sq. Mi.  
Drainage Area for Depth-Area Areal Adjustment = 19.60(Ac.) =  
0.031 Sq. Mi.  
Length along longest watercourse = 1470.00(Ft.)  
Length along longest watercourse measured to centroid = 830.00  
(Ft.)  
Length along longest watercourse = 0.278 Mi.  
Length along longest watercourse measured to centroid = 0.157  
Mi.  
Difference in elevation = 5.00(Ft.)  
Slope along watercourse = 17.9592 Ft./Mi.  
Average Manning's 'N' = 0.030  
Lag time = 0.127 Hr.  
Lag time = 7.60 Min.  
25% of lag time = 1.90 Min.  
40% of lag time = 3.04 Min.  
Unit time = 15.00 Min.  
Duration of storm = 24 Hour(s)  
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.) [1]          Rainfall(In) [2]          Weighting[1\*2]

19.60

1.80

35.28

100 YEAR Area rainfall data:

Area (Ac.) [1]	Rainfall (In) [2]	Weighting [1*2]
19.60	4.50	88.20

STORM EVENT (YEAR) = 10.00  
 Area Averaged 2-Year Rainfall = 1.800 (In)  
 Area Averaged 100-Year Rainfall = 4.500 (In)

Point rain (area averaged) = 2.911 (In)  
 Areal adjustment factor = 100.00 %  
 Adjusted average point rain = 2.911 (In)

Sub-Area Data:

Area (Ac.)	Runoff Index	Impervious %
19.600	69.00	0.000
Total Area Entered = 19.60 (Ac.)		

RI (In/Hr)	RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area % (Dec.)	F
0.373	69.0	69.0	0.373	0.000	0.373	1.000	
							Sum (F) =
0.373							

Area averaged mean soil loss (F) (In/Hr) = 0.373  
 Minimum soil loss rate ((In/Hr)) = 0.186  
 (for 24 hour storm duration)  
 Soil low loss rate (decimal) = 0.900

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 U n i t H y d r o g r a p h  
 VALLEY S-Curve  
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 Unit Hydrograph Data  
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Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.250	197.376	8.483
2	0.500	394.751	8.603
3	0.750	592.127	1.758
4	1.000	789.502	0.687
5	1.250	986.878	0.223
		Sum = 100.000	Sum= 19.753

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The following loss rate calculations reflect use of the minimum  
 calculated loss  
 rate subtracted from the Storm Rain to produce the maximum Effective  
 Rain value



Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate (In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.25	0.20	0.023	( 0.658)	0.021	0.002
2	0.50	0.30	0.035	( 0.651)	0.031	0.003
3	0.75	0.30	0.035	( 0.643)	0.031	0.003
4	1.00	0.40	0.047	( 0.636)	0.042	0.005
5	1.25	0.30	0.035	( 0.628)	0.031	0.003
6	1.50	0.30	0.035	( 0.621)	0.031	0.003
7	1.75	0.30	0.035	( 0.613)	0.031	0.003
8	2.00	0.40	0.047	( 0.606)	0.042	0.005
9	2.25	0.40	0.047	( 0.598)	0.042	0.005
10	2.50	0.40	0.047	( 0.591)	0.042	0.005
11	2.75	0.50	0.058	( 0.584)	0.052	0.006
12	3.00	0.50	0.058	( 0.577)	0.052	0.006
13	3.25	0.50	0.058	( 0.570)	0.052	0.006
14	3.50	0.50	0.058	( 0.563)	0.052	0.006
15	3.75	0.50	0.058	( 0.556)	0.052	0.006
16	4.00	0.60	0.070	( 0.549)	0.063	0.007
17	4.25	0.60	0.070	( 0.542)	0.063	0.007
18	4.50	0.70	0.081	( 0.535)	0.073	0.008
19	4.75	0.70	0.081	( 0.528)	0.073	0.008
20	5.00	0.80	0.093	( 0.521)	0.084	0.009
21	5.25	0.60	0.070	( 0.514)	0.063	0.007
22	5.50	0.70	0.081	( 0.508)	0.073	0.008
23	5.75	0.80	0.093	( 0.501)	0.084	0.009
24	6.00	0.80	0.093	( 0.494)	0.084	0.009
25	6.25	0.90	0.105	( 0.488)	0.094	0.010
26	6.50	0.90	0.105	( 0.481)	0.094	0.010
27	6.75	1.00	0.116	( 0.475)	0.105	0.012
28	7.00	1.00	0.116	( 0.468)	0.105	0.012
29	7.25	1.00	0.116	( 0.462)	0.105	0.012
30	7.50	1.10	0.128	( 0.456)	0.115	0.013
31	7.75	1.20	0.140	( 0.449)	0.126	0.014
32	8.00	1.30	0.151	( 0.443)	0.136	0.015
33	8.25	1.50	0.175	( 0.437)	0.157	0.017
34	8.50	1.50	0.175	( 0.431)	0.157	0.017
35	8.75	1.60	0.186	( 0.425)	0.168	0.019
36	9.00	1.70	0.198	( 0.419)	0.178	0.020
37	9.25	1.90	0.221	( 0.413)	0.199	0.022
38	9.50	2.00	0.233	( 0.407)	0.210	0.023
39	9.75	2.10	0.244	( 0.401)	0.220	0.024
40	10.00	2.20	0.256	( 0.396)	0.231	0.026
41	10.25	1.50	0.175	( 0.390)	0.157	0.017
42	10.50	1.50	0.175	( 0.384)	0.157	0.017
43	10.75	2.00	0.233	( 0.379)	0.210	0.023
44	11.00	2.00	0.233	( 0.373)	0.210	0.023
45	11.25	1.90	0.221	( 0.368)	0.199	0.022
46	11.50	1.90	0.221	( 0.362)	0.199	0.022
47	11.75	1.70	0.198	( 0.357)	0.178	0.020
48	12.00	1.80	0.210	( 0.352)	0.189	0.021
49	12.25	2.50	0.291	( 0.346)	0.262	0.029
50	12.50	2.60	0.303	( 0.341)	0.272	0.030
51	12.75	2.80	0.326	( 0.336)	0.293	0.033
52	13.00	2.90	0.338	( 0.331)	0.304	0.034
53	13.25	3.40	0.396	0.326	( 0.356)	0.070
54	13.50	3.40	0.396	0.321	( 0.356)	0.075
55	13.75	2.30	0.268	( 0.316)	0.241	0.027
56	14.00	2.30	0.268	( 0.311)	0.241	0.027
57	14.25	2.70	0.314	( 0.307)	0.283	0.031
58	14.50	2.60	0.303	( 0.302)	0.272	0.030
59	14.75	2.60	0.303	( 0.297)	0.272	0.030

60	15.00	2.50	0.291	{ 0.293)	0.262	0.029
61	15.25	2.40	0.279	{ 0.288)	0.251	0.028
62	15.50	2.30	0.268	{ 0.284)	0.241	0.027
63	15.75	1.90	0.221	{ 0.279)	0.199	0.022
64	16.00	1.90	0.221	{ 0.275)	0.199	0.022
65	16.25	0.40	0.047	{ 0.271)	0.042	0.005
66	16.50	0.40	0.047	{ 0.267)	0.042	0.005
67	16.75	0.30	0.035	{ 0.263)	0.031	0.003
68	17.00	0.30	0.035	{ 0.259)	0.031	0.003
69	17.25	0.50	0.058	{ 0.255)	0.052	0.006
70	17.50	0.50	0.058	{ 0.251)	0.052	0.006
71	17.75	0.50	0.058	{ 0.247)	0.052	0.006
72	18.00	0.40	0.047	{ 0.244)	0.042	0.005
73	18.25	0.40	0.047	{ 0.240)	0.042	0.005
74	18.50	0.40	0.047	{ 0.237)	0.042	0.005
75	18.75	0.30	0.035	{ 0.233)	0.031	0.003
76	19.00	0.20	0.023	{ 0.230)	0.021	0.002
77	19.25	0.30	0.035	{ 0.227)	0.031	0.003
78	19.50	0.40	0.047	{ 0.223)	0.042	0.005
79	19.75	0.30	0.035	{ 0.220)	0.031	0.003
80	20.00	0.20	0.023	{ 0.217)	0.021	0.002
81	20.25	0.30	0.035	{ 0.215)	0.031	0.003
82	20.50	0.30	0.035	{ 0.212)	0.031	0.003
83	20.75	0.30	0.035	{ 0.209)	0.031	0.003
84	21.00	0.20	0.023	{ 0.207)	0.021	0.002
85	21.25	0.30	0.035	{ 0.204)	0.031	0.003
86	21.50	0.20	0.023	{ 0.202)	0.021	0.002
87	21.75	0.30	0.035	{ 0.200)	0.031	0.003
88	22.00	0.20	0.023	{ 0.198)	0.021	0.002
89	22.25	0.30	0.035	{ 0.196)	0.031	0.003
90	22.50	0.20	0.023	{ 0.194)	0.021	0.002
91	22.75	0.20	0.023	{ 0.192)	0.021	0.002
92	23.00	0.20	0.023	{ 0.191)	0.021	0.002
93	23.25	0.20	0.023	{ 0.189)	0.021	0.002
94	23.50	0.20	0.023	{ 0.188)	0.021	0.002
95	23.75	0.20	0.023	{ 0.187)	0.021	0.002
96	24.00	0.20	0.023	{ 0.187)	0.021	0.002

(Loss Rate Not Used)

Sum = 100.0

Sum = 1.2

Flood volume = Effective rainfall 0.31(In)  
times area 19.6(Ac.)/[ (In)/(Ft.) ] = 0.5(Ac.Ft)  
Total soil loss = 2.60(In)  
Total soil loss = 4.252(Ac.Ft)  
Total rainfall = 2.91(In)  
Flood volume = 21877.8 Cubic Feet  
Total soil loss = 185212.0 Cubic Feet

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Peak flow rate of this hydrograph = 1.327(CFS)  
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24 - H O U R S T O R M  
R u n o f f H y d r o g r a p h

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Hydrograph in 15 Minute intervals ((CFS))  
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10.0

Time(h+m) Volume Ac.Ft Q(CFS) 0 2.5 5.0 7.5

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0+15	0.0004	0.02	Q			
0+30	0.0014	0.05	Q			
0+45	0.0028	0.06	Q			
1+ 0	0.0044	0.08	Q			
1+15	0.0060	0.08	Q			
1+30	0.0074	0.07	Q			
1+45	0.0089	0.07	Q			
2+ 0	0.0105	0.08	Q			
2+15	0.0124	0.09	Q			
2+30	0.0142	0.09	QV			
2+45	0.0163	0.10	QV			
3+ 0	0.0187	0.11	QV			
3+15	0.0210	0.11	QV			
3+30	0.0234	0.11	QV			
3+45	0.0258	0.12	Q V			
4+ 0	0.0283	0.12	Q V			
4+15	0.0311	0.13	Q V			
4+30	0.0342	0.15	Q V			
4+45	0.0374	0.16	Q V			
5+ 0	0.0409	0.17	Q V			
5+15	0.0443	0.16	Q V			
5+30	0.0474	0.15	Q V			
5+45	0.0509	0.17	Q V			
6+ 0	0.0547	0.18	Q V			
6+15	0.0586	0.19	Q V			
6+30	0.0628	0.20	Q V			
6+45	0.0673	0.22	Q V			
7+ 0	0.0720	0.23	Q V			
7+15	0.0767	0.23	Q V			

7+30	0.0817	0.24	Q	V			
7+45	0.0870	0.26	Q	V			
8+ 0	0.0929	0.28	Q	V			
8+15	0.0994	0.31	Q	V			
8+30	0.1063	0.34	Q	V			
8+45	0.1136	0.35	Q	V			
9+ 0	0.1214	0.37	Q	V			
9+15	0.1298	0.41	Q	V			
9+30	0.1388	0.44	Q	V			
9+45	0.1484	0.46	Q	V			
10+ 0	0.1585	0.49	Q	V			
10+15	0.1675	0.43	Q	V			
10+30	0.1750	0.37	Q	V			
10+45	0.1833	0.40	Q	V			
11+ 0	0.1926	0.45	Q	V			
11+15	0.2018	0.45	Q	V			
11+30	0.2108	0.44	Q	V			
11+45	0.2195	0.42	Q	V			
12+ 0	0.2279	0.41	Q	V			
12+15	0.2379	0.48	Q	V			
12+30	0.2495	0.56	Q	V			
12+45	0.2620	0.61	Q	V			
13+ 0	0.2754	0.65	Q	V			
13+15	0.2954	0.97	Q	V			
13+30	0.3228	1.33	Q	V			
13+45	0.3440	1.03	Q	V			
14+ 0	0.3573	0.65	Q	V			
14+15	0.3699	0.61	Q	V			
14+30	0.3825	0.61	Q	V			
14+45	0.3949	0.60	Q	V			

15+ 0	0.4070	0.59	Q			V
15+15	0.4188	0.57	Q			V
15+30	0.4301	0.55	Q			V
15+45	0.4403	0.49	Q			V
16+ 0	0.4496	0.45	Q			V
16+15	0.4557	0.29	Q			V
16+30	0.4585	0.14	Q			V
16+45	0.4606	0.10	Q			V
17+ 0	0.4621	0.08	Q			V
17+15	0.4640	0.09	Q			V
17+30	0.4663	0.11	Q			V
17+45	0.4686	0.11	Q			V
18+ 0	0.4708	0.10	Q			V
18+15	0.4727	0.10	Q			V
18+30	0.4746	0.09	Q			V
18+45	0.4763	0.08	Q			V
19+ 0	0.4776	0.06	Q			V
19+15	0.4789	0.06	Q			V
19+30	0.4805	0.08	Q			V
19+45	0.4821	0.08	Q			V
20+ 0	0.4833	0.06	Q			V
20+15	0.4846	0.06	Q			V
20+30	0.4860	0.07	Q			V
20+45	0.4874	0.07	Q			V
21+ 0	0.4886	0.06	Q			V
21+15	0.4898	0.06	Q			
V  21+30	0.4910	0.06	Q			
V  21+45	0.4922	0.06	Q			
V  22+ 0	0.4934	0.06	Q			
V  22+15	0.4946	0.06	Q			
V  22+30	0.4957	0.06	Q			

V	22+45	0.4967	0.05	Q			
V	23+ 0	0.4977	0.05	Q			
V	23+15	0.4987	0.05	Q			
V	23+30	0.4996	0.05	Q			
V	23+45	0.5006	0.05	Q			
V	24+ 0	0.5015	0.05	Q			
V	24+15	0.5021	0.03	Q			
V	24+30	0.5022	0.01	Q			
V	24+45	0.5022	0.00	Q			
V	25+ 0	0.5022	0.00	Q			
V							

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**UNIT HYDROGRAPH CALCULATIONS  
DEVELOPED CONDITION  
10-YEAR, 24 HOUR STORM**

Unit Hydrograph Analysis

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8.1

Study date 02/01/22 File: TTM38339DEV10YR24HR2410.out

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Riverside County Synthetic Unit Hydrology Method  
RCFC & WCD Manual date - April 1978

Program License Serial Number 4061

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English (in-lb) Input Units Used  
English Rainfall Data (Inches) Input Values Used

English Units used in output format

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TENTATIVE TRACT 38339  
DEVELOPED CONDITION  
10 YEAR, 24 HOUR STORM

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Drainage Area = 15.60(Ac.) = 0.024 Sq. Mi.  
0.024 Drainage Area for Depth-Area Areal Adjustment = 15.60(Ac.) =  
Sq. Mi.  
Length along longest watercourse = 1180.00(Ft.)  
(Ft.) Length along longest watercourse measured to centroid = 520.00  
Length along longest watercourse = 0.223 Mi.  
Mi. Length along longest watercourse measured to centroid = 0.098  
Difference in elevation = 4.60(Ft.)  
Slope along watercourse = 20.5831 Ft./Mi.  
Average Manning's 'N' = 0.015  
Lag time = 0.048 Hr.  
Lag time = 2.85 Min.  
25% of lag time = 0.71 Min.  
40% of lag time = 1.14 Min.  
Unit time = 15.00 Min.  
Duration of storm = 24 Hour(s)  
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.) [1]	Rainfall(In) [2]	Weighting[1*2]
15.60	1.80	28.08



100 YEAR Area rainfall data:

Area (Ac.) [1]                  Rainfall (In) [2]                  Weighting [1\*2]  
                  15.60                                  4.50                                  70.20

STORM EVENT (YEAR) = 10.00  
 Area Averaged 2-Year Rainfall = 1.800 (In)  
 Area Averaged 100-Year Rainfall = 4.500 (In)

Point rain (area averaged) = 2.911 (In)  
 Areal adjustment factor = 100.00 %  
 Adjusted average point rain = 2.911 (In)

Sub-Area Data:

Area (Ac.)                  Runoff Index                  Impervious %  
                  15.600                                  56.00                                  0.500  
 Total Area Entered = 15.60 (Ac.)

RI (In/Hr)	RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area % (Dec.)	F
0.281	56.0	56.0	0.511	0.500	0.281	1.000	
							Sum (F) =
0.281							

Area averaged mean soil loss (F) (In/Hr) = 0.281  
 Minimum soil loss rate ((In/Hr)) = 0.140  
 (for 24 hour storm duration)  
 Soil loss rate (decimal) = 0.500

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 U n i t   H y d r o g r a p h  
 VALLEY S-Curve  
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-----  
 Unit Hydrograph Data  
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Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.250	526.029	11.346
2	0.500	1052.058	4.376
		Sum = 100.000	Sum= 15.722

-----

The following loss rate calculations reflect use of the minimum  
 calculated loss  
 rate subtracted from the Storm Rain to produce the maximum Effective  
 Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate (In./Hr) Max   Low	Effective (In/Hr)
1	0.25	0.20	0.023	( 0.496)      0.012	0.012
2	0.50	0.30	0.035	( 0.490)      0.017	0.017

3	0.75	0.30	0.035	( 0.485)	0.017	0.017
4	1.00	0.40	0.047	( 0.479)	0.023	0.023
5	1.25	0.30	0.035	( 0.473)	0.017	0.017
6	1.50	0.30	0.035	( 0.468)	0.017	0.017
7	1.75	0.30	0.035	( 0.462)	0.017	0.017
8	2.00	0.40	0.047	( 0.457)	0.023	0.023
9	2.25	0.40	0.047	( 0.451)	0.023	0.023
10	2.50	0.40	0.047	( 0.446)	0.023	0.023
11	2.75	0.50	0.058	( 0.440)	0.029	0.029
12	3.00	0.50	0.058	( 0.435)	0.029	0.029
13	3.25	0.50	0.058	( 0.429)	0.029	0.029
14	3.50	0.50	0.058	( 0.424)	0.029	0.029
15	3.75	0.50	0.058	( 0.419)	0.029	0.029
16	4.00	0.60	0.070	( 0.413)	0.035	0.035
17	4.25	0.60	0.070	( 0.408)	0.035	0.035
18	4.50	0.70	0.081	( 0.403)	0.041	0.041
19	4.75	0.70	0.081	( 0.398)	0.041	0.041
20	5.00	0.80	0.093	( 0.393)	0.047	0.047
21	5.25	0.60	0.070	( 0.388)	0.035	0.035
22	5.50	0.70	0.081	( 0.382)	0.041	0.041
23	5.75	0.80	0.093	( 0.377)	0.047	0.047
24	6.00	0.80	0.093	( 0.372)	0.047	0.047
25	6.25	0.90	0.105	( 0.368)	0.052	0.052
26	6.50	0.90	0.105	( 0.363)	0.052	0.052
27	6.75	1.00	0.116	( 0.358)	0.058	0.058
28	7.00	1.00	0.116	( 0.353)	0.058	0.058
29	7.25	1.00	0.116	( 0.348)	0.058	0.058
30	7.50	1.10	0.128	( 0.343)	0.064	0.064
31	7.75	1.20	0.140	( 0.339)	0.070	0.070
32	8.00	1.30	0.151	( 0.334)	0.076	0.076
33	8.25	1.50	0.175	( 0.329)	0.087	0.087
34	8.50	1.50	0.175	( 0.325)	0.087	0.087
35	8.75	1.60	0.186	( 0.320)	0.093	0.093
36	9.00	1.70	0.198	( 0.316)	0.099	0.099
37	9.25	1.90	0.221	( 0.311)	0.111	0.111
38	9.50	2.00	0.233	( 0.307)	0.116	0.116
39	9.75	2.10	0.244	( 0.302)	0.122	0.122
40	10.00	2.20	0.256	( 0.298)	0.128	0.128
41	10.25	1.50	0.175	( 0.294)	0.087	0.087
42	10.50	1.50	0.175	( 0.290)	0.087	0.087
43	10.75	2.00	0.233	( 0.285)	0.116	0.116
44	11.00	2.00	0.233	( 0.281)	0.116	0.116
45	11.25	1.90	0.221	( 0.277)	0.111	0.111
46	11.50	1.90	0.221	( 0.273)	0.111	0.111
47	11.75	1.70	0.198	( 0.269)	0.099	0.099
48	12.00	1.80	0.210	( 0.265)	0.105	0.105
49	12.25	2.50	0.291	( 0.261)	0.146	0.146
50	12.50	2.60	0.303	( 0.257)	0.151	0.151
51	12.75	2.80	0.326	( 0.253)	0.163	0.163
52	13.00	2.90	0.338	( 0.249)	0.169	0.169
53	13.25	3.40	0.396	( 0.246)	0.198	0.198
54	13.50	3.40	0.396	( 0.242)	0.198	0.198
55	13.75	2.30	0.268	( 0.238)	0.134	0.134
56	14.00	2.30	0.268	( 0.235)	0.134	0.134
57	14.25	2.70	0.314	( 0.231)	0.157	0.157
58	14.50	2.60	0.303	( 0.227)	0.151	0.151
59	14.75	2.60	0.303	( 0.224)	0.151	0.151
60	15.00	2.50	0.291	( 0.221)	0.146	0.146
61	15.25	2.40	0.279	( 0.217)	0.140	0.140
62	15.50	2.30	0.268	( 0.214)	0.134	0.134
63	15.75	1.90	0.221	( 0.211)	0.111	0.111

64	16.00	1.90	0.221	( 0.207)	0.111	0.111
65	16.25	0.40	0.047	( 0.204)	0.023	0.023
66	16.50	0.40	0.047	( 0.201)	0.023	0.023
67	16.75	0.30	0.035	( 0.198)	0.017	0.017
68	17.00	0.30	0.035	( 0.195)	0.017	0.017
69	17.25	0.50	0.058	( 0.192)	0.029	0.029
70	17.50	0.50	0.058	( 0.189)	0.029	0.029
71	17.75	0.50	0.058	( 0.186)	0.029	0.029
72	18.00	0.40	0.047	( 0.184)	0.023	0.023
73	18.25	0.40	0.047	( 0.181)	0.023	0.023
74	18.50	0.40	0.047	( 0.178)	0.023	0.023
75	18.75	0.30	0.035	( 0.176)	0.017	0.017
76	19.00	0.20	0.023	( 0.173)	0.012	0.012
77	19.25	0.30	0.035	( 0.171)	0.017	0.017
78	19.50	0.40	0.047	( 0.168)	0.023	0.023
79	19.75	0.30	0.035	( 0.166)	0.017	0.017
80	20.00	0.20	0.023	( 0.164)	0.012	0.012
81	20.25	0.30	0.035	( 0.162)	0.017	0.017
82	20.50	0.30	0.035	( 0.160)	0.017	0.017
83	20.75	0.30	0.035	( 0.158)	0.017	0.017
84	21.00	0.20	0.023	( 0.156)	0.012	0.012
85	21.25	0.30	0.035	( 0.154)	0.017	0.017
86	21.50	0.20	0.023	( 0.152)	0.012	0.012
87	21.75	0.30	0.035	( 0.150)	0.017	0.017
88	22.00	0.20	0.023	( 0.149)	0.012	0.012
89	22.25	0.30	0.035	( 0.147)	0.017	0.017
90	22.50	0.20	0.023	( 0.146)	0.012	0.012
91	22.75	0.20	0.023	( 0.145)	0.012	0.012
92	23.00	0.20	0.023	( 0.144)	0.012	0.012
93	23.25	0.20	0.023	( 0.143)	0.012	0.012
94	23.50	0.20	0.023	( 0.142)	0.012	0.012
95	23.75	0.20	0.023	( 0.141)	0.012	0.012
96	24.00	0.20	0.023	( 0.141)	0.012	0.012

(Loss Rate Not Used)

Sum = 100.0 Sum = 5.8

Flood volume = Effective rainfall 1.46(In)  
times area 15.6(Ac.)/[ (In)/(Ft.) ] = 1.9(Ac.Ft)  
Total soil loss = 1.46(In)  
Total soil loss = 1.892(Ac.Ft)  
Total rainfall = 2.91(In)  
Flood volume = 82413.9 Cubic Feet  
Total soil loss = 82413.9 Cubic Feet

Peak flow rate of this hydrograph = 3.113(CFS)

+++++

24 - H O U R S T O R M  
R u n o f f H y d r o g r a p h

Hydrograph in 15 Minute intervals ((CFS))

Time (h+m) Volume Ac.Ft Q(CFS) 0 2.5 5.0 7.5  
10.0

0+15	0.0027	0.13	Q			
0+30	0.0079	0.25	Q			
0+45	0.0136	0.27	VQ			
1+ 0	0.0206	0.34	VQ			
1+15	0.0268	0.30	VQ			
1+30	0.0325	0.27	VQ			
1+45	0.0382	0.27	VQ			
2+ 0	0.0452	0.34	VQ			
2+15	0.0528	0.37	IQ			
2+30	0.0603	0.37	IQ			
2+45	0.0693	0.43	IQ			
3+ 0	0.0787	0.46	IQ			
3+15	0.0882	0.46	IQ			
3+30	0.0976	0.46	IQV			
3+45	0.1071	0.46	IQV			
4+ 0	0.1179	0.52	I Q			
4+15	0.1293	0.55	I Q			
4+30	0.1420	0.62	I QV			
4+45	0.1552	0.64	I QV			
5+ 0	0.1698	0.71	I QV			
5+15	0.1823	0.60	I QV			
5+30	0.1950	0.62	I Q V			
5+45	0.2096	0.71	I Q V			
6+ 0	0.2247	0.73	I Q V			
6+15	0.2412	0.80	I Q V			
6+30	0.2582	0.82	I Q V			
6+45	0.2766	0.89	I Q V			
7+ 0	0.2956	0.92	I Q V			
7+15	0.3145	0.92	I Q V			
7+30	0.3348	0.98	I Q V			
7+45	0.3569	1.07	I Q V			

8+ 0	0.3810	1.16		Q	V			
8+15	0.4083	1.32		Q	V			
8+30	0.4367	1.37		Q	V			
8+45	0.4665	1.44		Q	V			
9+ 0	0.4981	1.53		Q	V			
9+15	0.5330	1.69		Q	V			
9+30	0.5703	1.81		Q		V		
9+45	0.6095	1.90		Q		V		
10+ 0	0.6506	1.99		Q		V		
10+15	0.6827	1.55		Q		V		
10+30	0.7110	1.37		Q		V		
10+45	0.7463	1.70		Q		V		
11+ 0	0.7841	1.83		Q		V		
11+15	0.8206	1.77		Q		V		
11+30	0.8565	1.74		Q		V		
11+45	0.8897	1.61		Q		V		
12+ 0	0.9233	1.62		Q		V		
12+15	0.9669	2.11		Q		V		
12+30	1.0155	2.36		Q		V		
12+45	1.0675	2.51		Q		V		
13+ 0	1.1218	2.63		Q		V		
13+15	1.1835	2.99			Q		V	
13+30	1.2478	3.11			Q		V	
13+45	1.2971	2.39		Q			V	
14+ 0	1.3406	2.11		Q			V	
14+15	1.3896	2.37		Q			V	
14+30	1.4393	2.41		Q			V	
14+45	1.4885	2.38		Q			V	
15+ 0	1.5364	2.31		Q				V
15+15	1.5823	2.22		Q				V

15+30	1.6263	2.13		Q				V
15+45	1.6644	1.84		Q				V
16+ 0	1.7003	1.74		Q				V
16+15	1.7158	0.75		Q				V
16+30	1.7234	0.37		Q				V
16+45	1.7296	0.30		Q				V
17+ 0	1.7352	0.27		Q				V
17+15	1.7436	0.41		Q				V
17+30	1.7531	0.46		Q				V
17+45	1.7626	0.46		Q				V
18+ 0	1.7707	0.39		Q				V
18+15	1.7782	0.37		Q				V
18+30	1.7858	0.37		Q				V
18+45	1.7920	0.30		Q				V
19+ 0	1.7963	0.21	Q					V
19+15	1.8015	0.25	Q					V
19+30	1.8085	0.34		Q				V
19+45	1.8147	0.30		Q				V
20+ 0	1.8190	0.21	Q					V
20+15	1.8242	0.25	Q					V
20+30	1.8298	0.27		Q				V
20+45	1.8355	0.27		Q				V
21+ 0	1.8398	0.21	Q					V
21+15	1.8450	0.25	Q					
V	21+30	1.8493	0.21	Q				
V	21+45	1.8544	0.25	Q				
V	22+ 0	1.8587	0.21	Q				
V	22+15	1.8639	0.25	Q				
V	22+30	1.8682	0.21	Q				
V	22+45	1.8720	0.18	Q				
V	23+ 0	1.8758	0.18	Q				

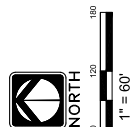
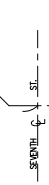
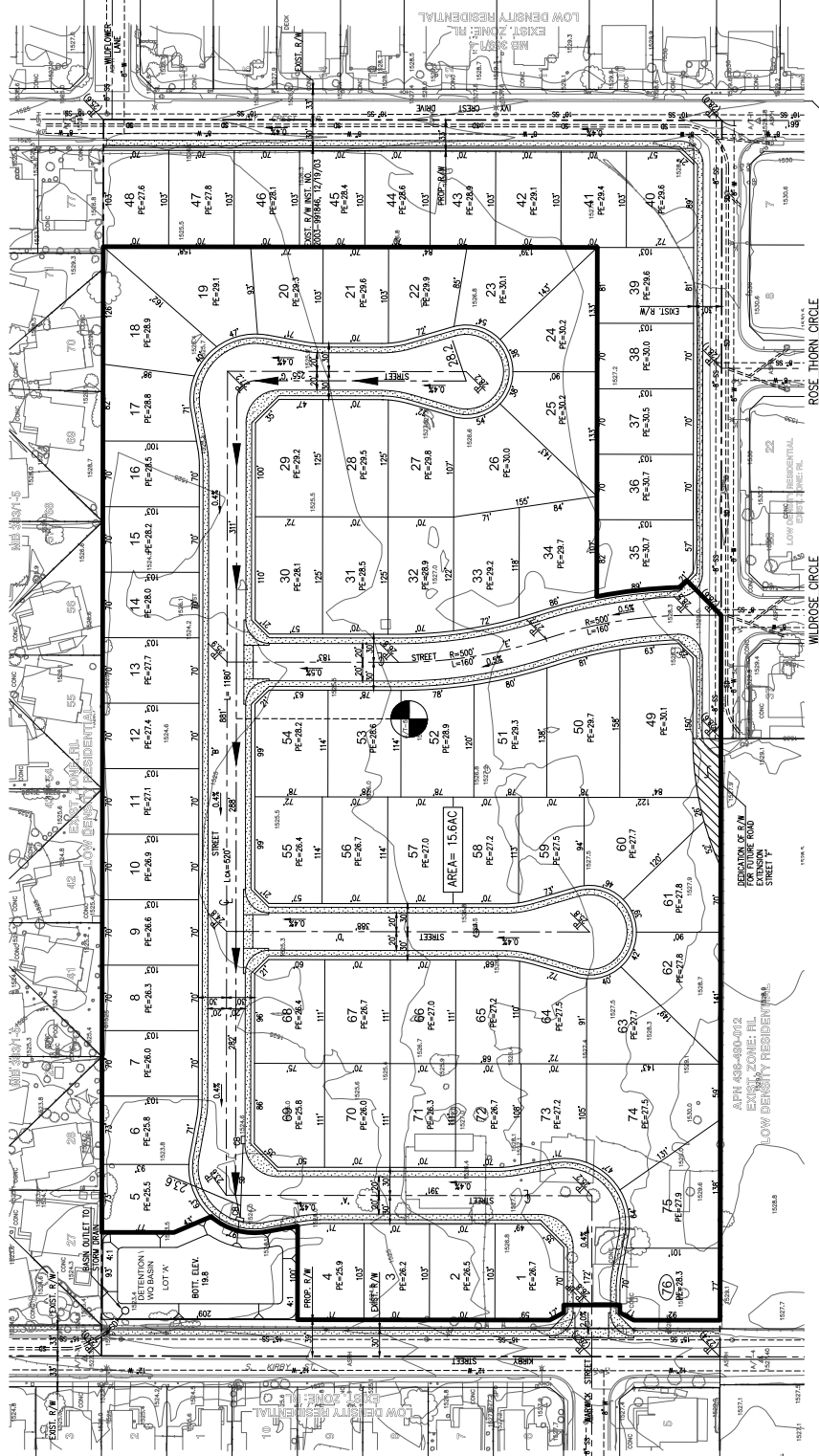
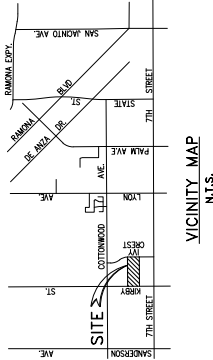
V	23+15	1.8796	0.18	Q			
V	23+30	1.8833	0.18	Q			
V	23+45	1.8871	0.18	Q			
V	24+ 0	1.8909	0.18	Q			
V	24+15	1.8920	0.05	Q			

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# IN THE CITY OF SAN JACINTO TENTATIVE TRACT MAP NO. 38339 UNIT HYDROGRAPH EXHIBIT-DEVELOPED CONDITION



	APPROVED BY: _____ DATE: _____ EXPIRES: _____ DATE: _____ PREPARED BY: _____ DATE: _____ CHECKED BY: _____ DATE: _____	SCALE: _____ DATE: JAN, 2022 BENCH-MARK: _____	SHEET NO. <b>1</b> OF 1 SHEETS FILE NO. _____
CITY OF SAN JACINTO <b>TENTATIVE TRACT MAP                  NO. 38339                  UNIT HYDROGRAPH EXHIBIT                  DEVELOPED CONDITION</b>		FOR: _____	CITY OF SAN JACINTO

**DIG ALERT**  
 DIAL TOLL FREE  
 1-800-227-2600  
 AT LEAST TWO DAYS  
 BEFORE YOU DIG  
 UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

**SUPPORTING DOCUMENTS**

ACTUAL IMPERVIOUS COVER

Land Use (1)	Range-Percent	Recommended Value For Average Conditions-Percent(2)
Natural or Agriculture	0 - 10	0
Single Family Residential: (3)		
40,000 S. F. (1 Acre) Lots	10 - 25	20
20,000 S. F. (½ Acre) Lots	30 - 45	40
7,200 - 10,000 S. F. Lots	45 - 55	50
Multiple Family Residential:		
Condominiums	45 - 70	65
Apartments	65 - 90	80
Mobile Home Park	60 - 85	75
Commercial, Downtown Business or Industrial	80 -100	90

Notes:

1. Land use should be based on ultimate development of the watershed. Long range master plans for the County and incorporated cities should be reviewed to insure reasonable land use assumptions.
2. Recommended values are based on average conditions which may not apply to a particular study area. The percentage impervious may vary greatly even on comparable sized lots due to differences in dwelling size, improvements, etc. Landscape practices should also be considered as it is common in some areas to use ornamental gravels underlain by impervious plastic materials in place of lawns and shrubs. A field investigation of a study area should always be made, and a review of aerial photos, where available may assist in estimating the percentage of impervious cover in developed areas.
3. For typical horse ranch subdivisions increase impervious area 5 percent over the values recommended in the table above.

**RCFC & WCD**  
HYDROLOGY MANUAL

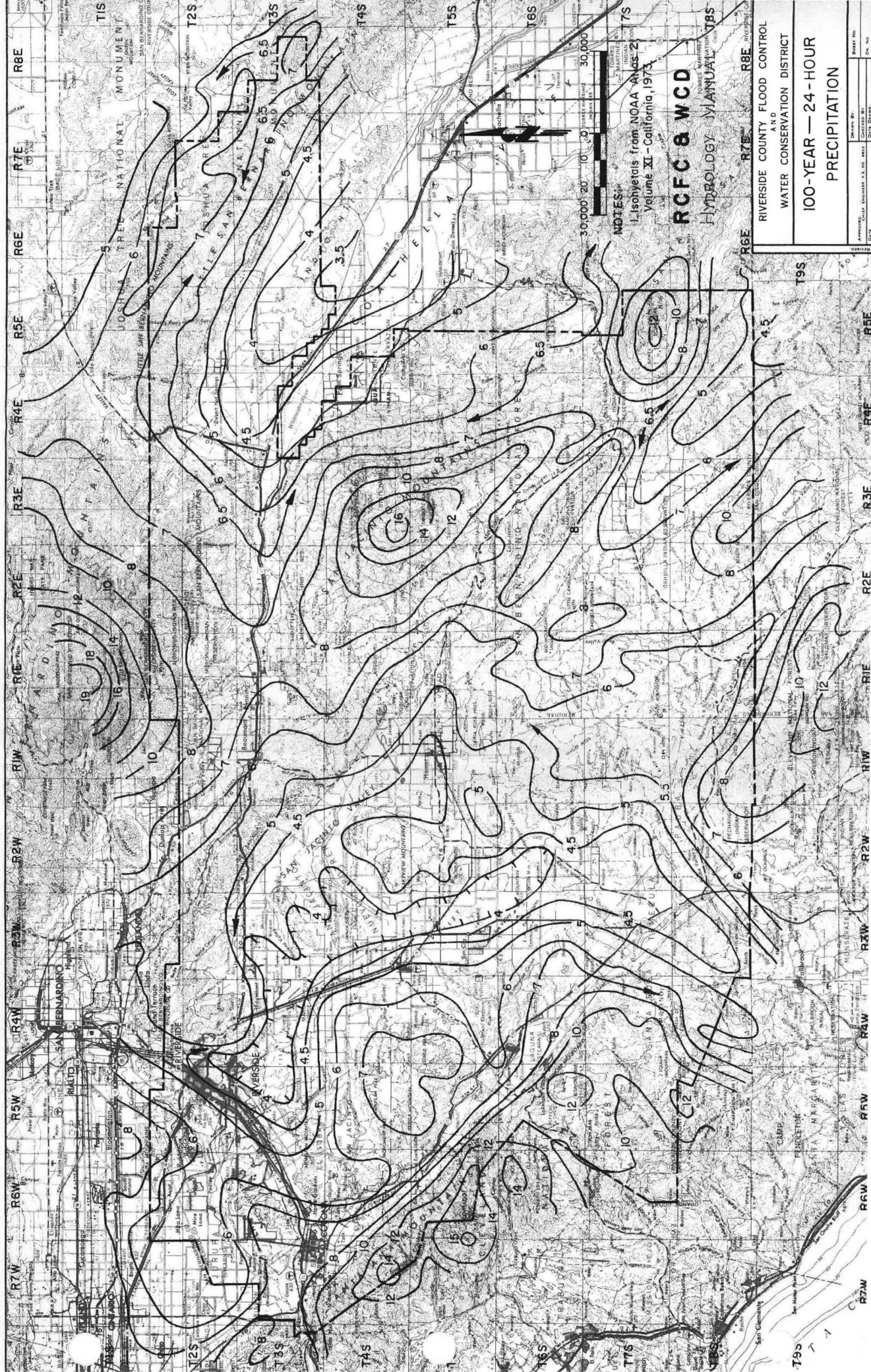
**IMPERVIOUS COVER  
FOR  
DEVELOPED AREAS**



NOTES:  
 1. Isohyets from NOAA ARDs 21 and 75  
 Volume XI - California, 1973.

**RCFC & WCD**  
 RIVERSIDE COUNTY FLOOD CONTROL  
 AND  
 WATER CONSERVATION DISTRICT  
**2-YEAR — 24-HOUR  
 PRECIPITATION**

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	
2-YEAR — 24-HOUR PRECIPITATION	
DATE	BY
APPROVED	DATE
CHECKED BY	DATE
DESIGNED BY	DATE
DRAWN BY	DATE
SCALE	DATE



NOTES:  
 1. Isohyets from NOAA Atlas 2  
 Volume XI - California, 1973

**RCFC & WCD**  
**HYDROLOGY MANUAL**

RIVERSIDE COUNTY FLOOD CONTROL  
 AND  
 WATER CONSERVATION DISTRICT  
**100-YEAR - 24-HOUR  
 PRECIPITATION**

APPROVED:	DATE:
DRAWN BY:	DATE:
CHECKED BY:	DATE:
SCALE:	DATE:
SHEET NO.:	OF NO.:

**APPENDIX 7a**



# Project Scoping Form

This scoping form shall be submitted to the City of San Jacinto to assist in identifying infrastructure improvements that may be required to support traffic from the proposed project.

## Project Identification:

Case Number:	
Related Cases:	
SP No.	
EIR No.	
GPA No.	
CZ No.	
Project Name:	Kirby Street Project (TTM No. 38339)
Project Address:	Kirby to the west, Ivy Crest to the east, north of Oostdam
Project Opening Year:	2025
Project Description:	76 single family detached residential dwelling units

	Consultant:	Developer:
Name:	Urban Crossroads, Inc. - Charlene So	3rd Avenue Storage, LLC - Jordan Bursch
Address:	1133 Camelback St, #8329 Newport Beach, CA 92658	32823 Temecula Pkwy. Temecula, CA 92592
Telephone:	949-861-0177	951-491-6018
Fax/Email:	cso@urbanxroads.com	Jordan@cormanleigh.com

## Trip Generation Information:

Trip Generation Data Source: ITE Trip Generation Manual (11th Edition, 2021)

Current General Plan Land Use:  
LDR - Low Density Residential

Proposed General Plan Land Use:  
LDR - Low Density Residential

Current Zoning:  
RL - Rural Living

Proposed Zoning:  
RL - Rural Living



	Existing Trip Generation			Proposed Trip Generation		
	In	Out	Total	In	Out	Total
AM Trips				14	39	53
PM Trips				45	26	71

Trip Internalization:  Yes  No (\_\_\_\_\_% Trip Discount)

Pass-By Allowance:  Yes  No (\_\_\_\_\_% Trip Discount)

### Potential Screening Checks

Is your project screened from specific analyses (see Page 8 of the guidelines related to LOS assessment and Page 9 related to VMT).

**Is the project screened from LOS assessment?**  Yes  No

LOS screening justification (see Page 8 of the guidelines): \_\_\_\_\_  
Project is proposed to consist of 76 single family residential dwelling units (fewer than 100 single family residential lots) and would generate fewer than 100 peak hour trips.  
 \_\_\_\_\_  
 \_\_\_\_\_

**Is the project screened from VMT assessment?**  Yes  No

VMT screening justification (see Page 9 of the guidelines): The Project meets the low VMT Area screening criteria. The Project was found in RIVCOM TAZ 2160. The Project TAZ generates 15.9 VMT per service population and the City's threshold is 34.62 VMT per service population.  
 \_\_\_\_\_  
 \_\_\_\_\_





### Level of Service Scoping

- Proposed Trip Distribution (Attach Graphic for Detailed Distribution):

North	South	East	West
N/A %	N/A %	N/A %	N/A %

- Attach list of Approved and Pending Projects that need to be considered (provided by the lead agency and adjacent agencies)
- Attach list of study intersections/roadway segments
- Attach site plan
- Note other specific items to be addressed:
  - Site access
  - On-site circulation
  - Parking
  - Consistency with Plans supporting Bikes/Peds/Transit
  - Other \_\_\_\_\_
- Date of Traffic Counts Not Applicable
- Attach proposed analysis scenarios (years plus proposed forecasting approach)
- Attach proposed phasing approach (if the project is phased)

### VMT Scoping

For projects that are not screened, identify the following:

- Travel Demand Forecasting Model Used Not Applicable
- Attach WRCOG Screening VMT Assessment output or describe why it is not appropriate for use
- Attach proposed Model Land Use Inputs and Assumed Conversion Factors (attach)

May 25, 2022

Yaneli Hernandez, Associate Planner  
City of San Jacinto  
595 S. San Jacinto Avenue  
San Jacinto, CA 92583

**KIRBY STREET RESIDENTIAL (TENATIVE TRACT MAP NO. 38339) TRAFFIC ANALYSIS SCOPING AGREEMENT**

Yaneli Hernandez,

The firm of Urban Crossroads, Inc. is pleased to submit this scoping letter regarding the traffic analysis for Kirby Street Residential development (**Project**), which is located on the northeast corner of Ivy Crest Drive and Oostdam Drive in the City of San Jacinto (see Exhibit 1). This letter describes the proposed Project trip generation, trip distribution, and analysis methodology, which have been used to establish the draft proposed Project study area and analysis locations.

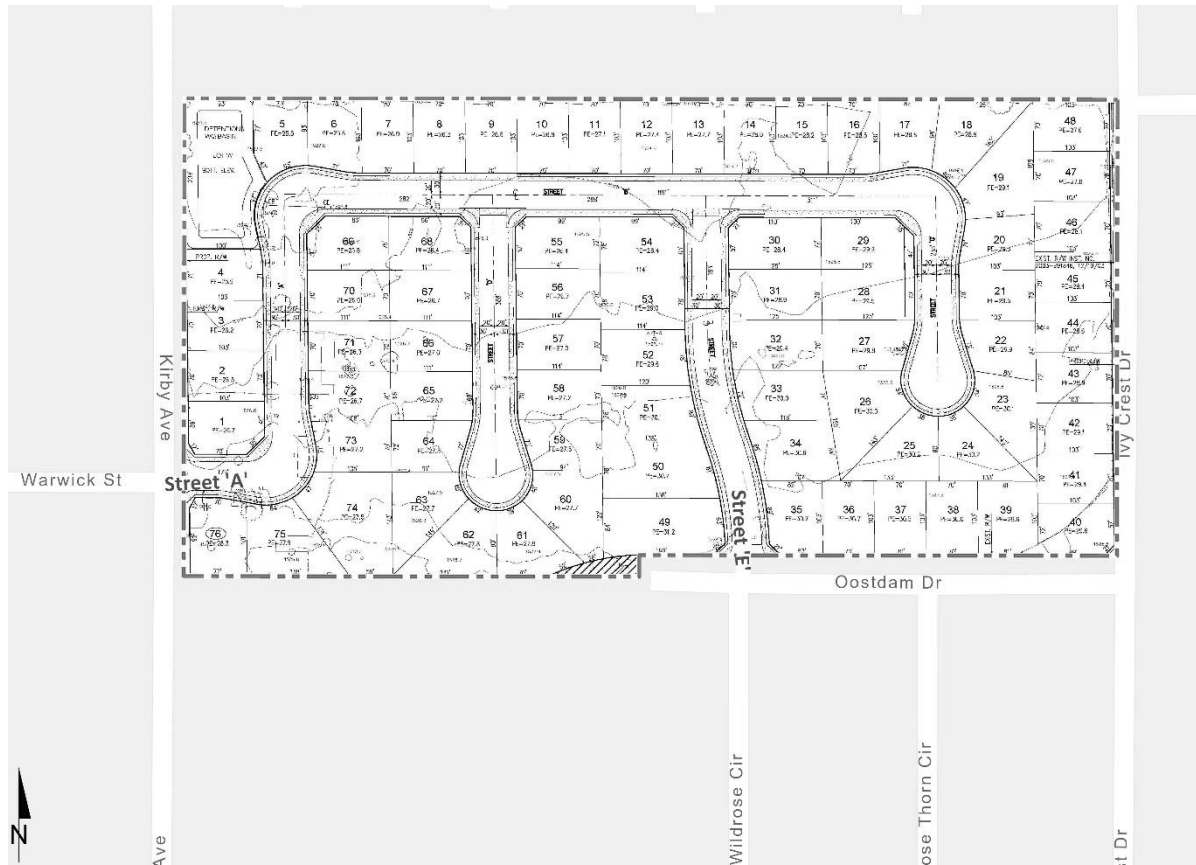
**EXHIBIT 1: LOCATION MAP**



## PROJECT DESCRIPTION

The Project is anticipated to have an Opening Year of 2025. The Project consists of the development of 76 single family residential dwelling units. A preliminary site plan for the proposed Project is shown on Exhibit 1. Access to the Project site will be accommodated via future Street A on Kirby Street (which aligns with existing Warwick Street) and Oostdam Drive via future Street E (which aligns with existing Wildrose Circle).

### EXHIBIT 2: PRELIMINARY SITE PLAN



## TRIP GENERATION

Trip generation represents the amount of traffic that is attracted and produced by a development and is based upon the specific land uses planned for a given project. In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) [Trip Generation Manual](#) (11<sup>th</sup> Edition, 2021) for the Single Family Detached Residential Land Use category (ITE Land Use Code 210) was used to estimate the trip generation.

**TABLE 1: TRIP GENERATION RATES**

Land Use <sup>1</sup>	ITE Code	Units <sup>2</sup>	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Single Family Detached Residential	210	DU	0.18	0.52	0.70	0.59	0.35	0.94	9.43

<sup>1</sup> Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

<sup>2</sup> DU = dwelling units

The trip generation summary illustrating daily, and peak hour trip generation estimates for the proposed Project are shown on Table 2. The proposed Project is anticipated to generate 718 two-way trip-ends per day with 53 AM peak hour trips and 71 PM peak hour trips (see Table 2).

**TABLE 2: PROJECT TRIP GENERATION SUMMARY**

Land Use	Quantity Units <sup>1</sup>	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Kirby Street Project (TTM No. 38339)	76 DU	14	39	53	45	26	71	718

<sup>1</sup> DU = dwelling units

## FINDINGS

Per the City's Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment (dated June 16, 2020, referred to as **City Guidelines**), projects that have fewer than 100 single family residential lots generally do not require a Traffic Study that includes Level of Service (LOS) operations analysis. This is because projects that generate less than 100 peak hour trips typically do not affect LOS significantly once distributed to the local roadway network. As shown on Table 2, the Project is proposed to include the development of 76 single family detached residential lots which would generate fewer than 100 peak hour trips. As such, additional traffic analysis beyond this scoping agreement is not necessary.

If you have any questions or comments, I can be reached at (949) 861-0177.

Respectfully submitted,

URBAN CROSSROADS, INC.



Charlene So, PE  
 Principal

**APPENDIX 7b**

May 27, 2022

Ms. Kaitlyn Dodson-Hamilton  
Tom Dodson & PO Box 2307  
San Bernardino, CA 92406

**KIRBY STREET TTM 38339 VEHICLE MILES TRAVELED (VMT) SCREENING  
EVALUATION**

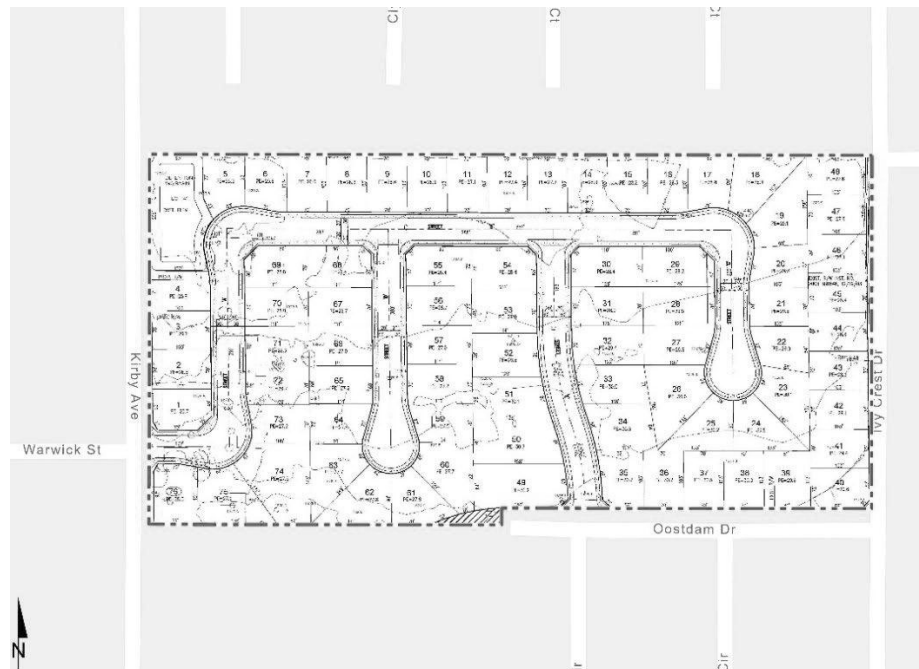
Ms. Kaitlyn Dodson-Hamilton,

Urban Crossroads, Inc. is pleased to provide the following Vehicle Miles Traveled (VMT) Screening Evaluation for the Kirby Street TTM 38339 development (**Project**) which is located between Kirby Street to the west, Ivy Crest Drive to the east, and is bound partially by Oostdam Drive to the south (APN 436-490-011) in the City of San Jacinto.

**PROJECT OVERVIEW**

It is our understanding that the project is to consist of the development of 76 single family residences on approximately 18.5 net acre site. Preliminary site plan can be found below in Exhibit 1.

**EXHIBIT 1: PRELIMINARY SITE PLAN**



## **BACKGROUND**

Changes to California Environmental Quality Act (CEQA) Guidelines were adopted in December 2018, which requires all lead agencies to adopt VMT as a replacement for automobile delay-based level of service (LOS) as the new measure for identifying transportation impacts for land use projects. This statewide mandate went into effect July 1, 2020. To aid in this transition, the Governor's Office of Planning and Research (OPR) released a [Technical Advisory on Evaluating Transportation Impacts in CEQA](#) (December of 2018) (**Technical Advisory**) (1). Based on OPR's Technical Advisory, the City of San Jacinto has prepared their [City of San Jacinto Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment](#) (June 2020) (**City Guidelines**) (2). This analysis has utilized the City Guidelines for the review of applicable VMT screening criteria.

## **VMT SCREENING**

The City's Guidelines list standardized screening methods for project level VMT analysis that can be used to identify when a proposed land use development project is anticipated to result in a less than significant impact thereby eliminating the need to conduct a full VMT analysis. It is our understanding the City of San Jacinto utilizes the Western Riverside Council of Governments (WRCOG) VMT Screening Tool (Screening Tool). The Screening Tool allows users to select an assessor's parcel number (APN) to determine if a project's location meets one or more of the screening thresholds for land use projects identified in the City Guidelines. The City of San Jacinto VMT screening types, as described within the City Guidelines, are listed below:

- Step 1: Transit Priority Area (TPA) Screening
- Step 2: Low VMT Area Screening
- Step 3: Project Type Screening

A land use project need only to meet one of the above screening thresholds to result in a less than significant impact.

### **STEP 1: TPA SCREENING**

The Technical Advisory and City Guidelines describe those projects located within a Transit Priority Area (TPA) (i.e., within ½ mile of an existing "major transit stop"<sup>1</sup> or an existing stop along a "high-quality transit corridor"<sup>2</sup>) may be presumed to have a less than significant impact absent substantial evidence to the contrary.

However, the presumption may not be appropriate if a project:

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<sup>1</sup> Pub. Resources Code, § 21064.3 ("Major transit stop" means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.").

<sup>2</sup> Pub. Resources Code, § 21155 ("For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.").

- Has a Floor Area Ratio (FAR) of less than 0.75;
- Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);
- Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization); or
- Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

The Screening Tool was utilized to locate the Project site and its proximity to a TPA. Results as shown in Attachment A identify the Project Site is not located within ½ mile of an existing major transit stop, or along a high-quality transit corridor.

**TPA screening threshold is not met.**

### **STEP 2: LOW VMT AREA SCREENING**

The City Guidelines state that, “residential and office projects located within a low VMT-generating area may be presumed to have a less than significant impact absent substantial evidence to the contrary. In addition, other employment-related and mixed-use land use projects may qualify for the use of screening if the project can reasonably be expected to generate VMT per resident, per worker, or per service population that is similar to the existing land uses in the low VMT area.”<sup>3</sup> The Screening Tool uses the sub-regional Riverside County Model (RIVCOM) to measure VMT performance within individual traffic analysis zones (TAZ’s) within the WRCOG region. The Project’s physical location is evaluated in the Screening Tool to determine VMT generated by the existing TAZ as compared to the City Guidelines’ recommended impact threshold of project generated VMT per service population below the WRCOG Subregional VMT per service population. The WRCOG Subregional VMT per service population was calculated using RIVCOM travel demand model resulting in a WRCOG Subregional average 34.62 VMT per service population.

The parcel containing the proposed Project was selected and the Screening Tool was run for the Origin-Destination VMT per service population measure of VMT. Based on the Screening Tool results (see Attachment A), the Project TAZ is shown to generate a VMT per service population of 15.9. The Project is located in a low VMT area below the WRCOG Subregional VMT per service population.

**Low VMT Area screening criteria is met.**

### **STEP 3: PROJECT TYPE SCREENING**

The City Guidelines indicates for small projects that generate low traffic volumes (i.e., fewer than 500 daily trips) and by association low greenhouse gas (GHG) emissions are also assumed to cause a less than significant impact. Trips generated by the Project’s proposed land use have been estimated based on trip generation rates collected by the Institute of Transportation

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<sup>3</sup> City Guidelines; page 23.



Engineers (ITE) Trip Generation Manual, 11th Edition, 2021 (3). The Project is estimated to generate 718 vehicle trip-ends per day. The Project exceeds the 500 daily trip threshold (See Attachment B).

Also, the City Guidelines identify that local serving retail buildings with less than 50,000 square feet or other local serving essential services (e.g., day care centers, public schools, religious assembly uses, etc.) are presumed to have a less than significant impact absent substantial evidence to the contrary. The Project does not intend to develop any local serving uses.

**Project Type screening criteria is not met.**

## **CONCLUSION**

In summary, the Project was evaluated consistent with the available screening criteria. The Project was found to meet the Low VMT Area screening criteria. The Proposed Project is presumed to result in a less than significant impact for VMT; no further VMT analysis required.

If you have any questions, please contact me directly at [aso@urbanxroads.com](mailto:aso@urbanxroads.com).

Respectfully submitted,

URBAN CROSSROADS, INC.



Alexander So  
Senior Associate

## REFERENCES

1. **Office of Planning and Research.** *Technical Advisory on Evaluating Transportation Impacts in CEQA.* State of California : s.n., December 2018.
2. **City of San Jacinto.** *City of San Jacinto Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment.* June 2020.
3. **Institute of Transportation Engineers.** *Trip Generation Manual.* 11th Edition. 2021.

**ATTACHMENT A**  
**WRCOG SCREENING TOOL**

**WRCOG VMT Tool** Powered by Fehr & Peers User's Guide

Kirby Ave & Cottonwood Ave, Sa X

Show search results for Kirby Ave & C...

**Complete #1-4, Then Click "Run"**

#2. Select the VMT Metric. Note each jurisdiction may have adopted a different metric by which they measure VMT. Please consult with the jurisdiction to verify which metric to use for your analysis.\*

OD VMT Per Service Population

#3. Select the Baseline Year. The year available for analysis are from 2018 to 2045.\*

2022

#4. Select the Threshold (% reduction from baseline year). Note each jurisdiction may have adopted a different metric by which they measure VMT. Please consult with the jurisdiction to verify which metric to use for your analysis.\*

Below County Future Buildout (0%)

(2 of 4)

OBJECTID	1
Assessor Parcel Number (APN)	436490011
Traffic Analysis Zone (TAZ)	2160
Community Region	SAN JACINTO
Inside a Transit Priority Area (TPA)	No
TAZ VMT	15.9
Jurisdiction VMT	33.6
% Difference	-52.8%
VMT Metric	OD VMT Per Service Population
Threshold	33.6

Zoom to

**Layer List**

Layers

- Output\_Parcels
- Selected Project Area
- Low VMT Generating TAZs
- TAZ Boundaries (Zoom in to view)
- Parcels (Zoom in to view)
- Transit Priority Area
- WRCOG Cities
- WRCOG Boundary

300ft

-116.997 33.790 Degrees

Community Maps Contributors, Loma Linda

**ATTACHMENT B**  
**PROJECT TRIP GENERATION**

**TABLE 1: TRIP GENERATION RATES**

Land Use <sup>1</sup>	ITE Code	Units <sup>2</sup>	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Single Family Detached Residential	210	DU	0.18	0.52	0.70	0.59	0.35	0.94	9.43

<sup>1</sup> Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

<sup>2</sup> DU = dwelling units

The trip generation summary illustrating daily, and peak hour trip generation estimates for the proposed Project are shown on Table 2. The proposed Project is anticipated to generate 718 two-way trip-ends per day with 53 AM peak hour trips and 71 PM peak hour trips (see Table 2).

**TABLE 2: PROJECT TRIP GENERATION SUMMARY**

Land Use	Quantity Units <sup>1</sup>	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Kirby Street Project (TTM No. 38339)	76 DU	14	39	53	45	26	71	718

<sup>1</sup> DU = dwelling units