ENVIRONMENTAL ASSESSMENT/ TRIBAL ENVIRONMENTAL IMPACT REPORT

THE PECHANGA BAND OF INDIANS FEE-TO-TRUST APPLICATION FOR THE NORTHERN BOUNDARY PROPERTIES

June 2023

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TABLE OF CONTENTS

PECHANGA BAND OF INDIANS
FEE-TO-TRUST APPLICATION FOR THE
NORTHERN BOUNDARY PROPERTIES PROJECT
ENVIRONMENTAL ASSESSMENT

1.0 INTRODUCTION 1
- 1.1 Summary of the Proposed Action and Environmental Review Process 1
- 1.2 Purpose and Need for Proposed Action 1
- 1.3 Background 1
- 1.4 Overview of the Environmental Review Process 2
  - 1.4.1 National Environmental Policy Act 2
- 1.5 Regulatory Requirements and Approvals 3

2.0 ALTERNATIVES 4
- 2.1 Site Location 4
- 2.2 Proposed Action 4
  - 2.2.1 Fee-To-Trust Transfer 4
  - 2.2.2 Future Residential Development 5
  - 2.2.3 Protective Measures and Best Management Practices 7
- 2.3 No Action Alternative 8
- 2.4 Comparison of the Alternatives 8
- 2.5 Alternatives Eliminated From Further Analysis 9
  - 2.5.1 Other Alternative Sites 9

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES 10
- 3.1 Land Resources 10
  - 3.1.1 Affected Environment 10
  - 3.1.2 Proposed Action 12
  - 3.1.3 No Action Alternative 13
- 3.2 Water Resources 13
  - 3.2.1 Affected Environment 13
  - 3.2.2 Proposed Action 16
  - 3.2.3 No Action Alternative 17
- 3.3 Air Quality 17
  - 3.3.1 Affected Environment 17
  - 3.3.2 Proposed Action 21
  - 3.3.3 No Action Alternative 24
- 3.4 Biological Resources 24
  - 3.4.1 Affected Environment 24
  - 3.4.2 Proposed Action 29
  - 3.4.3 No Action Alternative 30
- 3.5 Cultural Resources 30
  - 3.5.1 Affected Environment 30
  - 3.5.2 Proposed Action 32

3.5.3 No Action Alternative 33
3.6 Socioeconomic Resources/Environmental Justice 33
3.6.1 Affected Environment 33
3.6.2 Proposed Action 36
3.6.3 No Action Alternative 37
3.7 Transportation/Circulation 37
3.7.1 Affected Environment 37
3.7.2 Proposed Action 40
3.7.3 No Action Alternative 41
3.8 Land Use 41
3.8.1 Affected Environment 41
3.8.2 Proposed Action 43
3.8.3 No Action Alternative 44
3.9 Public Services and Utilities 44
3.9.1 Affected Environment 44
3.9.2 Proposed Project Alternative 47
3.9.3 No Action Alternative 48
3.10 Visual Resources 49
3.10.1 Affected Environment 49
3.10.2 Proposed Action 52
3.10.3 No Action Alternative 53
3.11 Noise 53
3.11.1 Affected Environment 53
3.11.2 Proposed Action 53
3.11.3 No Action Alternative 55
3.12 Hazardous Materials 55
3.12.1 Affected Environment 55
3.12.2 Proposed Action 57
3.12.3 No Action Alternative 57
3.13 Cumulative Impacts and Indirect Effects 57
3.13.1 Cumulative Setting 57
3.13.2 Cumulative Impacts 58
3.13.3 No Action Alternative 58
3.13.4 Indirect Effects 58

4.0 MITIGATION MEASURES 59

5.0 CONSULTATION AND COORDINATION 61

6.0 BIBLIOGRAPHY 63

7.0 PREPARERS 69

LIST OF TABLES

1-1 Potential Permits and Approvals Required....3
2-1 Proposed Action Best Management Practices....7
3-1 General Conformity De Minimis Thresholds....19
3-2 Construction Scenario Assumptions....21
3-3 Estimated Annual Construction Criteria Air Pollutant Emissions....22
3-4 Estimated Annual Construction GHG Emissions....22
3-5 Estimated Annual Operational Criteria Air Pollutant Emissions....22
3-6 Estimated Annual Operational GHG Emissions....22
3-7 Vegetation Communities and Land Cover Types....27
3-8 Population Demographics, Income, and Employment – Proposed Project Site and Adjacent Census Tracts....35
3-9 Existing Peak Hour Intersection Level of Service....40
4-1 Proposed Mitigation Measures for the Proposed Action....59

FIGURES

1 Project Location....70
2 Conceptual Plan for Proposed Project....71

LIST OF APPENDICES

A Air Quality and Greenhouse Gas Memorandum
B Phase I Environmental Site Assessment
C Rancho Water District Letter
D Biological Technical Memo
E Cultural Report on Pechanga Northern Boundary Property
F TIA Pechanga Northern Properties
G EMWD Letter
H Fire Dept. Correspondence

LIST OF ACRONYMS AND ABBREVIATIONS

ACS	American Community Survey
AFY	acre-feet per year
amsl	above mean sea level
APN	Assessor's Parcel Number
BIA	Bureau of Indian Affairs
BMP	best management practice
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH_4	methane
City	City of Temecula
CNEL	community noise equivalent level
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CWA	Clean Water Act
dBA	A-weighted decibel
EA	Environmental Assessment
EIR	Environmental Impact Report
EMWD	Eastern Municipal Water District
EO	Executive Order
ESA	Environmental Site Assessment
FESA	federal Endangered Species Act
GHG	greenhouse gas
GWP	global warming potential
HFC	hydrofluorocarbon
HVAC	heating, ventilation, and air conditioning
I	Interstate
IAM	Indian Affairs Manual
ITE	Institute of Transportation Engineers
MGY	million gallons per year
MM	Mitigation Measure
MT	metric ton
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NOx	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
O_3	ozone
PFC	perfluorocarbon
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to 10 microns
$PM_{2.5}$	particulate matter with an aerodynamic diameter less than or equal to 2.5 microns
Reservation	Pechanga Indian Reservation
RWQCB	Regional Water Quality Control Board
RWRF	regional water reclamation facility

SCE	Southern California Edison
SoCalGas	Southern California Gas Company
SOx	sulfur oxides
SR	State Route
SSMP	Standard Stormwater Mitigation Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
Tribe	Pechanga Band of Luiseño Indians
USC	United States Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VOC	volatile organic compound
WQMP	Water Quality Management Plan

SECTION 1.0

INTRODUCTION

1.1 SUMMARY OF THE PROPOSED ACTION AND ENVIRONMENTAL REVIEW PROCESS

This Environmental Assessment (EA) has been prepared pursuant to the requirements of the National Environmental Policy Act (NEPA) (42 USC Section 4321 et seq.) and assesses the environmental impacts of taking approximately 81 acres contiguous to the Pechanga Band of Indians (Tribe) reservation in the City of Temecula (City), in Riverside County (County), California (Northern Boundary Property, or proposed project site), into federal trust status for the Tribe to protect and restore tribal homelands (Proposed Action). Although the Tribe has no current plans for development, development of the proposed project site at a future time is reasonably foreseeable. Due to the underlying zoning and land use designation of the site and after discussion with the Tribe about most likely future developments (if any), it is assumed for the purposes of NEPA analysis that the proposed project site would be developed with residential uses at a future time (Proposed Action).

The statutory authority for acquiring lands in trust status for Native American tribes is provided in the Indian Reorganization Act of 1934 (25 USC Section 5108), with regulations codified at 25 Code of Federal Regulations (CFR) Section 151 et seq. Pursuant to 25 CFR Part 151, the Assistant Secretary of Indian Affairs, as an authorized representative of the Secretary of the Interior, is charged with reviewing and approving tribal applications to take land into federal trust status. The Tribe is seeking to acquire land contiguous to the Pechanga Indian Reservation (Reservation) into trust to protect and restore tribal homelands.

This EA has been completed in accordance with NEPA, the Council on Environmental Quality's (CEQ) Guidelines for Implementing NEPA (40 CFR Section 1500 et seq.), and the Bureau of Indian Affairs (BIA) NEPA Guidebook (59 Indian Affairs Manual [IAM] 3-H). For the purpose of this EA, the BIA serves as the lead agency for compliance with NEPA. This EA provides a detailed description of the Proposed Action and an analysis of its potential environmental consequences. This EA also includes a discussion and analysis of a No Action Alternative. Section 2.5, Alternatives Eliminated from Further Analysis, provides a brief analysis of off-site alternatives eliminated from consideration.

1.2 PURPOSE AND NEED FOR PROPOSED ACTION

The federal Proposed Action is the acquisition of the 81-acre proposed project site in trust to protect and restore tribal homelands for the Tribe pursuant to the Secretary of the Interior's authority under the Indian Reorganization Act (25 USC 5108). The purpose of the Proposed Action is to serve the housing needs of the Tribe, and to facilitate tribal self-sufficiency and self-determination, thus satisfying the U.S. Department of the Interior's land acquisition policy as articulated in the Department of the Interior's trust land regulations at 25 CFR Part 151. The need for the Department of the Interior to act on the Tribe's application is established by the Department of the Interior's regulations at 25 CFR Section 151.10(h) and Section 151.12, and the Tribe's needs related to housing, and the facilitation of tribal self-sufficiency, self-determination (described further in Section 1.3, Background).

1.3 BACKGROUND

The Tribe is proposing a Fee-to-Trust Application for its Northern Boundary Property (proposed project site), located on partially unincorporated lands along the southeastern border of the City of Temecula, which is located immediately north of the Pechanga Reservation in the Riverside County Assessor's Parcel Numbers (APNs) 966-380-006, 966-380-007, 966-380-008, and 966-380-009). The approximately 81-acre proposed project site is currently owned by the Tribe, is contiguous to the Tribe's Reservation, and is part of the Tribe's ancestral homelands. The Fee-to-Trust Application is made in accordance with 25 USC Section 465 and 25 CFR Part 151, Land Acquisitions, to transfer the title of the proposed project site from the land held in fee by the Tribe to land held in trust by the United States for the benefit of the Tribe.

On January 28, 2018, the Tribe adopted Resolution No. 180128-02, authorizing the Tribe to place the proposed project site into trust, and thereby requesting the Secretary of Interior to take the property into trust for the benefit of the Tribe. Approval from the BIA is required for the proposed Fee-to-Trust Application.

The Pechanga Band of Indians are a federally recognized tribe with an approximately 7,080-acre Reservation in Riverside County, California (Pechanga Band of Luiseño Indians 2022a). In 1882, an executive order established the Tribe's Reservation. In 1907, the U.S. government purchased 235 acres of land next to the Tribe's Reservation to provide additional needed farmland that came to be known as the Kelsey Tract. Despite the nearby spring (called *Túuchaana*), there was not enough water to irrigate the entire property reliably. To improve the water supply, the Pechanga people dug a well and installed a windmill-powered pump. The land was put into trust for the Pechanga under the U.S. Interior Department's Bureau of Land Management. In 1988, the passage of the Southern California Indian Land Transfer Act (Public Law 100-581) added 303 acres along the Tribe's northern boundary. The addition of the Great Oak Ranch property in 2003 and the purchase of *Pu'éska* Mountain in 2012 expanded the Reservation further (Pechanga Band of Luiseño Indians 2022b).

The first casino was built on the Tribe's Reservation in 1995 (Pechanga Band of Luiseño Indians 2022c). In early 2001, the Pechanga Development Corporation, tribal Council, and Gaming Commission broke ground to build the $262 million Pechanga Resort & Casino complex. The Tribe expanded its Resort and Casino in 2018, adding a new hotel tower and additional outdoor amenities. The Pechanga Resort & Casino has been the main source of tribal government funding for long needed and previously unaffordable infrastructure on the Reservation and creates positive economic impacts to the community (Pechanga Band of Luiseño Indians 2022d).

The Tribe submitted a Fee-to-Trust Application for the proposed project site to reclaim a portion of the Tribe's ancestral homelands, contiguous to the Tribe's Reservation, and to reserve those lands for future tribal uses, including tribal housing needs. Placing the proposed project site into trust would allow the Tribe to better protect the proposed project site and the Reservation and will enhance the Tribe's self-determination and self-governance.

1.4 OVERVIEW OF THE ENVIRONMENTAL REVIEW PROCESS

As mentioned in Section 1.1, Summary of the Proposed Action and Environmental Review Process, this document has been prepared to meet NEPA environmental review requirements. A brief overview of this process is provided below.

1.4.1 National Environmental Policy Act

This document has been completed in accordance with the requirements set forth in NEPA (42 USC 4321 et seq.), the Council on Environmental Quality's Regulations for Implementing NEPA (40 CFR Parts 1500–1508), and the BIA's NEPA Handbook (59 IAM 3-H).

Environmental Assessment

This EA was prepared in accordance with NEPA to analyze and document the environmental consequences of approval of the transfer of approximately 81 acres into federal trust status for the Tribe and reasonably foreseeable future development of the proposed project site associated with this transfer. Preparation of this EA included consultation with the BIA, the Tribe, the City, and others (see Section 5.0, Consultation and Coordination). The BIA will use this EA to determine whether or not the Proposed Action would result in adverse effects to the environment and to satisfy the environmental review processes of 59 IAM 3-H, 40 CFR Section 1501.3, and 40 CFR Section 1508.9. The EA and Draft Finding of No Significant Impact (FONSI) will be available for a 30-day comment period. Comments will be considered by the BIA, and either the FONSI will be signed or additional environmental analysis will be conducted. After the NEPA process is complete, the BIA may issue a determination on the Fee-to-Trust Application.

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1.5 REGULATORY REQUIREMENTS AND APPROVALS

The Proposed Action, as described in Section 2.0, Alternatives, may require federal, state, and local approvals and actions. Table 1-1 identifies each responsible agency and the potential permit or approval required. Additionally, approval of the Proposed Action by the Tribal Council would also be required prior to implementation of the Proposed Action.

Table 1-1
Potential Permits and Approvals Required

Agency	Permit or Approvals	Alternative
Federal/State		
Secretary of the Interior	Transfer of alternative site into federal status for the Tribe	Proposed Action
United States Environmental Protection Agency	Verification of project coverage under the National Pollutant Discharge Elimination System General Permit for Stormwater Discharges from Construction Activities as required by the Clean Water Act	Proposed Action
California Office of Historic Preservation	Consultation under Section 106 of the National historic Preservation Act	Proposed Action
Local		
City of Temecula	Approval of water, wastewater, and/or drainage connections	Proposed Action
City of Temecula	Approval of encroachment permits	Proposed Action

SECTION 2.0

ALTERNATIVES

This section describes the alternatives that are analyzed within this EA. A reasonable range of alternatives has been selected based on consideration of the purpose and need of the Proposed Action and opportunities for potentially reducing environmental effects. Because preliminary environmental review of the Proposed Action indicated that significant environmental impacts would not likely occur as a result of implementing the Alternative, the BIA determined that the reasonable range of alternatives analyzed in this EA would include the Proposed Action and the No Action Alternative. Consistent with CEQ Guidelines (40 CFR Section 1502.14), this section summarizes and compares the potential environmental consequences, benefits, and/or detriments of the Proposed Action and No Action Alternative (Section 2.4). Alternatives that were considered but are not analyzed in this EA are described in Section 2.5.

2.1 SITE LOCATION

Figure 1 illustrates the project's location. Regional access to the project is provided via Interstate (I)-15 and State Route (SR) 79 Temecula Parkway. Local access to the project would primarily be via Butterfield Stage Road and Anza Road. The approximately 81-acre project site is located on APNs 966-380-006, 966-380-007, 966-380-008, 966-380-009, on unincorporated lands along the southeastern border of the City of Temecula, which is located immediately north of the Pechanga Reservation in the Riverside County. The project site is zoned as R1: single-unit residential dwellings, and R5: open area combining zone-residential developments (County of Riverside 2022a). The project could potentially construct a maximum of 200 single-family residential units, although current conceptual plans for the Proposed Action describe construction of 112 single family units. In conformance with the conceptual plans, the following analysis of the proposed project assumes a buildout of 112 units, with exception to the Transportation section, which assumes a full buildout of 200 single family units. The Traffic Impact Analysis (Appendix F) conservatively utilizes the full 200-unit buildout scenario to account for any potential future increase in the number of units at the proposed project site. Analyzing the maximum buildout possible for the project site prevents the need to redo the traffic analysis if changes are made to existing site plans. Figure 2 illustrates the conceptual site plan for the Proposed Action.

2.2 PROPOSED ACTION

The Proposed Action would result in approval of the Fee-to-Trust Application for the proposed project site. In addition to the Fee-to-Trust Application, the Proposed Action would result in reasonably foreseeable future development of the site. Due to the underlying zoning and land use designation of the site, and based on discussions with the Tribe, it is assumed that the proposed project site would be developed with residential uses.

2.2.1 Fee-To-Trust Transfer

The Tribe has submitted an application to the BIA for the transfer of the proposed project site into federal trust status for the benefit of the Tribe. The proposed project site consists of one 81-acre site situated on APNs 966-380-006, 966-380-007, 966-380-008, and 966-380-009. No gaming would occur on the proposed project site as a result of the Proposed Action. The proposed trust parcel boundaries are shown in Figure 2. The BIA will make its determination regarding the proposed Fee-to-Trust Application in accordance with the procedures set forth in 25 CFR Part 151. The regulations in 25 CFR Part 151 implement Section 5 of the Indian Reorganization Act of 1934, codified at 25 USC Section 5108, which is the general statute that provides the Secretary of the Interior with authority to acquire lands in trust status for tribes and individual Native Americans. The Tribe and the federal government would exercise civil regulatory jurisdiction over the site once it is taken into trust.

2.2.2 Future Residential Development

Although the Tribe is not currently proposing specific development on the proposed project site, the Proposed Action would result in a reasonably foreseeable future development scenario of the proposed project site.

For the purpose of the analysis in this EA, the Tribe has proposed a reasonably foreseeable development scenario for the proposed project site that would be consistent with existing County land use designations and comply with local construction and design codes and requirements. The Tribe would divide the Proposed Action into about 112 single-family housing units that would be either approximately 10,000-square-foot lots or 20,000-square-foot lots with areas for open space (Figure 2). Design and architecture of the Proposed Action would be consistent with adjacent land uses and would not significantly exceed the bulk and scale of surrounding development. The Tribe's development's design will be consistent with Riverside County's codes for lighting and architectural design guidelines. Additional components for the residential development are described below.

Parking

Parking would be provided in accordance with the Riverside County Zoning Code, which requires two parking spaces per dwelling unit (County of Riverside 2022b). As such, 224 parking spaces would be provided at the proposed project site. In addition, all parking would be in conformance with the County's Development Code Section 18-12, Off Street Parking and Loading.

Water Supply

The proposed project site is located within Rancho California Water District's (RCWD) Water District Service Area Division (RCWD 2022). The future residential development would be serviced by the RCWD through existing and planned water infrastructure. If the proposed development is approved, the Proposed Action would be designed to meet County Municipal Codes for stormwater and groundwater protections, such as Section 13.12.010 stormwater/urban runoff management and discharge controls (RCWD 2015).

Wastewater Treatment

The proposed project site would be serviced by the Eastern Municipal Water District (EMWD) for wastewater treatment. All wastewater currently collected by the EMWD is conveyed to the Santa Rosa Water Reclamation Facility for treatment (RCWD 2016).

Roadway Access

Regional access to the proposed project site would be provided via Interstate (I) 15, State Route (SR) 79, and Pechanga Parkway. Local access to the proposed project site would be provided via Butterfield Stage Road and Anza Road.

Law Enforcement, Fire Protection, and Emergency Medical Services

Law enforcement at the proposed project site is currently provided by the Temecula Police Department (which contracts with Riverside County Sheriff's Department) (City of Temecula 2022a). Should the Fee-to-Trust Application be approved, and absent an agreement otherwise, law enforcement of the proposed project site would remain largely unchanged with the Temecula Police Department continuing to provide law enforcement to the extent consistent with Public Law 280. It is likely, however, that the Pechanga tribal Ranger Department will also patrol the project site in its security capacities. The Pechanga Tribal Ranger Department provides law enforcement services for the Reservation, and provides services such as dispatch, background investigations, animal control, fleet, tribal emergency response, evidence/property, tribal rangers, traffic enforcement, schools resource officers, court services, and community participation. The Pechanga Tribal Ranger Department assists the Tribe in exercising its tribal sovereignty by providing public safety services, enforcing tribal ordinances, protecting Reservation residents, and maintaining a positive relationship with outside law enforcement (Pechanga Band of Luiseño Indians 2022).

Temecula Fire Department currently provides fire protection services to the proposed project site. Temecula Fire Department Station 92 is located west of the proposed project site, at 32211 Wolf Valley Road (City of Temecula

2022b). Should the Fee-to-Trust be approved, fire protection services would be provided by the Pechanga Fire Department. Two Pechanga Fire Department Stations are situated southwest near the proposed project site.

The Pechanga Fire Department provides fire protection and medical emergency services to the Tribe's Reservation. It has two fire stations within 4 miles of the proposed project site, one of which is located at 45417 Pechanga Resort Drive, approximately 3.3 miles southwest of the proposed project site. The other Pechanga Fire Department near the proposed project site is located at 48240 Pechanga Road, approximately 2.3 miles southwest of the proposed project site. The Pechanga Fire Department's firefighting apparatus consists of a Type I American La France engine, the American La France 100-foot Tiller Quint, a Type III engine, a Type II engine, and a Type II water tender. The Pechanga Fire Department includes a fire chief, a division chief/fire marshal, three battalion chiefs, six fire captains, six fire apparatus engineers, twelve firefighters, a fire inspector, an emergency services coordinator, and nine fuels management crewmembers. In addition, the Pechanga Fire Department employs twelve full-time firefighter paramedics (Pechanga Band of Indians 2021d). The Pechanga Fire Department has the capacity to serve the proposed project site. Although the Tribe has mutual aid agreements with the County of Riverside for public services, such as fire protection, the Pechanga Fire Department would be expected to address any emergency issues, primarily due to the Pechanga Fire Department's close proximity to the proposed project site.

Electricity and Natural Gas

Southern California Edison (SCE) provides electrical services to properties in the vicinity of the proposed project site, and Southern California Gas Company (SoCalGas) provides natural gas services to properties in the vicinity of the proposed project site (City of Temecula 2022c). Current electrical and natural gas service providers for adjacent properties would likely provide these utilities for the proposed development. The Tribe would also consider electric service from the Tribe's own utility, Pechanga Western Electric, should that option be available at the time of development.

Construction

Although a specific timeframe for developing the site is not proposed at this time, for the purpose of analysis, this EA assumes that construction of the 112-unit residential development would begin in March 2025 and last 17 months, for a commercial operation date of August 2026. It was assumed that construction phases would include site preparation (10 days), grading (30 days), building construction (300 days), paving (20 days), and architectural coating (20 days) (see Appendix A, Air Quality and Greenhouse Gas Memorandum, for an overview of construction equipment and duration).

Construction would involve grading and excavating for building pads and parking lots. According to the USGS Pechanga, 7.5-minute Topographic Map (USGS 2012), the elevation of the proposed project site is relatively flat, though there are mountainous areas on the project site, and slopes from approximately 1,290 feet above mean sea level (amsl) in the northwest corner of the project site to approximately 1,580 feet amsl in the southeast corner of the project site. The proposed project site has an elevation of approximately 1,400 feet amsl across the central portion of the site with a general topographic gradient of the site vicinity towards the southwest (Appendix B). Grading of the proposed project site would require the development of a grading plan that would be finalized during the final design phase. Dust suppression best management practices (BMPs) for roadways, trucks, and ground-disturbing activities would be implemented during construction (see Section 2.2.3, Protective Measures and Best Management Practices). In addition, if the proposed development is approved, the Tribe would voluntarily follow the County's Noise Ordinance for allowable hours for construction activities to reduce potential noise and vibration impacts (Section 9.52.020 of the Riverside County Municipal Code).

The Proposed Action would comply with the National Pollutant Discharge Elimination System (NPDES) Construction General Permit and implement stormwater discharge management controls that effectively reduce or prevent the discharge of pollutants into receiving waters during construction in accordance with the Clean Water Act (CWA). In accordance with NPDES Construction General Permit requirements, a Stormwater Pollution Prevention Plan (SWPPP) would be prepared prior to construction. The SWPPP would include BMPs to minimize stormwater effects to water quality during construction (see Section 2.2.3).

Portions of the proposed project site were previously graded, and its surface is currently pervious. The Proposed Action would introduce impervious surfaces at the proposed project site. The Proposed Action would comply with the County's stormwater/urban runoff management and discharge controls ordinance, which outlines on-site post-construction stormwater requirements for development projects, including implementation of BMPs and low-impact-development features designed to reduce impacts to surface waters and filter stormwater runoff (see Section 2.2.3, below).

Because the Proposed Action will connect to City roads, the applicant would be required to obtain an encroachment permit from the City that includes requirements to ensure construction traffic impacts are minimized during construction. If determined by the City, the applicant may also be required to prepare a Traffic Control Plan for any construction within the public right of way to ensure safe passage of vehicles, bicycles or pedestrians through the work zone.

2.2.3 Protective Measures and Best Management Practices

Protective measures and BMPs, including regulatory requirements, green construction methods as adopted under the Tribal Building and Fire Safety Code, and any additional measures that would be implemented by the Tribe, would be incorporated into the design of the Proposed Action. Where applicable, these measures would be incorporated into any design or construction contracts to eliminate or substantially reduce environmental consequences from the Proposed Action. These measures are discussed in Table 2-1.

Table 2-1
Proposed Action Best Management Practices

Resource Area	Proposed Best Management Practices
Land Resources	• A grading report shall be prepared and submitted with the working design plans. All recommendations of the report shall be adhered to during future construction of the Proposed Action. • All site clearing, removal of unsuitable soil, moisture conditioning, review of imported fill material, fill placement, foundation excavations, and other site grading shall be verified during future construction of the Proposed Action to ensure compliance with standard engineering practices. • Erosion control measures shall be implemented during future construction of the Proposed Action, as described further under the Water Resources best management practices (BMPs). • Dust suppression BMPs shall be used for roadways and trucks.
Public Services and Utilities	• Construction equipment shall contain spark arrestors, as provided by the manufacturer. • Staging areas, welding areas, or areas slated for development using spark-producing equipment shall be cleared of dried vegetation and other materials that could serve as fire fuel. • An indoor sprinkler system and fire extinguishers shall be installed to provide fire protection. • Design will be consistent with Riverside County code for lighting and architectural design guidelines.
Noise	• Unless an early work permit is issued by the Tribe in consultation with the County of Riverside (County), construction activities shall be limited to daytime hours consistent with the County's Municipal Code Section 9.52.020 (i.e., between October 1 and April 30, 7:00 a.m. to 6:00 p.m.; between May 1 and September 30, 6:00 a.m. to 6:00 p.m.). • All powered equipment shall comply with applicable federal regulations and all such equipment shall be fitted with adequate mufflers according to the manufacturer's specifications to minimize construction noise effects. • Heating, ventilation, and air conditioning (HVAC) equipment shall be shielded to reduce noise.
Hazardous Materials	• Construction equipment shall comply with Clean Construction USA strategies to reduce diesel emissions from construction equipment, such as: replacing outdated engine components, installing certified and verified emission reduction technologies,

Table 2-1
Proposed Action Best Management Practices

Resource Area	Proposed Best Management Practices
	regularly maintain all engines, replace older engines with newer equipment, using higher quality cleaner fuel, and reducing engine idle times. The Tribe shall comply with the National Pollutant Discharge Elimination System Construction General Permit from the U.S. Environmental Protection Agency for construction site runoff during the construction phase, in compliance with the Clean Water Act (CWA). A Stormwater Pollution Prevention Plan (SWPPP) shall be prepared, implemented, and maintained throughout the construction phase of the development, consistent with Construction General Permit requirements. The SWPPP prepared for the site prior to future development of the Proposed Action would include the following BMPs: • To the extent feasible, grading activities shall be limited to the immediate area required for construction and remediation. • Temporary erosion control measures (such as silt fences, fiber rolls, vegetated swales, a velocity dissipation structure, staked straw bales, temporary re-vegetation, rock bag dams, erosion control blankets, and sediment traps) shall be employed for disturbed areas. • Construction activities shall be scheduled to minimize land disturbance during peak runoff periods. • Disturbed areas shall be paved or re-vegetated following construction activities. • Construction area entrances and exits shall be stabilized with large-diameter rock. • A Spill Prevention and Countermeasure Plan shall be developed that identifies proper storage, collection, and disposal measures for potential pollutants (such as fuel, fertilizers, and pesticides) used on site. • Petroleum products shall be stored, handled, used, and disposed of properly in accordance with provisions of the CWA (33 USC Sections 1251–1387). • Construction materials, including topsoil and chemicals, shall be stored, covered, and isolated to prevent runoff losses and contamination of surface and groundwater. • Fuel and vehicle maintenance areas shall be established away from all drainage courses and designed to control runoff. • Sanitary facilities shall be provided for construction workers. • Disposal facilities shall be provided for soil wastes, including excess asphalt during construction. • Wheel wash or rumble strips and sweeping of paved surfaces shall be used to remove all tracked soil. • Low-impact-development methods shall be implemented to help store, infiltrate, evaporate, and detain stormwater runoff. Techniques that may be included in the design of the Proposed Action could include bio-retention facilities, vegetated filter strips, and permeable pavement.

2.3 NO ACTION ALTERNATIVE

Under the No Action Alternative, the BIA would not issue an approval of the proposed Fee-to-Trust Application. Although future development consistent would zoning could occur under the No Action Alternative, given the Tribe's current lack of development plans, the presence of additional tax consequences and local development requirements, it is assumed for the purpose of the NEPA analysis that no development would occur under the No Action Alternative. Therefore, future development of the proposed project site would not occur, and the proposed project site would remain undeveloped.

2.4 COMPARISON OF THE ALTERNATIVES

- **Proposed Action.** Among the project alternatives considered, the Proposed Action, which is fully evaluated for environmental effects in Section 3.0, Affected Environment and Environmental

Consequences, would best meet the Tribe's objectives and would provide the greatest socioeconomic benefit to the Tribe.

- **No Action Alternative.** Under the No Action Alternative, the proposed project site would remain in its existing condition and would not be taken into trust. No environmental effects would occur because no future development would occur. Under the No Action Alternative, the Tribe would not receive the housing benefits that would be created with development of the Proposed Action. Moreover, the Tribe would not be able to use its landholdings in a manner that would most benefit its members. This alternative would be less preferable than the Proposed Action because it would not meet the stated purpose or need of facilitating tribal self-sufficiency, self-determination, and meeting the housing needs of the tribal community.

2.5 ALTERNATIVES ELIMINATED FROM FURTHER ANALYSIS

The intent of the analysis of alternatives in the EA is to present to decision makers and the public a reasonable range of alternatives that are both feasible and sufficiently different from each other in critical aspects. Alternatives were considered and excluded from full EA analysis because these alternatives were deemed infeasible, would not fulfill the stated purpose and need of the Proposed Action, and/or were not sufficiently distinguishable from the project alternatives that the analysis would offer additional information to assist the BIA in its consideration of impacts under NEPA. A number of potential off-site alternatives were considered but ultimately eliminated due to the infeasibility of acquiring new off-site properties, the unavailability of off-site properties currently owned by the Tribe for development, or the inability of these alternatives to lessen the environmental consequences of the Proposed Action. These eliminated alternatives are discussed in detail below.

2.5.1 Other Alternative Sites

In addition to the proposed project site, off-site alternatives were considered that would involve potential development on trust land already owned by the Tribe, fee land already owned by the Tribe, or land purchased for use. As described in Section 1.3, Background, although the Tribe's Reservation encompasses over 7,080 acres, the total amount of tribally owned land that is available for development of any kind is extremely small, and, at this time, the Tribe does not have access to any other parcels that would allow for a similar residential development.

SECTION 3.0

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section includes a detailed description of the affected environment of the proposed project site, including the regulatory setting and environmental setting, as well as an analysis of the environmental consequences associated with the Proposed Action and No Action Alternative. The following environmental issue areas are described: land resources, water resources, air quality, biological resources, cultural resources, socioeconomic conditions/environmental justice, transportation/circulation, land use, public services and utilities, visual resources, noise, and hazardous materials.

3.1 LAND RESOURCES

3.1.1 Affected Environment

The following discussion describes the existing surface topography, geology and soils, and seismic hazards in the vicinity of the proposed project site.

3.1.1.1 Regulatory Setting

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act), signed into law in December 1972 after the 1971 San Fernando earthquake, requires the delineation of zones along active and potentially active faults in California. The United States Geological Survey defines a fault as "active" if it has moved one or more times in the last 10,000 years. The California Geological Survey defines an "active" fault as one that exhibits evidence of activity during the last 11,000 years. Faults that exhibit evidence of Quaternary activity (within the last 1.6 million years) are considered to be "potentially active." The purpose of the Alquist-Priolo Act is to regulate development on or near fault traces to reduce the hazard of fault rupture and to prohibit the location of most structures for human occupancy across these traces. Fault zones defined by the Alquist-Priolo Act are areas around active faults, averaging approximately 0.25 miles wide, within which cities and counties having jurisdiction must regulate certain development projects (DOC 2019a).

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act was enacted in 1990 to protect the public from the effects of strong ground shaking, liquefaction, landslides, ground failure, or other hazards caused by earthquakes. This act requires a state geologist to delineate various seismic hazard zones, and requires cities, counties, and other local permitting agencies to regulate certain development projects within the portions of those zones where they have jurisdiction. Before a development permit is granted by a city, county, or other local permitting agency for a site within a seismic hazard zone, a geotechnical investigation must be conducted and appropriate mitigation measures must be incorporated into the project's design. Ground shaking probability maps have been developed in conjunction with the United States Geological Survey for all of California (DOC 2019b).

3.1.1.2 Environmental Setting

Topography

The elevation of the proposed project site is relatively flat, though there are mountainous areas within the proposed project site. According to the USGS Pechanga, 7.5-minute Topographic Map (USGS 2012), the elevation of the proposed project site is relatively flat and slopes from approximately 1,290 feet above mean sea level (amsl) in the northwest corner of the project site to approximately 1,580 feet amsl in the southeast corner of the project site, resulting in a 290-foot elevation difference moving east to west. The proposed project site has an elevation of approximately 1,400 feet amsl across the central portion of the site with a general topographic gradient of the site vicinity towards the southwest (Appendix B).

Geology/Soils

Geomorphic regions are broad-scale subdivisions based on terrain, texture, rock type, and geologic structure and history. The United States Geological Survey uses a three-tiered classification of the United States, by division, province, and section, to provide a spatial organization for the great variety of the country's physical features. The proposed project site falls within the Pacific Mountain System major physiographic division, Pacific Border province, Los Angeles Ranges region (USGS 2008).

The proposed project site is underlaid with Pliocene age Temecula Arkose Formation, which is a non-marine sedimentary bedrock unit. The flat-lying areas of the Site are on primarily sandstone and siltstone of the early Pleistocene Pauba Formation with an area of Holocene and late Pleistocene young colluvial deposits in the northern portion of the site (Appendix B). According to the U.S. Department of Agriculture's Natural Resource Conservation Service (NRCS) Web Soil Survey (USDA 2019), six soil types are mapped within the study area: Arlington and Greenfield fine sandy loams (2%–8% slopes and 8%–15% slopes, eroded), Gorgonio loamy sand (8%–15% slopes), gullied land, Hanford coarse sandy loam (2%–8% slopes), and Ramona and Buren sandy loams (15%–25%, severely eroded). These soils are not listed as hydric by the NRCS. The six soil types within the study area are described in further detail in the Biological Resources Technical Memorandum completed by Dudek. The proposed project site is currently disturbed but not developed and mostly consists of pervious surfaces.

Arlington and Greenfield series. The Arlington series are nearly level to strongly sloping and are on alluvial fans and terraces at elevations from 400 to 2,000 feet. These soils are well drained with slow to medium runoff and slow permeability, found along the coastal and intermediate valleys of southern California. The Greenfield series consists of deep, well-drained soils that formed in moderately coarse and coarse textured alluvium derived from granitic and mixed rock sources. They are on alluvial fans and terraces and have slopes of 0%–30%. Greenfield soils are extensive and found in the interior and coastal valleys of central and southern California.

Gorgonio series. The Gorgonio series are on alluvial fans at elevations of 20 to 3,000 feet, found in coarse textured alluvium derived from granite, granodiorite, schist, and related rocks. Found near the mountains in southern and central coast areas of California, these soils are excessively drained with rapid permeability and slow to medium runoff.

Gullied land. Gullied land is a land type rather than a soil series. Gullied land describes areas where gullies occupy nearly all of the surface area. Gullies are permanent erosional landforms created by running water, mass movement, or commonly a combination of both, usually on a hillside or in river floodplains or terraces, creates narrow runoff paths and channels and cuts into the soil to depths that cannot no longer be smoothed over by tillage. Networks of gullies can range from a few feet to many feet in width. Most of the original surface layer has been washed away, and the exposed soil material is silt loam or silty clay loam.

Hanford series. The Hanford series consist of very deep, well drained soils that formed in moderately coarse textured alluvium dominantly from granite and other quartz bearing rocks of similar texture. Hanford soils are on stream bottoms, floodplains and alluvial fans and have slopes of 0%-15% at elevations from 150 to 3,500 feet. These well drained soils have moderately rapid permeability and negligible to low runoff.

Ramona and Buren series. The Ramona series are on terraces and fans at elevations ranging between 250 and 3,500 feet, from nearly level to moderately steep slopes. Ramona soils formed in alluvium derived mostly from granitic and related rock sources. These are well-drained soils with moderately slow permeability and slow to rapid runoff. Ramona soils are extensive, found in the interior valleys of central and the western part of southern California. The Buren series consists of well drained, slow to moderately slow permeable soils on gently to strongly sloping alluvial fans and terraces at elevations of about 700 to 3,000 feet. They formed in alluvium derived mostly from basic igneous rocks and partly from other crystalline rocks. Buren soils are limited to the intermediate valleys of southern California.

Seismic Hazards

Temecula is located within the Perris Block in the northern portion of the Peninsular Ranges geomorphic province. The province is bounded by the Santa Monica, Raymond, Sierra Madre, and Cucamonga fault zones on

the north, the San Jacinto Fault Zone on the east, the Pacific Ocean coastline on the west, and extends through Baja California on the south. The province is characterized by elongate northwest-trending mountain ridges separated by straight-sided sediment-filled valleys. The northwest trend is further reflected in the direction of the dominant geologic structural features of the province that are northwest to west-northwest trending folds and faults, such as the nearby Wildomar, Elsinore, and Wolf Valley fault zones, located within approximately 2 miles of the Site (Appendix B). Therefore, the proposed project site is not located within an Alquist-Priolo earthquake fault zone. A liquefaction zone is located to the north, and due to the mountains, a landslide zone to the south (DOC 2022).

Liquefaction and Lateral Spreading

Soil liquefaction can occur in seismic conditions. The potential for liquefaction in an area is a function of soil type and depth of groundwater. Poorly consolidated soils combine with groundwater during an earthquake, losing their shear strength and taking on the properties of a heavy liquid. This process, termed liquefaction, can result in the loss of foundation support, ground failure due to lateral spreading, and settlement of affected soils. Three general conditions must be met for liquefaction to occur: (1) strong ground shaking of relatively long duration; (2) loose, or unconsolidated, recently deposited sediments consisting primarily of silty sand and sand; and (3) water saturated sediments within about 50 feet of the surface. The proposed project site is located in a liquefaction hazard zone (City of Temecula 2005).

3.1.2 Proposed Action

Topography

As discussed above, the elevation of the proposed project site is relatively flat and slopes from approximately 1,290 feet above mean sea level (amsl) in the northwest corner of the project site to approximately 1,580 feet amsl in the southeast corner of the project site, resulting in a 290-foot elevation difference moving east to west. The proposed project site has an elevation of approximately 1,400 feet amsl across the central portion of the site with a general topographic gradient of the site vicinity towards the southwest (Appendix B). Although the Tribe has no current plans for development of the proposed project site, residential development of the proposed project site at a future time as a result of the Fee-to-Trust Application is reasonably foreseeable. Construction of the residential development would result in impacts to topography from grading within the proposed project site and potential import of fill material. However, changes to topography resulting from potential leveling the site would not affect significant existing topographic features on the proposed project site, as none are present. The final grading plan would comply with standard engineering practices. With preparation of and adherence to the measures and BMPs within a grading plan, future development of the Proposed Action would not result in a significant impact to topography. No mitigation is required.

Geology/Soils

Future development of the Proposed Action could affect soils due to potential erosion during construction and operation activities. Such construction activities could include clearing, grading, trenching, and backfilling. Site grading would further expose soils on the proposed project site to erosion by water and wind. As discussed in Section 3.2.1.1, Regulatory Setting, sediment discharge into navigable (surface) Waters of the United States is regulated by the CWA, which establishes water quality goals for sediment control and erosion prevention for any project that would disturb more than 1 acre of soil. One of the mechanisms for achieving the goals of the CWA is the NPDES permitting program, administered by the U.S. Environmental Protection Agency (USEPA). As part of the NPDES Construction General Permit, a SWPPP for the proposed project must be prepared and implemented. The SWPPP must make provisions for erosion prevention and sediment control, as well as control of other potential pollutants. Construction of the Proposed Action would disturb more than 1 acre; therefore, the Tribe is required by the CWA to obtain coverage under, and comply with the terms of, the NPDES Construction General Permit for construction activities subsequent to federal trust property acquisition of the proposed project site. The NPDES Construction General Permit requirements would reduce any potential adverse impacts to less-than-significant levels. As a result, although the Proposed Action would result in short-term direct adverse impacts to soils from ground-disturbing activities, with regulatory requirements and implementation of BMPs described in

Section 2.2.3, Protective Measures and Best Management Practices, impacts from construction of the Proposed Action would not be significant.

Once the Proposed Action is developed and operational, it is anticipated that the proposed project site would become partially impervious due to the construction of residences, associated driveways, and internal roads. The final design of the Proposed Action would incorporate BMPs to minimize adverse impacts relative to soil corrosivity, erosion, and soil stability, if applicable (see Section 2.2.3). Therefore, although the Proposed Action would result in long-term adverse impacts to soils during operations, with compliance with existing regulations and preparation of a geotechnical investigation, impacts would not be significant.

Seismic Hazards

Application of Tribal Building and Fire Safety Code design and construction standards to the proposed project would allow ground-shaking-related hazards to be managed from a geologic, geotechnical, and structural standpoint such that adverse impacts to the health or safety of workers or members of the public would be minimized. These existing regulations would also address any potential impacts associated with liquefaction and lateral spreading. Therefore, no significant adverse impacts due to geologic or seismic conditions on site would occur.

3.1.3 No Action Alternative

Under the No Action Alternative, the proposed project site would not be taken into trust and no future development would occur. The proposed project site would remain in its current state. Therefore, topographic features and soils would remain undisturbed, and the No Action Alternative would have no adverse impacts related to land resources.

3.2 WATER RESOURCES

3.2.1 Affected Environment

The following discussion describes the existing surface water hydrology, flooding conditions, groundwater hydrology, and water quality in the vicinity of the proposed project site.

3.2.1.1 Regulatory Setting

Executive Orders 11988 and 13690

Executive Order (EO) 13690, which amends EO 11988, requires that federal agencies evaluate the potential effects of any actions they may take in a floodplain. Specifically, EO 11988 states that agencies must first determine whether the proposed action will occur in a floodplain. EO 11988 defines a floodplain as an area that has a 1% or greater chance of flooding in any given year. Second, if an agency proposes to allow an action to be located in a floodplain, "the agency shall consider alternatives to avoid adverse effects and incompatible development in the floodplains," which EO 13690 amended to add that, "[w]here possible, an agency shall use natural systems, ecosystem processes, and nature-based approaches when developing alternatives for consideration." If the only practicable alternative action requires siting in a floodplain, the agency shall "minimize potential harm to or within the floodplain." Additionally, EO 13960 established a Federal Flood Risk Management Standard for federal actions that are located in or affect floodplains, and also expanded the definition of a floodplain to which the Federal Flood Risk Management Standard would apply to those areas subject to flooding by the 0.2% annual chance flood (FEMA 2015).

Clean Water Act

The federal CWA, 33 USC Section 1251(a)(2), sets forth national goals that waters shall be "fishable, swimmable" waters (CWA Section 101[a][2]). The CWA addresses both point and non-point sources of pollution (Sections 402 and 319, respectively), both of which are controlled through an NPDES permit. An NPDES permit must be obtained in order to discharge pollutants into "waters of the United States." In some states, the USEPA has delegated permitting authority to the regional water quality agency, in this case the State Water Resources Control Board (SWRCB). However, the USEPA retains authority to regulate discharges to waters on tribal lands.

The CWA also directs states to establish water quality standards for waterways in their jurisdiction, and to review and update these standards every 3 years (CWA Section 303[c]).

Section 303(d) of the CWA requires states to periodically prepare a list of all surface waters in their respective jurisdictions for which beneficial uses of the water—such as for drinking, recreation, aquatic habitat, and industrial use—are impaired by pollutants. These include water bodies that do not meet state surface water quality standards and are not expected to improve within the next 2 years. States establish a priority ranking of these impaired waters for purposes of developing water quality control plans that include total maximum daily loads. A total maximum daily load is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards and includes an allocation for each of the pollutant's sources. These water quality control plans describe how an impaired water body will meet water quality standards through the use of total maximum daily loads.

Safe Drinking Water Act

Under the mandate of the Safe Drinking Water Act, the USEPA sets legally enforceable National Primary Drinking Water Regulations (primary standards) that apply to public water systems. These standards are established to protect human health by limiting the levels of contaminants in drinking water. The USEPA does not oversee the construction or permitting of groundwater wells, but requires that public health standards, such as an effectively installed sanitary seal, are in place, and recommends that water systems be installed to meet California Department of Public Health Standards. The USEPA will also establish monitoring and operational requirements, which will typically be specific to the site.

The USEPA also defines National Secondary Drinking Water Regulations (secondary standards) for contaminants that cause cosmetic and aesthetic effects, but not health effects. The USEPA recommends that these secondary standards be met. Both primary and secondary drinking water standards are expressed as either maximum contaminant levels, which define the highest level of a contaminant allowed in drinking water, or Maximum Contaminant Level Goals, which define the level of a contaminant below which there is no expected risk to health.

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Control Act provides the basis for surface water and groundwater quality regulation within California. The act established the authority of the SWRCB and the nine Regional Water Quality Control Boards (RWQCBs). The act requires the state, through the SWRCB and the RWQCBs, to designate beneficial uses of surface waters and groundwater, and to specify water quality objectives designed to protect those uses. These water quality objectives are presented in the Regional Water Quality Control Plans. The proposed project site is located within the San Diego RWQCB (SWRCB 2022). The Water Quality Control Plan for the San Diego Basin designates beneficial uses and water quality objectives for all the groundwater and surface water of the region (San Diego RWQCB 2016).

The surface water quality standards for California include both narrative and numerical water quality objectives to keep California's waters swimmable, fishable, drinkable, and suitable for use by industry, agriculture, and the citizens of the state.

Sustainable Groundwater Management Act

The intent of the California Sustainable Groundwater Management Act (Water Code Section 10720 et seq.) is to "enhance local management of groundwater consistent with rights to use or store groundwater… [and] to preserve the security of water rights in the state to the greatest extent possible consistent with the sustainable management of groundwater." The Sustainable Groundwater Management Act states that "any local agency or combination of local agencies overlying a groundwater basin may elect to be a groundwater sustainability agency for that basin" (Water Code Section 10723). A groundwater sustainability agency will be formed within each groundwater basin to prepare and implement a plan for long-term groundwater sustainability. Finally, the Sustainable Groundwater Management Act (i) contemplates the voluntary participation of Native American tribes in the preparation or administration of a groundwater sustainability plan or groundwater management plan through a joint powers authority or other agreement with local agencies and basins; (ii) acknowledges the federally reserved water rights of Native American tribes for purposes of adjudicating or managing these rights and mandates that these rights be

respected in full; and (iii) recognizes that federal law prevails in the adjudication or management of tribal federally reserved water rights.

The proposed project site is located within the Temecula Valley Groundwater Basin, which is a very low priority basin (DWR 2022). Only high- and medium-priority basins are required to form a groundwater sustainability agency and adopt a groundwater sustainability plan or submit an alternative to a groundwater sustainability plan (DWR 2019). Since the proposed project site is located within a very low priority basin, formation of a groundwater sustainability agency or adoption of a groundwater sustainability plan is not required.

3.2.1.2 Environmental Setting

Floodplain

The proposed project site is located within two Federal Emergency Management Agency Flood Insurance Rate Maps (FIRM). The western corner of the site is located in FEMA FIRM panel number 06065C3305G while the remainder of the site is located in panel number 06065C3310G. In both FIRM panels, the proposed project site is situated in Flood Zone X (FEMA 2008). This portion of Zone X is determined to be outside the 1% annual chance (100-year) floodplains and the 0.2% annual chance (500-year) floodplain (FEMA 2008).

Surface Water

Regional Watershed

The proposed project site is located within the Santa Margarita Watershed, the Pechanga Creek-Temecula Creek Subwatershed, and within the Lower Temecula Creek Parent Watershed (University of California Davis 2021). The proposed project site is also located within the Santa Margarita Hydrologic Unit, as designated by the San Diego RWQCB. Specifically, the proposed project site is located within the Pechanga Hydrologic Area (San Diego RWQCB 2016). The surface water body nearest to the proposed project site is an unnamed stream approximately 0.15 miles north of the proposed project site that drains into the Temecula Creek, which runs generally southeast to northwest through Temecula (USEPA 2022). There are no water bodies listed on the California state 303(d) list of impaired waters on or adjacent to the proposed project site (San Diego RWQCB 2016).

Site Drainage

As discussed above, the elevation of the proposed project site is relatively flat and slopes from approximately 1,290 feet above mean sea level (amsl) in the northwest corner of the project site to approximately 1,580 feet amsl in the southeast corner of the project site, resulting in a 290-foot elevation difference moving east to west. The proposed project site has an elevation of approximately 1,400 feet amsl across the central portion of the site with a general topographic gradient of the site vicinity towards the southwest (Appendix B). As mentioned previously, the proposed project site is located within Rancho California Water District's (RCWD) Water District Service Area Division. The future residential development would continue to be serviced by the RCWD through existing and planned water infrastructure. Stormwater would drain into stormwater infrastructure maintained by the City of Temecula. As a voluntary mitigation measure, the proposed project would be designed to meet County ordinance for stormwater and groundwater protections, such as Section 13.12.010 stormwater/urban runoff management and discharge controls.

The entire 1,600-acre Wolf Valley Drainage Basin, which includes the proposed project site, generates a 100-year flow of 2,993 cubic feet per second through the tributary to Temecula Creek at Jedediah Smith Road. Recent improvements to Pechanga Parkway provide sufficient capacity to carry the flows, which historically have flowed in a northwesterly direction.

Groundwater

Groundwater Supply

The proposed project site is located within the 137-square-mile Temecula Valley Groundwater Basin (also known as the Murrieta–Temecula Groundwater Basin), which underlies several valleys in southwestern Riverside County and a portion of northern San Diego County (DWR 2003). Water supply to Temecula is drawn from the Temecula

Valley Groundwater Basin and supplemented with importer water from the Metropolitan Water District of Southern California (City of Temecula 2005).

Groundwater Quality

The proposed project site is located within the boundaries of the San Diego Regional Water Quality Control Board (RWQCB). Beneficial uses for groundwater within the Pechanga Hydrologic Area, in which the proposed project site is located, include municipal and domestic supply, agriculture supply, and industrial service supply (San Diego RWQCB 2016). The Pechanga Hydrologic Area remains largely in its natural state since undeveloped and open space lands constitute approximately 99% of the surrounding land area (Project Clean Water, 2022). Contaminants of concern in the Santa Margarita Watershed include mineral concentration, salinity, total dissolved solids, iron, nitrogen, phosphorus, manganese, and iron. The sources of these contaminants are thought to include pesticides, artificial recharge, fertilizer application, trash, sediment, wastewater infiltration, and naturally occurring contaminants (City of Temecula 2018).

3.2.2 Proposed Action

Surface Water

Construction Impacts

As discussed above, although the Tribe has no current plans for development of the proposed project site, development of the proposed project site at a future time as a result of the Fee-to-Trust Application is reasonably foreseeable. Construction impacts under the Proposed Action would include ground-disturbing activities such as grading and excavation, which could lead to erosion of topsoil. Erosion from construction sites can increase sediment discharge to surface waters during storm events, thereby degrading downstream water quality. Construction activities would also include the routine use of potentially hazardous construction materials, such as concrete washings, oil, and grease, which may spill onto the ground and be dissolved in stormwater. Discharges of pollutants, including grease, oil, fuel, and sediments, to surface waters from construction activities and accidents would result in a short-term direct adverse impact. Regulated construction activities in excess of 1 acre are required to apply for coverage under the NPDES Construction General Permit. The provisions of this permit include preparation of a SWPPP, which would be developed prior to any ground disturbance and would include BMPs to reduce potential surface water contamination during storm events. A list of BMPs that may be included in the SWPPP and that would be implemented during construction of the Proposed Action is presented in Section 2.2.3. These BMPs would minimize adverse impacts to the local and regional watershed from construction activities associated with the Proposed Action by reducing detachment of soil particles from bare soil or by preventing movement of loose soil into waterways. Therefore, with adherence to the NPDES permitting program and implementation of the SWPPP, impacts to surface water quality from construction activities would not be significant.

Operation

Water Supply

Water supply for the Proposed Action would be provided by the RCWD. As discussed in Section 3.9.2, the potable water demand of the Proposed Action would not result in a significant impact on any regional surface water supplies.

Stormwater Runoff

Pollutants that accumulate in dry periods, such as oil and grease, asbestos, pesticides, and herbicides, may adversely affect water quality because of their presence in high concentrations during the first storm event of the season. Although the Tribe has no current plans for development of the proposed project site, development of the proposed project site at a future time as a result of the Fee-to-Trust Application is reasonably foreseeable. Future development of the site would result in a greater area of impervious surfaces, potentially increasing stormwater runoff flow rates. An increase in impervious surfaces reduces infiltration of stormwater through the soil and can cause an increase in on-site or off-site flooding or erosion by directing water toward areas that typically do not receive concentrated surface water runoff, resulting in a long-term direct adverse impact to stormwater runoff. However, future development of the proposed project site would comply with existing federal and state standards

for development. Compliance with existing regulations would ensure that stormwater runoff would be properly treated and conveyed. Therefore, impacts to surface water would not be significant, and no mitigation is required.

Floodplain

Impacts to the floodplain or floodplain management could occur if construction of the Proposed Action were to place people or structures in a floodplain or change flood elevations. The proposed project site is outside of a 100-year flood zone as designated by the Federal Emergency Management Agency (FEMA 2008). Construction and operation of the Proposed Action would not alter the 100-year floodplain boundaries or flooding elevations. The proposed project site is located in Zone X and is determined to be outside the 1% annual chance (100-year) floodplain and the 0.2% annual chance (500-year) floodplain (FEMA 2008). Therefore, no adverse impact associated with flooding or floodplain management would occur as a result of the Proposed Action.

Groundwater

Water Supply

As described in Section 3.9.2, future development under the proposed project is anticipated to generate a water demand of approximately 21.2 million gallons per year (MGY) or 65.05 AFY (Appendix C). Potable water would be supplied to the Proposed Action by the RCWD, which has historically provided a significant portion of its overall demand through groundwater pumping from the Temecula Valley Groundwater Basin. In addition to the RCWD, other agencies, including the Tribe and other private entities, pump from the Temecula Valley Groundwater Basin. The sustainable yield of the Temecula Valley Groundwater Basin, including artificial recharge allotments, has averaged 38,365 AFY over the past 5 years (RCWD 2015). Operational water demand under the Proposed Action would constitute only approximately 0.2% of the average sustainable yield of the Temecula Valley Groundwater Basin over the past 5 years. Therefore, although the Proposed Action would result in long-term direct adverse impacts to groundwater, this use of groundwater would be minimal. Therefore, the Proposed Action would not result in a significant impact on regional groundwater levels, and no mitigation is required.

Water Quality

Contaminated runoff from future development associated with the Proposed Action could infiltrate the soil and potentially affect groundwater, resulting in short- and long-term direct adverse impacts to water quality. As described above in Section 3.2.2 Stormwater Runoff, the Proposed Action would implement stormwater features into project design that would capture and retain stormwater flow and allow stormwater to permeate into the underlying groundwater aquifer. In addition, once development plans for future development of the proposed project site are finalized, the future applicant would prepare an SSMP/WQMP. Therefore, with the incorporation of stormwater features and voluntary implementation of County requirements for stormwater and groundwater protection, impacts to groundwater quality would not be significant. No mitigation is required.

3.2.3 No Action Alternative

Under the No Action Alternative, the proposed project site would not be taken into trust, and no development would occur. The site would remain in its current state. Therefore, the No Action Alternative would have no adverse impacts related to surface water or groundwater resources.

3.3 AIR QUALITY

Air quality and greenhouse gas impacts for the Proposed Action were evaluated using CalEEMod Version 4.0 on November 3, 2022, and is included as Appendix A. The results of the air quality and greenhouse gas analysis are incorporated into the analysis below.

3.3.1 Affected Environment

The following discussion describes the existing air quality in the vicinity of the proposed project site.

3.3.1.1 Regulatory Setting

Clean Air Act

The Clean Air Act of 1970, as amended, authorizes the USEPA to identify common air pollutants that impact air quality on a national level and establish corresponding National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. Accordingly, the USEPA has identified ozone (O3), carbon monoxide (CO), particulate matter (PM), nitrogen dioxide, sulfur dioxide, and lead as air contaminants. The NAAQS are divided into primary standards to protect public health, and secondary standards to protect public welfare. Areas are designated attainment, nonattainment, or maintenance by the USEPA depending on whether concentrations in each area exceed the established NAAQS. Nonattainment areas are required to take steps toward attainment within a specific period of time. Once an area reaches attainment for a particular air contaminant, then the area is re-designated as attainment or maintenance. The Clean Air Act places most of the responsibility on states to achieve compliance with the NAAQS. States, municipal statistical areas, and counties that contain areas of nonattainment are required to develop a State Implementation Plan that outlines policies and procedures designed to bring the nonattainment area into compliance with the NAAQS.

3.3.1.2 Environmental Setting

The proposed project site is located within the South Coast Air Basin and is within the jurisdictional boundaries of the South Coast Air Quality Management District, which has jurisdiction over Riverside County, including Temecula. Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. Criteria air pollutants that are evaluated include volatile organic compounds (VOCs), oxides of nitrogen (NO_x), CO, sulfur oxides (SO_x), particulate matter with an aerodynamic diameter less than or equal to 10 microns in size (PM_{10}), and particulate matter with an aerodynamic diameter less than or equal to 2.5 microns in size ($PM_{2.5}$). VOCs and NO_x are important because they are precursors to O_3.

General Conformity Background

Under Section 176(c)(1) of the federal Clean Air Act, federal agencies that "engage in, support in any way or provide financial assistance for, license or permit, or approve any activity" (40 CFR Part 51, Section 51.850) must demonstrate that such actions do not interfere with state and local plans to bring an area into attainment with the NAAQS. The program by which a federal agency determines that its action would not obstruct or conflict with air quality attainment plans is called "general conformity." The implementing regulations for general conformity are found in Title 40, CFR, Part 51, Subpart W. Under the general conformity regulations, both the direct and indirect emissions associated with a federal action must be evaluated. Subpart W defines direct emissions as "[T]hose emissions of a criteria pollutant or its precursors that are caused or initiated by the Federal action and occur at the same time and place as the action." Indirect emissions are defined as those emissions of a criteria pollutant or its precursors that:

> (1) Are caused by the Federal action, but may occur later in time and/or may be farther removed in distance from the action itself but are still reasonably foreseeable; and
> (2) The Federal agency can practicably control and will maintain control over due to a continuing program responsibility of the Federal agency.

Attainment Status and General Conformity Thresholds

The first step in the general conformity analysis is the applicability analysis. The National Highway System Designation Act of 1995, (Pub. Law 104–59) added Section 176(c)(5) to the Clean Air Act to limit applicability of the conformity programs to areas designated as nonattainment under Section 107 of the Clean Air Act and maintenance areas under Section 175A of the Clean Air Act only. Therefore, only actions in designated nonattainment and maintenance areas are subject to the regulation. In addition, the regulations recognize that the

vast majority of federal actions do not result in significant increase in emissions and, therefore, include a number of exemptions, such as de minimis emissions levels based on the type and severity of the nonattainment problem.

Accordingly, a conformity determination is required for each criteria pollutant or precursor where the direct and indirect emissions of the criteria pollutant or precursor in a federal nonattainment or maintenance area would equal or exceed specified annual emission rates, referred to as "de minimis" thresholds. For O_3 precursors (VOCs and NO_x) and particulate matter, the de minimis thresholds depend on the nonattainment classification's severity; for other pollutants, the threshold is set at 100 tons per year. The Reservation is currently classified as a federal nonattainment area for the 2015 O_3 standard (marginal) (USEPA 2022a). In addition, the Riverside County portion of the South Coast Air Basin is currently classified as a federal nonattainment area for $PM_{2.5}$ (serious), and a federal maintenance area for PM_{10}, nitrogen dioxide, and CO (USEPA 2022a). The Riverside County portion of the South Coast Air Basin is unclassified or attainment for the other federal standards. The relevant de minimis thresholds are shown in Table 3-1.

Table 3-1
General Conformity De Minimis Thresholds

Pollutant	Attainment Status	Annual Emissions (tons per year)
VOC	Nonattainment/Marginal (O_3)	100
NO_X	Nonattainment/Marginal (O_3)	100
$PM_{2.5}$	Nonattainment/Serious	70
PM_{10}	Maintenance	100
CO	Maintenance	100

Sources: USEPA 2022a, 2022b.
VOC = volatile organic compound; NO_x = oxides of nitrogen; O_3 = ozone; $PM_{2.5}$ = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 microns; CO = carbon monoxide.

Greenhouse Gases Overview

A greenhouse gas (GHG) is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. As defined in California Health and Safety Code Section 38505(g), for purposes of administering many of the state's primary GHG emissions reduction programs, GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (see also California Code of Regulations [CCR] Title 14, Section 15364.5). Some GHGs, such as CO_2, CH_4, and N_2O, occur naturally and are emitted into the atmosphere through natural processes and human activities. Of these gases, CO_2 and CH_4 are the predominant GHGs emitted from human activities. Manufactured GHGs, which have a much greater heat absorption potential than CO_2, include fluorinated gases, such as HFCs, PFCs, and sulfur hexafluoride, associated with certain industrial products and processes.

The effect each GHG has on climate change is measured as a combination of the mass of its emissions and the potential of a gas or aerosol to trap heat in the atmosphere, known as its global warming potential (GWP), which varies among GHGs. Total GHG emissions are expressed as a function of how much warming would be caused by the same mass of CO_2. Thus, GHG gas emissions are typically measured in metric tons (MT) of CO_2 equivalent (CO_2e). The CO_2 equivalent for a gas is derived by multiplying the mass of the gas by the associated GWP, as follows:

$$CO_2e = (\text{metric tons of a GHG}) \times (\text{GWP of the GHG})$$

The California Emissions Estimator Model (CalEEMod) assumes that the GWP for CH_4 is 25, which means that emissions of 1 MT of CH_4 are equivalent to emissions of 25 MT of CO_2, and the GWP for N_2O is 298.

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind patterns, lasting for an extended period of time (decades or longer). The greenhouse effect, which is the trapping and build-up of heat in the atmosphere near the Earth's surface, is a natural process that contributes to

regulating the Earth's temperature. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise.

The CEQ has withdrawn its final guidance for federal agencies on how to consider GHG emissions and the effects of climate change in NEPA reviews per a Notice of Availability that was published on August 5, 2016 (81 FR 51866). As explained in the Notice of Availability, the withdrawn guidance was not a regulation. Pursuant to EO 13783, Promoting Energy Independence and Economic Growth, of March 28, 2017, the guidance has been withdrawn for further consideration. Subsequently, in 2019, the CEQ published draft guidance for the consideration of GHG emissions under NEPA. On January 20, 2021, however, President Biden rescinded the CEQ June 2019 Draft NEPA Guidance on Consideration of GHG Emissions and directed preparation of new guidance, building on the August 2016 Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in NEPA Reviews.

Although there are currently no formal guidance or numeric thresholds for evaluating project generated GHG emissions in NEPA assessments, estimated GHG emissions are included herein and compared to the previous 2014 CEQ draft threshold of 25,000 MT CO_2e per year, which had been proposed as a minimum indicator level for GHG emissions that may warrant description in NEPA and by the California Air Resources Board as a mandatory reporting requirement for California stationary source emissions.

3.3.1.3 Air Quality Analysis Methodology and Assumptions

Construction Methodology

Emissions from Proposed Action construction activities were estimated using CalEEMod Version 2020.4.0. CalEEMod is a statewide computer model developed in cooperation with air districts throughout the state to quantify criteria air pollutant and GHG emissions associated with the construction and operational activities from a variety of land-use projects, such as residential, commercial, and industrial facilities.

To estimate Proposed Action emissions, it is assumed that construction of the Proposed Action would begin in March 2026 and would last approximately 17 months, ending August 2027. The analysis contained herein is based on the following assumptions (duration of phases is approximate):

- Site Preparation: 10 days
- Grading: 30 days
- Building Construction: 300 days
- Paving: 20 days
- Architectural Coating: 20 days

For the analysis, it was generally assumed that heavy construction equipment would be operating at the site 5 days per week (22 days per month) during Proposed Action construction. In addition to construction equipment operation, emissions from worker trips and vendor trucks (i.e., delivery trucks) were estimated based on CalEEMod defaults. Vendor trucks transporting building materials were assumed for building construction and haul trucks were not assumed for the import and export of earthwork material since soils are anticipated to be balanced on site.

The construction equipment mix and estimated hours of equipment operation per day, as well as the estimated construction-related vehicle trips, used for the Proposed Action's air pollutant emissions modeling are based on CalEEMod defaults and are shown in Table 3-2, Construction Scenario Assumptions. Additional details regarding construction assumptions are provided in the modeling output in Appendix A.

Table 3-2
Construction Scenario Assumptions

Construction Phase	Daily Worker One-Way Trips	Daily Vendor Truck One-Way Trips	Total Haul Truck One-Way Trips	Equipment	Quantity	Daily Usage Hours
Site Preparation	18	0	0	Rubber-Tired Dozers	3	8
				Tractors/ Loaders/ Backhoes	4	8
Grading	20	0	0	Excavators	2	8
				Graders	1	8
				Rubber-Tired Dozers	1	8
				Scrapers	2	8
				Tractors/ Loaders/ Backhoes	2	8
Building Construction	249	105	0	Cranes	1	7
				Forklifts	3	8
				Generator Sets	1	8
				Tractors/ Loaders/ Backhoes	3	7
				Welders	1	8
Paving	15	0	0	Pavers	2	8
				Paving Equipment	2	8
				Rollers	2	8
Architectural Coatings	50	0	0	Air Compressors	1	6

Operational Methodology

Emissions from the operational phase of the Proposed Action were also estimated using CalEEMod Version 2020.4.0. Operational year 2027 was assumed based on the first full year of Proposed Action operations. During long-term operations, the Proposed Action would generate air pollutants and GHGs from mobile, energy, and area sources, and GHGs would be generated by solid waste and water supply/wastewater generation. CalEEMod was used to estimate emissions from all of these sources. Default CalEEMod assumptions were used for the generation of electricity associated with building energy, water supply, treatment, distribution and wastewater treatment, as well as natural gas consumption, area sources (i.e., landscaping, consumer products, and architectural coatings for building maintenance), and solid waste disposal.

3.3.2 Proposed Action

Construction Analysis

Construction of the Proposed Action would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment and soil disturbance) and off-site sources (i.e., on-road vendor trucks and worker vehicle trips). CalEEMod was used to calculate the annual criteria air pollutant emissions based on the construction scenario described in Appendix A. Table 3-3 presents the estimated annual emissions generated during construction of the Proposed Action. Although there are no applicable de minimis thresholds for SOx, as the South Coast Air Basin is in attainment of the NAAQS for this pollutant, estimated annual emissions for SOx are provided in Table 3-3 for disclosure. Details of the emission calculations are provided in Attachment A of Appendix A.

Table 3-3
Estimated Annual Construction Criteria Air Pollutant Emissions

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Tons per Year					
2026	0.31	2.95	2.67	0.01	1.45	0.70
2027	0.20	1.73	2.36	0.00	0.19	0.10
2028	0.20	1.72	2.34	0.00	0.19	0.10
2029	0.20	1.73	2.34	0.00	0.19	0.10
2030	0.19	1.14	2.34	0.01	0.14	0.05
2031	0.19	1.14	2.33	0.01	0.14	0.05
2032	0.19	1.12	2.32	0.01	0.14	0.05
2033	1.20	0.37	0.84	0.00	0.03	0.02
Maximum Annual Emissions	**1.20**	**2.95**	**2.67**	**0.01**	**1.45**	**0.70**
De Minimis Threshold	*100*	*100*	*100*	*N/A*	*100*	*70*
Exceeds threshold?	**No**	**No**	**No**	**N/A**	**No**	**No**

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; N/A = not applicable.
See Attachment A of Appendix A for complete results.

As shown in Table 3-3, the annual emissions of VOC, NO_x, CO, PM_{10}, and $PM_{2.5}$ would not exceed the applicable de minimis thresholds; therefore, further analysis is not required for VOC, NO_x, CO, PM_{10}, or $PM_{2.5}$. As such, the Proposed Action would be in compliance with the general conformity requirements and would not conflict with local air quality attainment plans to achieve federal ambient air quality standards.

Greenhouse Gas Emissions

Construction of the Proposed Action would result in GHG emissions that are primarily associated with use of off-road construction equipment and on-road vendor and worker vehicles. CalEEMod was used to calculate the annual GHG emissions based on the construction scenario described in Appendix A. Table 3-4 shows the estimated annual GHG construction emissions associated with the Proposed Action. Details of the emission calculations are provided in Attachment A of Appendix A.

Table3-4
Estimated Annual Construction GHG Emissions

Year	CO_2	CH_4	N_2O	CO_2e
	Metric Tons			
2026	545.06	0.17	0.00	549.47
2027	414.73	0.07	0.01	418.91
2028	410.52	0.07	0.01	414.62
2029	409.73	0.07	0.01	413.79
2030	447.97	0.02	0.01	450.54
2031	446.15	0.02	0.01	448.67
2032	437.20	0.02	0.01	439.54
2033	131.89	0.01	0.00	132.10
			Total	**3,267.65**

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent
See Attachment A of Appendix A for complete results.

As shown in Table 3-4, the estimated total Proposed Action–generated construction GHG emissions would be minimal, estimated at approximately 3,268 MT CO_2e.

Operational Analysis

Table 3-5 presents the estimated annual area, energy, and mobile source emissions associated with operation of the Proposed Action. Details of the emission calculations are provided in Appendix A.

Table 3-5
Estimated Annual Operational Criteria Air Pollutant Emissions

Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Tons per Year					
Area	2.13	0.08	3.33	0.00	0.20	0.20
Energy	0.03	0.26	0.11	0.00	0.02	0.02
Mobile	0.66	0.92	7.06	0.02	2.42	0.65
Total Project Operations	**2.82**	**1.25**	**10.50**	**0.02**	**2.64**	**0.88**
De Minimis Threshold	*100*	*100*	*100*	*N/A*	*100*	*70*
Exceeds threshold?	**No**	**No**	**No**	**N/A**	**No**	**No**

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; N/A = not applicable.
Totals may not sum due to rounding. See Attachment A of Appendix A for complete results.

As shown in Table 3-5, the annual emissions of VOC, NO_x, CO, PM_{10}, and $PM_{2.5}$ associated with the Proposed Action would not exceed the de minimis thresholds; therefore, further analysis is not required for VOC, NO_x, CO, PM_{10}, or $PM_{2.5}$. As such, the Proposed Action would be in compliance with the general conformity requirements and would not conflict with local air quality attainment plans to achieve federal ambient air quality standards.

Greenhouse Gas Emissions

Table 3-6 presents the area sources, energy usage, motor vehicles, solid waste generation, water usage, and wastewater generation GHG emissions associated with operation of the Proposed Action. Details of the GHG emission calculations are provided in Appendix A.

Table 3-6
Estimated Annual Operational GHG Emissions

Emission Source	CO_2	CH_4	N_2O	CO_2e
	Metric Tons			
Area	65.44	0.07	0.00	67.53
Energy	584.40	0.03	0.01	587.65
Mobile	1,636.61	0.08	0.08	1,661.66
Waste	47.61	2.81	0.00	117.94
Water	50.41	0.43	0.01	64.25
			Annual Operational Total	***2,499.04***

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent.
Totals may not sum due to rounding. See Attachment A in Appendix A for complete results.

As shown in Table 3-6, the annual emissions of GHGs associated with the Proposed Action would be approximately 2,499 MT CO_2e per year, which would not exceed the applied GHG threshold of 25,000 MT CO_2e per year.

Conclusion

Although the Proposed Action could result in short- and long-term adverse direct and indirect impacts to air quality, neither construction emissions nor the operational emissions generated by the Proposed Action would exceed the general conformity de minimis thresholds for VOC, NO_x, CO, PM_{10}, or $PM_{2.5}$, as shown in Table 3-3 and Table 3-5. Accordingly, the Proposed Action would be in compliance with the federal Clean Air Act and general conformity requirements, and no significant impacts to air quality would occur.

Although there are no specific requirements for evaluating GHG emissions under NEPA, estimated Proposed Action–generated GHG emissions are included and compared to the applied threshold of 25,000 MT CO_2e. As presented in Tables 3-4 and 3-6, the proposed project would not exceed the applied GHG threshold. Therefore, although the Proposed Action could result in short- and long-term adverse direct and indirect impacts to GHGs, these impacts would not be significant.

3.3.3 No Action Alternative

Under the No Action Alternative, the proposed project site would not be taken into trust by the Tribe and development would not occur in the near term. As a result, no adverse impacts to air quality or GHGs would occur.

3.4 BIOLOGICAL RESOURCES

The following discussion describes the vegetation communities and special-status biological resources on the proposed project site (site) and within a 500-foot buffer of the site (study area). The discussion below is based on a literature review to identify the potential for sensitive species that are known to occur or may potentially occur in the vicinity of the site. The literature reviewed included a U.S. Fish and Wildlife Service (USFWS) IPaC query, the California Natural Diversity Database (CDFW 2021), and U.S. Department of Agriculture soil survey reports relevant to the proposed project site.

3.4.1 Affected Environment

The following discussion describes the existing biological resources in the vicinity of the proposed project site.

3.4.1.1 Regulatory Setting

The following section describes the biological regulatory setting for the proposed project site.

Federal

Endangered Species Act

The federal Endangered Species Act (FESA) of 1973 (16 USC 1531 et seq.), as amended, is administered by the USFWS for most plant and animal species, and by the National Oceanic and Atmospheric Administration National Marine Fisheries Service for certain marine species. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend and provide programs for the conservation of those species, thus preventing the extinction of plants and wildlife. The FESA defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Candidate species are plants and animals for which the U.S. Fish and Wildlife Service (USFWS) has sufficient information on their biological status and threats to propose them as endangered or threatened under the FESA, but for which development of a proposed listing regulation is precluded by other higher priority listing activities. Under FESA, it is unlawful to "take" any listed species; "take" is defined as, "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

Critical Habitat

Critical habitat is defined under the FESA as specific geographic areas within a listed species range that contain features considered essential for the conservation of the listed species. Designated critical habitat for a given species supports habitat deemed by USFWS to be important for the recovery of the species. Under the FESA, habitat loss is considered to be an impact to the species.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) was originally passed in 1918 as four bilateral treaties, or conventions, for the protection of a shared migratory bird resource. The primary motivation for the international negotiations was to stop the "indiscriminate slaughter" of migratory birds by market hunters and others. The MBTA protects over 800 species of

birds (including their parts, eggs, and nests) from killing, hunting, pursuing, capturing, selling, and shipping unless expressly authorized or permitted.

Additionally, Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, requires that any project with federal involvement address impacts of federal actions on migratory birds with the purpose of promoting conservation of migratory bird populations (66 FR 3853–3856). The Executive Order requires federal agencies to work with USFWS to develop a memorandum of understanding. USFWS reviews actions that might affect these species.

Wetlands and Waters of the United States

Aquatic resources, including riparian areas, wetlands, and certain aquatic vegetation communities, are considered sensitive biological resources and can fall under the jurisdiction of several regulatory agencies. USACE exerts jurisdiction over waters of the United States, including all waters that are subject to the ebb and flow of the tide; wetlands and other waters such as lakes, rivers, streams (including intermittent or ephemeral streams), mudflats, sandflats, sloughs, prairie potholes, vernal pools, wet meadows, playa lakes, or natural ponds; and tributaries of the above features. The extent of waters of the United States is generally defined as that portion that falls within the limits of the OHWM. Typically, the OHWM corresponds to the 2-year flood event.

Wetlands, including swamps, bogs, seasonal wetlands, seeps, marshes, and similar areas, are defined by USACE as "those areas that are inundated or saturated by surface or groundwater 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 CFR 328.3[b]; 40 CFR 230.3[t]). Indicators of three wetland parameters (i.e., hydric soils, hydrophytic vegetation, and wetlands hydrology), as determined by field investigation, must be present for a site to be classified as a wetland by USACE (USACE 1987).

State and Local

California Endangered Species Act

The California Endangered Species Act (CESA) declares that deserving plant or animal species will be given protection by the state because they are of ecological, educational, historical, recreational, aesthetic, economic, and/or scientific value to the people of the state. The CESA established that it is state policy to conserve, protect, restore, and enhance state-listed species and their habitats. Under state law, plant and animal species may be formally listed by the California Fish and Game Commission.

The CESA authorizes that private entities may take listed species under the FESA and CESA pursuant to a federal incidental take permit issued in accordance with Section 10 of the FESA, if the California Department of Fish and Wildlife (CDFW) certifies that the incidental take statement or incidental take permit is consistent with the CESA (California Fish and Game Code Section 2080.1[a]).

California Fish and Game Code

The California Fish and Game Code defines "take" (Section 86) and prohibits take of a species listed under the CESA (California Fish and Game Code Section 2080) or is otherwise special status (California Fish and Game Code Sections 3511, 4700, and 5050). Section 2081(b) and (c) of the CESA allows CDFW to issue an incidental take permit for a state-listed species if specific criteria—outlined in Title 14 CCR Section 783.4(a), (b) and California Fish and Game Code Section 2081(b)—are met. The California Fish and Game Code Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the code. Section 3503.5 states that it is unlawful to take, possess, or destroy any birds in the order *Falconiformes* or *Strigiformes* (birds of prey), or to take, possess, or destroy the nest or eggs of any such bird. Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act. If a project is planned in an area where a species or specified bird occurs, an applicant must design the project to avoid all take; CDFW cannot provide take authorization under the CESA.

Native Plant Protection Act of 1977

The Native Plant Protection Act of 1977 and implementing regulations in Section 1900 et seq. of the California Fish and Game Code designate special-status plant species and provide specific protection measures for identified populations. CDFW administers the Native Plant Protection Act.

3.4.1.2 Environmental Setting

The following section describes the baseline biological conditions at the proposed project site. Information in this section was obtained from the Biological Resources Technical Memorandum for the site completed by Dudek in May 2022. The memorandum documents the results of Dudek's biological reconnaissance and desktop research used to identify potential federal biological resources constraints for the proposed project and can be found in Appendix D.

METHODS

Literature Review

Prior to conducting a biological reconnaissance of the study area, Dudek reviewed U.S. Fish and Wildlife Services (USFWS) species occurrence data from the USFWS Information for Planning and Conservation (IPaC) (USFWS 2022a) and California Natural Diversity Database (CNDDB) (CDFW 2022), as well as USFWS designated critical habitat data (USFWS 2022b) and National Wetlands Inventory (NWI) data (USFWS 2022c) to identify any special-status species and resources that are known to occur or may potentially occur in the vicinity of the study area. Potential and/or historic drainages and aquatic features were investigated based on a review of U.S. Geological Survey topographic maps (1:24,000-scale), aerial photographs, and the Natural Resource Conservation Service's Web Soil Survey (USDA 2019). Any observable special-status species including flowering annual plants, shrubs and trees, and conspicuous wildlife (i.e., birds and some reptiles) considered sensitive by USFWS were also mapped.

Field Reconnaissance

Dudek completed a reconnaissance-level field survey of the study area to document existing biological resources and vegetation communities on April 14, 2022. The study area was determined by buffering the proposed project site by 100 feet on all sides. In total, the study area encompassed 104.3 acres. Dudek used CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2018) and California Natural Communities List (CDFW 2022), also referred to as the Natural Communities List, based on the *Manual of California Vegetation*, second edition (Sawyer et al. 2009) to map the study area. Vegetation mapping was conducted on foot to visually cover 100% of the project site. Vegetation communities were classified based on site factors, descriptions, distribution, and characteristic species present within an area. Information was recorded, including dominant species and associated cover classes, aspect, canopy height, and visible disturbance factors. Minimum mapping units were established at 0.25 acres. Following completion of the fieldwork, Dudek GIS analysts digitized the vegetation boundaries as delineated by the field biologists and created a GIS coverage for vegetation communities. All wildlife species detected during the biological reconnaissance by site, vocalizations, burrows, tracks, scat, and other signs were recorded. Additional details on the field methods used to collect baseline biological data for the proposed project site can be found in Appendix D.

Vegetation

A total of 48 vascular plants, consisting of 36 native species (75%) and 12 non-native species (25%) were observed during the biological reconnaissance. The cumulative list of plant species observed is provided in Appendix D.

Eight (8) vegetation communities and/or land covers were mapped within the study area during the biological reconnaissance. Three native vegetation communities and six non-native vegetation communities and/or land cover types were observed. Appendix D - Attachment A: Figure 2, Biological Resources, depicts the vegetation communities, soils, and wetlands within the study area. The complete list of plant species observed in the study area is included in Appendix D.

The survey area mainly consists of a mixture of fallow fields, non-native grassland, and native vegetation communities. The center of the study area consists of relatively flat, undeveloped vacant land dominated by non-native ruderal (weedy) species and annual grasses, with patches of native shrubs consisting of California buckwheat (*Eriogonum fasciculatum*) at the base of rolling hills. The southern portion of the study area borders the Pechanga Reservation and consists of undeveloped rolling hills dominated by mixed native upland chaparral. Fallow agricultural land occurs along the northern portion of the study area, with evidence of recent tilling on exposed ground that is scattered with shortpod mustard (*Hirschfeldia incana*). The northern and western extent of the study area terminates at residential development, while the eastern extent of the study area terminates at municipal and rural residential development.

Vegetation communities and land cover types mapped on the survey area include: *Eriogonum fasciculatum* Association (Erifas), *Keckiella antirrhinoides* Association (Kecant), *Keckiella antirrhinoides-Eriogonum fasciculatum* Association (Kecant-Erifas), Non-Native Grassland (NNG), Row Crops (RC), Fallow Agricultural (FAL), Parks and Ornamental Plantings (ORN), and Urban/Developed (DEV). These eight vegetation communities and land cover types are summarized in Table 3-7 and described in more detail in Appendix D.

Table 3-7.
Vegetation Communities and Land Cover Types

Vegetation Communities and Land Cover Types	Project Site (acres)	100-Foot Buffer (acres)	Total Survey Area (acres)
Native Vegetation Communities			
Eriogonum fasciculatum Association (Erifas)	4.5	0	4.5
Keckiella antirrhinoides Alliance (Kecant)	1.2	0	1.2
Keckiella antirrhinoides- Eriogonum fasciculatum Association (Kecant-Erifas)	21	9.5	30.5
Subtotal	*26.7*	*9.5*	*36.2*
Non-Native Vegetation Communities and Land Covers			
Non-Native Grassland (NNG)	33.2	6.2	39.4
Fallow Agricultural (FAL)	19.7	0.3	20
Row Crops (RC)	0	0.6	0.6
Parks and Ornamental Plantings (ORN)	0	0.5	0.5
Urban/Developed (DEV)	0	7.6	7.6
Subtotal	*52.9*	*15.2*	*68.1*
***Total**	**79.6**	**24.7**	**104.3**

Note: * Acreage totals may not exactly sum due to rounding.

Anza Road, a developed asphalt-paved public right-of-way, bisects the study area. In addition, portions of the study area to the north, west, and east of the project site are developed by a mixture of municipal and residential development. Limited ornamental vegetation associated with the residential community and municipal water tanks was observed within portions of the Urban/Developed (DEV) mapped areas. Approximately 7.6 acres of Urban/Developed land occurs outside of the project site boundary, but within the study area.

Wildlife

A total of 12 wildlife species, consisting of 11 native species (92%) and 1 introduced species (8%) were observed during the biological reconnaissance, consisting of avian, mammal, and invertebrate species. Multiple small mammal burrows were observed throughout the non-native grassland on the study area. One potentially active Anna's hummingbird (*Calypte anna*) nest was observed within the *Eriogonum fasciculatum* Association at the base of the foothills on the southwestern portion of the study area. One female was observed exhibiting territorial behavior around a nest within a patch of California buckwheat; however, no eggs or hatchlings were observed. A list of all species identified during the field reconnaissance can be found in Appendix D.

Special-Status Species

According to USFWS's IPaC, seven federally-listed threatened or endangered wildlife species and one federal Candidate wildlife species are known to occur at or within the immediate vicinity of the study area: Stephen's kangaroo rat (*Dipodomys stephensi* [including *D. cuscus*]), coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*vireo bellii pusillus)*, southwestern willow flycatcher (*Empidonax traillii extimus*), arroyo toad (*Anaxyrus californicus*), Quino checkerspot butterfly (*Euphydryas Editha quino*), Riverside fairy shrimp (*Streptocephalus woottoni*), and monarch butterfly (*Danaus plexippus*). In addition, six federally listed threatened or endangered plant species are known to occur at or within the immediate vicinity of the study area: Munz's onion (*Allium munzii*), Nevin's barberry (*Berberis nevinii*), San Diego ambrosia (*Ambrosia pumila*), slender-horned spineflower (*Dodecahema leptoceras*), spreading navarretia (*Navarretia fossalis*), and vail lake ceanothus (*Ceanothus ophiochilus*).

Wildlife

No special-status wildlife species were observed on the study area during the biological reconnaissance. However, based on a review of the USFWS IPaC list eight wildlife species have been documented in the vicinity of the study area. Based on a review of the potential species to occur within the region, the habitat conditions identified in the study area, and the California Natural Diversity Database (CNDDB) species occurrence records, two of the eight special-status wildlife species have a moderate or high potential to occur on the study area. These species are described in further detail below. Special-status wildlife species with low potential or are not expected to occur in the study area are not further analyzed in this report.

Stephen's kangaroo rat. This federally endangered and state threatened rodent occurs primarily in annual and perennial grassland habitats but may occur in coastal scrub or sagebrush with sparse canopy cover or in disturbed areas. Preferred perennials are buckwheat and chamise, while preferred annual are brome grass and filaree (*Erodium*). Individuals occupy abandoned pocket gopher burrows or may excavate burrows in firm soil that is neither extremely hard nor sandy. They are nocturnal and granivorous, breeding from April to June (CDFW 2023).

Multiple small mammal burrows capable of supporting Stephen's kangaroo rat were initially observed onsite within the non-native grassland in the center of the study area. In addition, suitable coastal sage scrub and grasslands with sandy soils occur throughout the study area. CNDDB occurrence records from 2002 record Stephen's kangaroo rat immediately west of the study area.

Given the indications that Stephen's kangaroo rat may occur within the study area, ENVIRA was retained to conduct a trapping survey. The trapping survey was conducted from October 19 to 24, 2022. The results of the trapping survey were negative for Stephen's kangaroo rat. The trapping survey report also indicated that there was no potential for future occupancy of the study area by Stephen's kangaroo rat. As such, this species has no potential to occur within the study area.

Quino checkerspot butterfly. This federally endangered and CDFW Candidate for listing as endangered invertebrate inhabits chaparral, open coastal sage scrub, annual forbs and grasslands with host plants including native plantain (*Plantago)* species and Coulter's snapdragon (*Antirrhinum coulterianum*).

Suitable chaparral, coastal sage scrub, and non-native grassland habitats capable of supporting this species occur throughout the study area. In addition, Coulter's snapdragon was observed scattered throughout the chaparral and coastal sage scrub communities during the biological reconnaissance. CNDDB occurrences from 2003 record this species approximately 2 miles north of the study area. However, there is not enough hill topping opportunities with exposed granitic outcrops present on the study area, and no *Plantago* species were observed. Additionally, Coulter's snapdragon was at less than 1% absolute cover within the chaparral and coastal sage scrub communities, and no other suitable host plants were observed. As such, Quino checkerspot butterfly has no potential to occur on the study area.

Plants

No special-status plant species were observed during the biological reconnaissance. However, according to USFWS IPaC, six special-status plants are known to occur at or within the immediate vicinity of the study area. Based on a

review of the potential species to occur within the region, the habitat conditions identified in the study area, and CNDDB species occurrence records, none of the six special-status plant species have a moderate or high potential to occur on the study area. Special-status plant species with low potential or are not expected to occur in the study area are not further analyzed in this report because no direct, indirect, or cumulative impacts are expected based on the evaluation that these species do not have a moderate or high potential to occur in the study area.

Critical Habitat

According to the USFWS online Critical Habitat Mapper (USFWS 2022b), the study area is not located at or within the immediate vicinity of designated critical habitat for any federally listed species. Designated critical habitat is defined as specific areas within the geographical area occupied by the species at the time of listing that contain physical or biological features essential to conservation of the species and that may require special management considerations or protection (USFWS 2022b).

Wetlands and Waters of the United States

According to the NWI, the study area does not contain any mapped wetlands (USFWS 2022c). However, an unmapped upland drainage feature with hydrologic indicators (bed and bank) was observed on the southeastern portion of the study area, within the Keckiella-Mixed Chaparral habitat. However, this drainage feature lacks the presence of an Ordinary High-Water Mark (OHWM) and does not show any sign of connectivity to a jurisdictional feature downstream, and thus would not be considered jurisdictional by the U.S. Army Corps of Engineers (USACE).

While the project site does not contain any mapped wetlands, an unnamed mapped riverine intermittent streambed that flows east-west occurs immediately north of the residential community bordering the northern portion of the study area. This drainage feature is approximately 500 feet north from the project site boundary and is separated from the study area by residential development. No project activities are proposed to encroach into this riverine feature.

3.4.2 Proposed Action

Vegetation

As stated above, the proposed project site consists of undeveloped land with a mixture of non-native and native vegetation communities on flat topography that transitions to rolling hills. Construction of proposed residential development on the study area would encroach into native chaparral and coastal sage scrub habitats, that are both state ranked as vulnerable. There are no vegetation communities on the study area that would be considered sensitive by FESA. Therefore, the Proposed Action would not result in direct or indirect impacts to sensitive vegetation.

Special-Status Species

Stephen's Kangaroo Rat: Although non-native grassland is not a sensitive vegetation community, since the project site is in close proximity to a previous recorded occurrence of Stephen's kangaroo rat, and small mammal burrows in loose sandy soils with non-native grassland habitat were observed throughout this habitat in the central and western portions of the site, protocol trapping surveys for the Stephen's kangaroo rat and other potential sensitive small mammal species were conducted.

Trapping surveys were completed by a licensed individual (valid USFWS section 10(a)1(b) trapping permit, USFWS TE-831207-4 recovery permit, and CDFW Scientific Collector Permit) from ENVIRA between October 19 and 24 2022. Trapping was conducted according to protocols established for small mammal species surveys. Five species of small mammal were captured, including the northwestern San Diego pocket mouse, a Species of Special Concern. However, no Stephen's kangaroo rats were trapped.

Results of the trapping survey conclude that there are no Stephen's kangaroo rat present on the proposed project site and there would not be a direct impact to the species caused by project implementation. Furthermore, based on surrounding development and topography, there is no potential for Stephen's kangaroo rat to occupy the proposed project site in the future. As such, this habitat has no potential to support the federally listed Stephen's

kangaroo rat. Therefore, the Proposed Action would not have an adverse direct or indirect impact on this species.

Quino checkerspot butterfly: The Quino checkerspot butterfly has no potential to occur on the proposed project site. As a result, the Proposed Action would not have an adverse direct or indirect impact on this species.

Critical Habitat

No designated critical habitat occurs in the study area, and as such, the proposed development will have no effect.

Migratory Birds

Construction of the Proposed Project Alternative has the potential to disturb migratory birds that may forage or nest on or near the proposed project site, resulting in a potential long-term adverse indirect impact. A mitigation measure is presented in Section 4.0 (MM-BIO-2) to ensure that potential impacts to migratory birds and other birds of prey are avoided, should any of these birds occur at the site or study area. With implementation of these mitigation measures, the Proposed Action may affect, but is not likely to adversely affect, migratory birds.

To avoid potential indirect impacts to nesting birds protected by the MBTA, project activities should avoid the avian nesting season of February through August. If this season cannot be avoided, then a pre-construction clearance survey should be conducted within 3 days prior to vegetation removal to determine the presence/absence of any nesting bird species within 500 feet of the project site. If a nesting bird is found, an avoidance buffer will be established around the nest, based on the species' sensitivity to disturbance and proximity to impact areas. The buffer will remain in place as long as the nest is considered active, as determined by a qualified onsite biologist. No encroachment into the buffer may occur without the consent of the monitoring biologist.

Wetlands and Waters of the United States

As stated above, no potentially jurisdictional wetlands or waters of the United States are located on the proposed project site. Therefore, the Proposed Action would result in no direct impacts to wetlands or waters of the United States.

3.4.3 No Action Alternative

Under the No Action Alternative, the site would not be taken into trust and no future development would occur. The site would remain in its current state. Therefore, vegetation communities and special-status biological resources on the site, and within a 500-foot buffer of the site (study area), would remain undisturbed, and the No Action Alternative would have no adverse impacts related to biological resources.

3.5 CULTURAL RESOURCES

3.5.1 Affected Environment

The following discussion describes the existing cultural resources in the vicinity of the proposed project site.

3.5.1.1 Regulatory Setting

Section 106 of the National Historic Preservation Act

The Section 106 review process is an integral component of the National Historic Preservation Act that requires federal agencies to identify and assess the impacts their actions may have on cultural resources. Under the review process, each federal agency must consider public views and concerns about historic preservation issues when making final project decisions. The cultural and historic significance of a property is evaluated using established criteria outlined in 36 CFR Section 60.4. If a project will have an adverse impact on significant cultural or historic resources, then the federal agency must implement feasible mitigation measures to reduce or avoid those impacts. The State Historic Preservation Officer must be provided an opportunity to review and comment on mitigation measures prior to implementation of a proposed action.

National Register of Historic Places

The eligibility of a resource for listing in the National Register of Historic Places is determined by evaluating the resource using criteria defined in 36 CFR 60.4, as follows:

> The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, association, and:
>
> A. That are associated with events that have made a significant contribution to the broad patterns of our history;
> B. That are associated with the lives of persons significant in our past;
> C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or;
> D. That has yielded, or may be likely to yield, information important to prehistory or history.

Sites less than 50 years old, unless of exceptional importance, are not eligible for listing in the National Register of Historic Places. In addition to meeting at least one of the criteria outlined above, the property must also retain enough integrity to enable it to convey its historic significance.

Although most historic buildings and many historic archaeological properties are significant because of their association with important events, people, or styles (Criteria A, B, and C), the significance of prehistoric and historic-period archaeological properties is usually assessed under Criterion D. This criterion stresses the importance of the information contained in an archaeological site, rather than its intrinsic value as a surviving example of a type or its historical association with an important person or event. It places importance not on physical appearance, but on information potential.

Native American Tribes

Section 106 of the National Historic Preservation Act was amended in 1990 to require tribal consultation in all steps of the review process when a federal agency project or effort may affect historic properties that are either located on tribal lands, or when any Native American tribe or Native Hawaiian organization attaches religious or cultural significance to the historic property, regardless of the property's location. When such an undertaking occurs on tribal land, the federal agency must notify the appropriate Native American tribes of the undertaking and give those tribes the opportunity to consult, should they wish to do so. The amended policy further allows Native American tribes to designate tribal Historic Preservation Offices with whom federal agencies are required to consult in lieu of the State Historic Preservation Officer for undertakings on or affecting historic properties on tribal lands or on tribal ancestral lands.

Archaeological Resources Protection Act

The Archaeological Resources Protection Act of 1979 governs the excavation of archaeological sites on federal and Native American lands in the United States, and the removal and disposition of archaeological collections from those sites. The Archaeological Resources Protection Act aims to secure the protection of archaeological resources and sites on federal and tribal lands, as well as "foster increased cooperation and exchange of information between governmental authorities, the professional archaeological community, and private individuals" (Section 2[4][b]). The Archaeological Resources Protection Act has provided stronger law enforcement guidelines for the protection of public archaeological sites and has substantially increased the penalties that can be levied against convicted violators.

Paleontological Resources Preservation Act

The Paleontological Resources Preservation subtitle of the Omnibus Public Land Management Act (16 USC Section 470aaa to aaa-11) requires the U.S. Department of Agriculture and the U.S. Department of the Interior to issue implementation regulations to provide for the preservation, management, and protection of paleontological resources on federal lands, and ensure that these resources are available for current and future generations to enjoy as part of America's national heritage (USDA 2022).

Paleontological resources are defined as the traces or remains of prehistoric plants and animals. Such remains often appear as fossilized or petrified skeletal matter, imprints, or endocasts, and reside in sedimentary rock layers. Fossils are important resources due to their scientific and educational value. Fossil remains of vertebrates are considered significant. Invertebrate fossils are considered significant if they function as index fossils. Index fossils are those that appear in the fossil record for a relatively short and known period of time, allowing geologists to interpret the age range of the geological formations in which they are found.

3.5.1.2 Environmental Setting

Prehistoric Setting

The prehistory of this portion of what is now Southern California, beginning 12,000 years ago, is the history of people adapting to a changing environment through the development of an increasingly sophisticated technological base, exploitation of seasonally available resources, and the development of trade networks. Detailed information regarding the history of the region may be found in the cultural resources report in Appendix E.

Historic Setting

Spanish explorers arrived in what would become Riverside County in the late 18th century, and missions established in neighboring counties exerted influence within the area. Under Spanish control, the missions set out to convert local populations to Christianity and to expand the influence of the Spanish Empire. Mexico gained independence from Spain in 1821, and the missions were secularized in 1833 to turn over large land holdings to private citizens. Four ranchos were created in the Temecula area, including Rancho Temecula that covered the whole of what is now the Temecula Valley. The rancho period did not last long, as independence from Mexico and the discovery of gold in the mid-1800s led to California joining the United States in 1850 and an influx of white settlers into the region. Detailed information regarding the history of the region can be found in the cultural resources report in Appendix E.

Cultural Resources Investigation

Records Search

A records check was completed in May 2022 through the Pechanga Cultural Resources Department's (PCRD) GIS database, which maintains all prehistoric cultural sites located within Pechanga's Traditional Territory. The PCRD has a contract with the Eastern Information Center (EIC), located at the University of California, Riverside, and receives yearly updates of Cultural Resources reported across the EIC. Results of the records search identified six prehistoric sites and two Pechanga recorded cultural artifacts within a 1-mile radius. No previous studies or sites have been recorded within the undertakings of the proposed project site area of potential effects (APE). In addition, the following maps were checked for potential impacts to tribal cultural resources and historic properties: USGS 7.5 Minute Topographic Quadrangle Township 8 South, Range 2 West in an unnamed section, 1880 and 1886. No cultural resources were noted in the maps. Detailed information on the records searches is provided in the cultural resource report (Appendix E).

Field Survey

The proposed project site was surveyed by PCRD staff in February 2020. The property was surveyed using pedestrian transect intervals of fifteen feet totally approximately 78 acres within the City of Temecula, Riverside County, California, at the request of the Pechanga Band of Indians. A total of 59 resources were identified within the project boundary: two hand tools, two natural white clay sources, and 55 elderberry trees. Detailed information on the surveys is provided in the cultural resource report (Appendix E).

3.5.2 Proposed Action

As discussed in Section 3.5.1, Affected Environment, and Appendix E, based on the field survey and internal tribal records, the proposed project site has a total of 59 tribal cultural resources. However, the proposed project site is not part of a defined Traditional Cultural Landscape (TCL) or a known Traditional Cultural Property (TCP), and no other historic properties have been identified within or around the APE by the Band. As a result, based on the limited disturbances of the property and with some visible surface indicators, there is a

moderate potential for cultural resources to be adversely impacted during ground disturbing activities in the Proposed Action. However, due to the project's scope, the undertaking has no potential to adversely affect historic properties.

Inadvertent discoveries of cultural resources, including archaeological resources or human remains could occur during future construction of the Proposed Action. Any inadvertent discovery of archaeological resources would be subject to Section 106 of the National Historic Preservation Act as amended (36 CFR Section 800), NAGPRA (25 USC Section 3001 et seq.), and the Archaeological Resources Protection Act of 1979 (16 USC Section 470aa–mm). Mitigation Measure (MM-)CUL-1 outlines procedures for compliance with these applicable regulations in the event of an unanticipated discovery of archaeological resources. With adherence to applicable laws and implementation of mitigation measures, no adverse effects to previously unknown cultural or paleontological resources would occur.

3.5.3 No Action Alternative

Under the No Action Alternative, the proposed project site would not be taken into trust by the Tribe and development would not occur in the near-term. As a result, no adverse impacts to cultural or archaeological resources would occur.

3.6 SOCIOECONOMIC RESOURCES/ENVIRONMENTAL JUSTICE

3.6.1 Affected Environment

The following discussion describes the existing socioeconomic and environmental justice issues in the vicinity of the proposed project site.

3.6.1.1 Regulatory Setting

Executive Orders 12898

EO 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations, directs federal agencies to develop an environmental justice strategy that identifies and addresses disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations. The CEQ has oversight responsibility of the federal government's compliance with EO 12898 and NEPA, and, in consultation with the USEPA and other agencies, has developed guidance to ensure environmental justice concerns are effectively identified and addressed.

According to guidance from the CEQ (1997) and USEPA (1998), agencies should consider the composition of the affected area to determine whether minority populations, low-income populations, or Native American tribes are present in the area affected by a proposed action, and, if so, whether there may be disproportionately high and adverse environmental effects to those populations. The geographic scale of this analysis is the Census tract. Census tracts are small, relatively permanent statistical subdivisions of a county designed to be relatively homogeneous units with respect to population characteristics, economic status, and living conditions at the time of establishment. Statistics of Census tracts provide a representation of a community's racial and economic composition.

Communities may be considered "minority" if one of the following characteristics apply:

- The cumulative percentage of minorities within a Census tract is greater than 50% (primary method of analysis); or
- The cumulative percentage of minorities within a Census tract is less than 50%, but the percentage of minorities is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis (secondary method of analysis).

The following races are considered minorities under EO 12898:

- American Indian or Alaskan Native

- Asian or Pacific Islander
- Black, not of Hispanic origin
- Hispanic

People of two or more races and classified as "other" were also considered to be minority races for the purpose of this environmental justice analysis.

According to USEPA, either the county or the state can be used when considering the scope of the "general population." A definition of "meaningfully greater" is not given by the CEQ or USEPA, although the latter has noted that any affected area that has a percentage of minorities above the state's percentage is a potential minority community, and any affected area with a minority percentage double that of the state's is a definite minority community under EO 12898.

Communities may be considered "low income" if one of the following characteristics applies:

- The median household income for a Census tract is below the poverty line (primary method of analysis); or
- Other indications are present that indicate a low-income community is present within the Census tract (secondary method of analysis).

In most cases, the primary method of analysis will suffice to determine whether a low-income community exists in the affected environment. However, when a Census tract income may be just over the poverty line or where a low-income pocket within the tract appears likely, the secondary method of analysis may be warranted. Other indications of a low-income community under the secondary method of analysis include limited access to health care, overburdened or older infrastructure, and dependence on subsistence living.

3.6.1.2 Environmental Setting

Economy and Employment

The most recent 5-year estimate for the American Community Survey (ACS) administered by the U.S. Census Bureau is 2015–2019. The U.S. Census Bureau has not released its standard 2020 ACS 1-year estimates because of the impacts of the COVID-19 pandemic on data collection. The average unemployment rate of people 16 years of age and older from 2015–2019 was approximately 6.1% statewide, 7.5% for Riverside County, and 5.8% for the City . In 2019, the City and Riverside County had a labor force of 56,392 and 1,120,445, respectively (U.S. Census Bureau 2020a).

Demographics and Housing

In 2019, the population of Riverside County was 2,470,546, and the population of the City of Temecula was 114,761. Between 2010 and 2019, Riverside County's population increased by approximately 12.8% relative to its 2010 population of 2,189,765, and the City's population increased by approximately 14.7% compared its 2010 population of 100,013 (U.S. Census Bureau 2020a). The on-Reservation population of the Tribe is approximately 361, which includes both members and nonmembers (U.S. Census Bureau 2020b).

Based on the 2012–2019 ACS 5-Year Estimates, Riverside County has 857,148 housing units, with a vacancy rate of 13.8% (U.S. Census Bureau 2020c). The City has a 5.0% vacancy rate, with a total of 1,301 vacant units (U.S. Census Bureau 2020d).

Property Taxes

In 2022, the total assessed value of parcel 966-380-006 was $5,361,009, the total assessed value of parcel 966-380-007 was $3,976,796, the total assessed value of parcel 966-380-008 was $3,817,575, and the total assessed value of parcel 966-380-009 was $5,072,373 (County of Riverside Assessor 2022). According to the Riverside County Assessor- County Clerk- Recorder Office (RivCoView), the total value for the proposed project site is $18,227,753 for 2022. The total collected property taxes for the proposed project site was $245,011 in 2019, the most recent year that RivCoView has tax information available. Property tax in 2019 for parcel 966-380-006 was

$72, 036, the property tax for parcel 966-380-007 was $57,476, the property tax for parcel 966-380-008 was $51,335, and the property tax for parcel 966-380-009 was $68, 164 (County of Riverside RivCoView 2022).

Environmental Justice

Census tracts that are analyzed within this EA include Census tracts 432.03 and T001, which contain the parcels within the City and the Tribe's Reservation, as well as adjacent Census tracts (U.S. Census Bureau 2020e).

Race

The U.S. Census Bureau 2015–2019 ACS 5-Year Estimates provide the most current racial data available by Census tract. The racial composition of the Census tracts is not expected to have changed substantially since the time the data was reported. Table 3-8 displays the population of each minority race by Census tract in the vicinity of the parcels.

The State of California has a 28.1% minority population out of over 39 million residents. The population in the Census tract that includes the Tribe's Reservation (tribal Census tract T001) is composed of approximately 84.8% minorities, qualifying it as a minority population. The proposed project site is also located within Census Tract 432.03. The population of Census Tract 432.03 is composed of approximately 3,425 people with a 42.0% minority population. Adjacent Census tracts vary in minority population numbers, several of which include substantial minority populations.

Members of the Tribe, regardless of where they reside, are considered a minority population. The Tribe is considered to be a minority community for the purposes of the required EO 12898 analysis.

Table 3-8
Population Demographics, Income, and Employment – Proposed Project Site and Adjacent Census Tracts

Area (State, County, Census Tract) [a,b]	Total Population	Percent Minority (Non-White)	Percent of Population Below Poverty Level	Percent of Labor Force Employed	Median Household Income
California State	39,346,023	28.1%	12.6%	63.7%	$78,672
Riverside County	2,437,864	20.4%	12.5%	60.0%	$70,732
City of Temecula	113,117	32.0%	7.2%	65.9%	$98,631
Pechanga Reservation (T001)	361	84.8%	21.8%	262	$75,625
432.03 Block 1	3,247	31.75%	5.25%	74.65%	$151,458
432.93 Block 1	2,847	43.66%	7.31%	91.25%	$120,611
432.02 Block 1	1,365	43.74%	0%	81.76%	$113,304
432.02 Block 3	2,626	35.03%	3.17%	75.48%	$112,230
432.52 Block 2	9,517	49.40%	1.45%	71.03%	$137,822

Notes:

[a] 2016-2020 ACS Community Survey, 5-Year Estimates (U.S. Census Bureau 2020a).

[b] Pechanga Reservation is within tribal Census Tract T001 per the U.S. Census Bureau ACS (U.S. Census 2020a). Data is approximate and does not include margins of error.

Income

A low-income community is defined as a Census tract where the median household income falls below the poverty limit. The U.S. Census Bureau uses a set of income thresholds that vary by family size and composition to determine who is in poverty. If a family's total income is less than the family's threshold, then that family and every individual in it is considered in poverty. The U.S. Census Bureau's 2015–2019 ACS 5-Year Estimates is the most current household income dataset available by Census tract. The proposed project site is within Census Tract 432.03, which is surrounded by the following Census Tracts: 432.02 and 432.52. Table 3-8 shows the median household income for the State of California, the County of Riverside, the City, and each identified Census tract.

3.6.2 Proposed Action

Economy and Employment

The Proposed Project Alternative would result in a variety of benefits to the regional economy, including increases in overall economic output and employment opportunities, as well as more single-family housing that could be used by members of the Tribe. Construction and operation of the Proposed Project Alternative would generate temporary employment opportunities and wages that would be primarily filled by the available labor force from Riverside County. Average salaries offered are expected to be consistent with those of other tribal and commercial facilities, and competitive in the local labor market.

The anticipated temporary increase in employment opportunities throughout the City of Temecula could result in employment and wages for persons previously unemployed, which would increase the ability of the population to obtain health and safety services and would contribute to the alleviation of poverty among lower-income households. A significant impact to the local unemployment rate would not be anticipated to occur. Overall, the Proposed Action would result in short-term beneficial impacts to the regional economy.

Tax Impacts

The Proposed Action would result in a variety of fiscal impacts. The Tribe would not pay corporate income taxes on revenue or property taxes on tribal trust land. However, potential effects on state and federal tax revenues resulting from operation of the Proposed Action are expected to be positive as a result of increased local, state, and federal tax revenues resulting from construction of the Proposed Action. For example, to the extent consistent with applicable law, state and federal income tax would be collected from contractors and consultants paid to design and construct the Proposed Action, and state and local sales tax would be collected on the sale of construction materials purchased by such contractors. However, the Proposed Action's increase in demand for public services would result in increased costs for local governments to provide these services. Increase in demand for public services would be offset by mutual aid agreements, as discussed in detail in Section 3.9, Public Services and Utilities.

The Proposed Action would result in loss of approximately $245,011 for Riverside County property taxes ($72,036 collected for parcel 966-380-006, $53,476 for parcel 966-380-007, $51,335 for parcel 966-380-008, and $68,164 for parcel 966-380-009 in 2019 (County of Riverside RivCoView 2022). The total property taxes collected in Riverside County during fiscal year 2020–2021 was $414.4 million (County of Riverside 2021a). Therefore, the loss of property taxes for the County of Riverside associated with transferring the land into trust would be approximately 0.05%. According to the Riverside County Tax Collector webpage, Riverside County experienced a 9.26% increase in assessed property values in 2022. The total taxable value of all property in Riverside County grew to over $369 billion, a $31 billion increase. In 2022, the County's tax roll, which lists all taxable property, its owner, and its value at the start of the year, will generate approximately $3.5 billion for local government services (County of Riverside RivCoNow 2022). Therefore, the Proposed Action would not result in a significant direct, indirect, or cumulative adverse impact to County of Riverside tax revenue.

Housing

Because indirect and induced employment opportunities during the construction phase of the Proposed Action would be dispersed among a variety of different businesses throughout the region, it is expected that available employees would already be located near these locations and would not require relocation. The Proposed Action would add 112 single-family homes to the area bordering the City of Temecula, supporting the County's goals outlined in the Housing Element (County of Riverside 2021b). Additional housing opportunities near Temecula would support future economic growth in the City and on the Pechanga Reservation by providing workers moving to the area with access to housing. Therefore, significant beneficial impact to the housing market would occur.

Environmental Justice for Minority and Low-Income Populations

As discussed above, the population in the Census tract that includes the Tribe's Reservation (Tribal Census Tract T001) is composed of approximately 84.8% minorities, qualifying it as a minority population. The proposed project site is also located within Census Tract 432.03, the population of which is composed of approximately 42.0% minority population. Adjacent Census tracts vary in minority population numbers, several of which include

substantial minority populations. As described throughout this section of this EA, after mitigation, all adverse environmental impacts of the Proposed Action would be reduced. Furthermore, the Proposed Action would not displace any residential populations or commercial properties in the vicinity of the proposed project site. Beneficial effects to minority populations would occur as a result of the Proposed Action's beneficial impacts to the local economy. Beneficial impacts meeting tribal housing needs of the Tribe and re-establishing the Tribe's land base, as described in detail below. Therefore, the Proposed Project Alternative would not result in disproportionately high or adverse environmental effects to minority or low-income communities, including the Tribe.

Effects to the Pechanga Band of Indians

The Proposed Project Alternative would provide important social benefits to the Tribe by providing housing to the Tribe's members adjacent to the Tribe's Reservation and by re-establishing the Tribe's historical land base. The housing created from the Proposed Action would have a long-term beneficial impact on the Tribe by meeting some of the housing needs to the Tribe's growing tribal community. Therefore, the Proposed Action would have beneficial socioeconomic impacts for the Tribe.

3.6.3 No Action Alternative

Under the No Action Alternative, the proposed project site would not be taken into trust, and no development would occur. Therefore, none of the potential effects identified under the Proposed Action would occur.

3.7 TRANSPORTATION/CIRCULATION

3.7.1 Affected Environment

The following discussion describes the existing transportation and circulation environment in the vicinity of the proposed project site. Information in this section was obtained from the Traffic Impact Analysis (TIA) completed by Dudek in July 2022 (Appendix F).

3.7.1.1 Regulatory Setting

The project site is located in Riverside County and the roadway network adjacent to the project site is under the jurisdiction of the City of Temecula. The TIA was conducted in accordance with the County's Transportation Department requirement that traffic analyses be consistent with the LOS in the Riverside County General Plan (County of Riverside 2015). Per County's Circulation Element, the project is located within Southwest Area and LOS D standard applies to all developments located within it (City of Temecula 2004).

Temecula General Plan, Recent Traffic Volumes, and Analysis

The TIA was conducted in July 2022 and identified traffic impacts associated with the proposed Northern Boundary Property Fee-to-Trust Application and Residential Development Project for the Pechanga Band of Indians (Appendix F). The TIA provides a level of service (LOS) analysis to identify operational improvements required to provide acceptable operations, consistent with the affected local agency's LOS standards. The traffic study analyzed four intersections under existing, existing plus project, and buildout (Year 2045) with and without project conditions.

City and County Traffic Significance Criteria

As mentioned previously, the County's Transportation Department requires traffic analyses to be consistent with the acceptable LOS in the Riverside County General Plan (County of Riverside 2015) to identify infrastructure improvements required to provide acceptable operations. Per County's Circulation Element, the project is located within Southwest Area and LOS D standard applies to all developments located within it (City of Temecula 2004). Operational improvements would be required under the following conditions:

- When existing traffic conditions exceed the General Plan target LOS
- When project traffic, when added to existing traffic, will deteriorate the LOS to below the target LOS
- When cumulative traffic exceeds the target LOS

The City of Temecula's General Plan Circulation Element has established minimum LOS standards for the City's Arterial Highway network.

> The TIA shall determine if the required LOS can be achieved after the construction of the proposed project. The TIA shall include all LOS calculations for affected study area intersections and roadway links. All LOS calculations shall be performed utilizing the Synchro software program. The results of the "with-project" conditions shall conform to the City's LOS thresholds shown below:

- LOS "D" or better at all intersections
- LOS "E" or better for all arterial highway segments (links)
- LOS "F" or better will be permitted on Old Town Front Street from Second Street to Moreno Road North

> All study area intersections or study area roadway links that do not achieve the required LOS, shall be reanalyzed using the proposed delay reduction measures to determine if the required LOS can be achieved. If added project traffic causes an increase in delay of 2 seconds or more at intersections operating at LOS "E" or "F", it shall be considered a significant change in delay and measures will be required to reduce the delay to pre-project or acceptable conditions (City of Temecula 2004).

Therefore, based on the standards and criteria for General Plan and LOS consistency for operational traffic used by the City and the County, the LOS D threshold has been used in the traffic analysis to determine the significance of traffic impacts of the project.

Institute of Transportation Engineers

The Institute of Transportation Engineers (ITE) is an international educational and scientific association of transportation professionals who are responsible for meeting mobility and safety needs. The ITE publishes technical resources on a broad range of topics, from geometric design and safety to trip and parking generation. Guidance on trip generation was adopted from ITE's Trip Generation Manual (11th Edition), which includes information on how to filter data to match local conditions (ITE 2021).

3.7.1.2 Environmental Setting

Regional access to the proposed project site would be via I-15, SR-79, Butterfield Stage Road and Anza Road. The following discussion describes the existing traffic and transit conditions at the proposed project site. Information in this section was obtained from the Traffic Impact Analysis completed by Dudek in July 2022 (Appendix F).

Existing Roadways

State Route 79 (SR-79)-Temecula Parkway is classified constructed as a six-lane divided Principal Arterial from I-15 to east of Butterfield Stage Road. East of Temecula City limit, the roadway is classified and constructed as a two-lane undivided Rural Highway. Curbside parking is generally prohibited along this roadway. The posted speed limit is 50 miles per hour (MPH) west of Pechanga Parkway and 55 MPH east of Butterfield Stage Road.

Butterfield Stage Road is classified as a north-south, four-lane Major Arterial from SR-79 to Nighthawk Pass and as a Secondary Arterial from Nighthawk Pass to its proposed terminus with Anza Road on the City of Temecula's General Plan Circulation Element. The roadway is constructed per its classification, and it terminates at just south of Morgan Hill Road-Starpoint Street. Parking is not permitted along the roadway, and the posted speed limit is generally 45 MPH.

Pedestrian and Bicycle Facilities

The above-mentioned roadways are constructed with curbs, gutters, and paved sidewalks along both sides of the street. There are pedestrian crosswalks with Americans with Disabilities Act (ADA) compliant curb ramps at the four study area intersections along Butterfield Stage Road.

Bicycle facilities are typically divided into several classifications that describe their efficacy. Class I (separated right-of-way) bicycle paths are completely separated from roadways and can be typically shared with pedestrians. Class II (painted) bicycle lanes are designed to be on-street and include a painted stripe to indicate the separation between bicyclists and motorists. Class III (signed) bicycle routes are designated to be on-street; however, they are provided on slower roadways that facilitate safe equal sharing of the roadway between bicyclists and motorists. Class IV (protected) bicycle lanes are separated from roadways and provide for exclusive use for bicyclists, including motorists, pedestrians, and other alternative transportation forms that are not permitted.

Currently, there is an existing Class II (painted) bicycle lane along both sides of Butterfield Stage Road from SR-79 to Nighthawk pass Road. There are existing Class II (painted and buffered) bicycle lanes along both sides of SR-79 between Old Town Front Road and Butterfield Stage Road.

Transit Facilities

The Riverside Transit Authority (RTA) provides bus service in Riverside County. Route 24 provides service in the area and connects the Promenade Mall and Temecula Valley Hospital. It operates at a frequency of approximately 65 minutes on weekdays and weekends. The bus stops for Route 24 are located along SR-79-Temecula Parkway, Pechanga Parkway, Redhawk Parkway and Deer Hollow Way. There is no bus stop or transit route within 0.5 miles of the project site (RTA 2022).

Methodology

Traffic Volume Determination

The analysis was conducted using the Highway Capacity Manual (HCM) methodology used by the City and County to analyze the operation of signalized and unsignalized intersections. The HCM analysis methodology describes the operation of an intersection using a range of LOS, from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding control delay experienced per vehicle for intersections. The Synchro 10 LOS software was used to determine intersection LOS for all study scenarios. Synchro is consistent with the HCM 6th Edition methodology (TRB 2016).

Trip Generation

As part of the proposed residential development, a maximum of 200 single-family units could be potentially developed on the project site. Trip generation was estimated by using trip rates for single-family detached housing from the Institute of Transportation Engineers, 11th Edition (ITE 2021). Accordingly, AM and PM peak hour trip generation volumes were computed. Trip generation rates, AM and PM peak hour vehicle splits, and the resulting trip generation estimates for the project are summarized in Appendix F. The Proposed Project Alternative would generate approximately 1,886 daily trips, 140 AM peak hour trips (36 inbound and 104 outbound), and 188 PM peak hour trips (118 inbound and 70 outbound).

Per City's signalized intersection analysis input parameters, a base saturation flow rate of 1,800 passenger cars per hour per lane was used for all scenarios and a peak hour factor of 1.0 was applied to buildout traffic conditions.

Trip Distribution and Assignment

Project trip distribution percentages are based on logical travel paths to and from the project site. Primary vehicular access would be provided via Butterfield Stage Road, which connects to the Anza Road. The nearest regional route is SR-79-Temecula Parkway and I-15. Important local roadways include Wolf Store Way, Welton Way-Channel Street and Nighthawk Pass. For the most direct route to the project site and to assume a conservative distribution, all trips were distributed via Butterfield Stage Road under Existing plus Project and Buildout plus Project conditions. Project trips were assigned to the study area intersections by applying the above-referenced project trip generation estimates to the trip distribution percentages at each study area intersection. The project trip distribution and assignment are summarized in Appendix F.

Existing Traffic Operations Year 2022

The existing weekday peak hour turning movement counts at the study intersections were collected in April 2022 when schools were in session and there were no COVID (pandemic) restrictions in effect. This existing traffic operations analysis focuses on the weekday daily, AM (7:00 a.m. to 9:00 a.m.) and the PM (4:00 p.m. to 6:00 p.m.) peak periods. The peak periods represent the highest volume of traffic for the adjacent street system. Raw traffic count worksheets are provided in Appendix F. Existing weekday AM and PM peak hour volumes are summarized in Table 3-9 below.

Table 3-9.
Existing Peak Hour Intersection Level of Service

No.	Intersection	LOS Method	Existing Conditions			
			AM Peak		PM Peak	
			Delay[1]	LOS[2]	Delay[1]	LOS[2]
1	Butterfield Stage Road/SR-79-Temecula Parkway	HCM	38.9	D	45.3	D
2	Butterfield Stage Road/Wolf Store Road	HCM	14.8	B	26.1	C
3	Butterfield Stage Road/Channel St-Cam Piedra Rojo	HCM	28.1	C	22.2	C
4	Butterfield Stage Road/Nighthawk Pass	HCM	33.7	C	37.0	D

Notes: HCM = Highway Capacity Manual
1 Delay in seconds per vehicle
2 Level of Service (LOS)

Buildout Traffic Operations Year 2045

Because the Proposed Project Alternative could be constructed in the more distant future, an estimate of the existing traffic in the study area given anticipated future growth in the City was also included in the traffic analysis. The buildout scenario analyzed is representative of the horizon year 2045 and does not consider implementation of the Proposed Action. The buildout conditions analyzed were based on the currently available Riverside County Transportation Demand Model (RIVCOM) for the year 2045. Therefore, the buildout traffic volumes were estimated by increasing the existing traffic counts by a growth factor, which was calculated by comparing existing traffic volumes with the year 2045 traffic volumes along SR-79-Temecula Parkway and Butterfield Stage Road. Detail on the roadway improvements incorporated in the buildout scenario are included in Appendix F. The resulting traffic growth factors were applied to the existing peak hour traffic volumes at the intersections in the study area to estimate buildout traffic volumes representative of the year 2045.

An intersection LOS analysis during peak morning and evening travel times was also prepared for the Buildout (no project) condition using the HCM 6 methodology. All of the study area intersections, except Butterfield Stage Road/SR-79-Temecula Parkway intersection, are forecast to continue operating at satisfactory levels of service (LOS D or better) under Buildout conditions. The Butterfield Stage Road/SR-79-Temecula Parkway intersection operates at LOS E during the PM peak hour under Buildout conditions.

3.7.2 Proposed Action

For the purposes of this traffic analysis, the project is assumed to be fully constructed and operational in one phase. The analysis of the project assumes a full buildout of 200 units under both existing year 2022 and buildout year 2045 conditions since the proposed project site could accommodate the development of up to 200 single family units.

Operational Phase Year 2022

Changes to traffic volumes and intersection operations resulting from development of the Proposed Project Alternative were analyzed under conditions for year 2022. The number of additional trips that would be generated due to development of the Proposed Action were added to the existing traffic conditions to determine impacts to

traffic volumes during the project's operational phase. Detailed calculations for the intersection LOS analysis are included in Appendix F. Even with implementation of the Proposed Action, all study area intersections are forecast to continue to operate with satisfactory LOS (LOS D or better) during both peak hours. Based on the City's guidelines and significance criteria used in this TIA, operation of study area intersections at LOS E or LOS F would be characterized as an operational deficiency and inconsistent with the general plan policies. None of the study area intersections operate at LOS E or F with the addition of project traffic; therefore, the Proposed Action would not create a significant impact on existing traffic conditions. Therefore, no significant adverse impacts to transportation would occur during the operational phase of the Proposed Action.

Operational Phase Year 2045

Anticipated traffic generated by implementation of the Proposed Project Alternative was added to the buildout traffic scenario for year 2045 to determine the traffic impacts of building the proposed project in 2045. All study area intersections except Butterfield Stage Road/SR-79-Temecula Parkway intersection are forecast to operate with satisfactory LOS (LOS D or better) under buildout with Proposed Project Alternative implementation conditions during both peak hours. The Butterfield Stage Road/SR-79-Temecula Parkway intersection operates at LOS E during the PM peak hour under buildout with Proposed Project Alternative conditions and the project would contribute to more than 2 seconds of delay. Based on the City's guidelines and significance criteria used in the TIA, operation of study area intersections at LOS E or LOS F would be characterized as an operational deficiency and inconsistent with the general plan policies since exceeding 2 seconds of delay constitutes a significant delay. Therefore, improvement measures would be required to reduce the delay to pre-project or acceptable conditions for the Butterfield Stage Road/SR-79-Temecula Parkway intersection (MM-Traffic-1). However, the current conceptual designs for the Proposed Action include the development of 112 single family units, 88 units fewer than the full buildout of 200 units used in the traffic analyses. If the current conceptual design, which includes nearly half of the full buildout scenario analyzed, is constructed then the intersection at Butterfield Stage Road/SR-79-Temecula Parkway could operate at LOS D, within the City's threshold for satisfactory operation. However, since the current conceptual design is subject to change, implementation of mitigation to reduce the intersection delay at Butterfield Stage Road/SR-79-Temecula Parkway would be implemented as part of the Proposed Action. With implementation of mitigation to reduce traffic delays, no significant adverse impacts to transportation would occur during the operational phase of the Proposed Action.

Construction Phase

Proposed Action construction activities would include site preparation, grading, building construction, paving, and architectural coating phases. As identified in Section 2.2.2 above, the Proposed Action would be required to meet the conditions of a City encroachment permit for minimizing traffic impacts from construction. This may include the preparation of a Traffic Control Plan for construction components within the public right-of-way (roads) to ensure safe passage of vehicles, bicycles or pedestrians through the work zone. Therefore, construction of the Proposed Action would not have a significant effect to the adjacent roadway facilities and traffic.

3.7.3 No Action Alternative

Under the No Action Alternative, the subject property would not be taken into trust by the Tribe, and development would not occur in the near-term. As a result, no adverse impacts resulting from anticipated transportation increases would occur on the subject property from this alternative.

3.8 LAND USE

3.8.1 Affected Environment

The following discussion describes the existing land use condition in the vicinity of the proposed project site.

3.8.1.1 Regulatory Setting

State

Farmland Mapping and Monitoring Program

The State of California developed the Farmland Mapping and Monitoring Program to provide data to decision makers for use in planning for the present and future of California's agricultural land resources. To meet this goal, the Farmland Mapping and Monitoring Program's objective is to provide maps and statistical data to the public, academia, and local, state, and federal governments to assist them in making informed decisions for the best use of California's farmland. The program classifies lands into seven agriculture-related categories: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Grazing Land, Urban and Built-Up Land, and Other Land.

Williamson Act

The California Land Conservation Act of 1965, commonly known as the Williamson Act, is designed to preserve farmlands and open space lands by discouraging premature and unnecessary conversion to urban uses. Under the provisions of the Williamson Act, landowners' contract with the county to maintain agricultural or open space use of their lands in return for a reduced property tax assessment. The contract is self-renewing, and the landowner may notify the county at any time of intent to withdraw the land from its preserve status. Withdrawal involves a 10-year period of tax adjustment to full market value before protected open space can be converted to urban uses. Alternatively, landowners can petition the county's Board of Supervisors to withdraw prematurely from a Williamson Contract. To cancel a contract without instituting the 10-year tax adjustment period, the Board of Supervisors make the required findings that the cancellation is consistent with the purposes of the Williamson Act, and that cancellation is in the public interest.

Local

Although local land use policies would not apply to lands taken into federal trust, impacts to the community may occur in terms of a federal project's relation to growth and development visions, as described in the following guidance documents.

Riverside County General Plan

The Riverside County General Plan is considered a blueprint for development in the County, and provides long-term policy guidance for the community's physical, economic, social, and environmental changes (County of Riverside 2021). The County's General Plan consists of 11 chapters, including a Land Use Element. The proposed project site lies on unincorporated lands on the boundaries of the City of Temecula and within the County's boundaries.

Riverside County Zoning Ordinance

One of the primary purposes of the City's Zoning Ordinance is to implement the goals, policies, and programs of the County's General Plan, and to manage future growth and change in accordance with the General Plan. The Zoning Ordinance provides information on the permitted uses in each zone, as well as development standards for each zone. The project site is zoned as R1: single-unit residential dwellings, and R5: open area combining zone-residential developments (County of Riverside 2022). The proposed project site is currently vacant, undeveloped land.

3.8.1.2 Environmental Setting

Regional Setting

The proposed project site is located on the outskirts of the City of Temecula, on unincorporated land within Riverside County, California. The City is located in the southwestern portion of Riverside County and is largely developed with residential and commercial uses. The proposed project site is bordered by the City of Temecula to the north and west, unincorporated Riverside County land to the east, and the Tribe's Reservation to the south. I-15, SR-79, and Temecula Parkway, and Pechanga Parkway currently provide regional access to the proposed project site.

Local Land Use and Setting

The approximately 81-acre proposed project site is located on Assessor's Parcel Numbers (APNs) 966-380-006, 966-380-007, 966-380-008, 966-380-009, on partially unincorporated lands along the southeastern border of the City of Temecula, which is located immediately north of the Pechanga Reservation in Riverside County. As mentioned above, the project site is zoned as R1: single-unit residential dwellings, as well as R5: open area combining zone-residential developments (County of Riverside 2022). The proposed project site is currently vacant, undeveloped land.

The topography surrounding the proposed project site is generally flat, with mountainous terrain located immediately south of the proposed project site, within the Pechanga Indian Reservation. The proposed project site is surrounded by vacant land and residential development to the west and northwest. Adjoining properties to the northeast consist of a single-family residential subdivision, rural-type residential properties, and vacant land, while the RCWD El Chimisal Reclaimed Reservoir with four water tanks is on the adjoining property to the east at 34695 El Mirador (Appendix B).

3.8.2 Proposed Action

Execution of the Proposed Action would result in the approval of the transfer of approximately 81 acres into federal trust status for the Tribe. The anticipated use of Proposed Action would divide the land into about 112 single-family housing units that would be either approximately 10,000-square-foot lots or 20,000-square-foot lots with areas for open space would result in the reasonably foreseeable future development of the proposed project site associated with this transfer, which is likely to involve residential uses. Once the federal government acquires the proposed project site in trust for the Tribe, the parcels would no longer be subject to County land use regulations but would be under the civil regulatory jurisdiction of the Tribe and the federal government.

Land Use Plans

County planning documents currently in effect for the proposed project site include the County's General Plan and the County's Zoning Ordinance. Foreseeable future development of the proposed project site associated with the Fee-to-Trust acquisition would result in the current parcels being subdivided into smaller parcels of approximately 10,000 square feet or 20,000 square feet for use as single-family residential at the proposed project site. All four parcels included in the proposed project site are zoned as R1: single-unit residential dwellings, and R5: open area combining zone-residential developments (County of Riverside 2022). Per the County's General Plan, the residential and combining zone-residential zones provide for single family dwellings and non-commercial land uses, including recreational areas, picnic grounds, and cemeteries, among other non-commercial uses for the local residents in the surrounding neighborhood (County of Riverside 2021).

Consistent with the County's General Plan, it is anticipated that the Proposed Action would result in the current parcels being subdivided into smaller parcels of approximately 10,000 square feet or 20,000 square feet of leasable area designated for residential uses. Therefore, future development of the Proposed Action would be consistent with the existing and planned uses of the proposed project site. Overall, the Proposed Action would not result in a significant impact associated with conflicts with local land use plans.

Land Use Compatibility

As discussed above, the proposed project site is surrounded by vacant land and residential development to the west and northwest. Adjoining properties to the northeast consist of a single-family residential subdivision, rural-type residential properties, and vacant land, while the RCWD El Chimisal Reclaimed Reservoir with four water tanks is on the adjoining property to the east at 34695 El Mirador (Appendix B).

The proposed project site is planned for development by the County, which the Proposed Action would be compatible with. The Proposed Action would not physically disrupt neighboring land uses, prohibit access to neighboring parcels, or otherwise significantly conflict with neighboring land uses. Although the proposed uses within the site are generally compatible with the residential nature of the area, the increase in intensity of development within the site as a result of the Proposed Action could result in conflicts with nearby sensitive land uses (including the residential homes to the west, northwest, and northeast of the proposed project site). Potential

conflicts may include air quality and noise impacts from construction activities (Sections 3.3 and 3.11, respectively), and impacts to biological resources and cultural resources during construction (Sections 3.4 and 3.5), which could result in potential short- and long-term adverse impacts. Implementation of protective measures and BMPs identified in Section 2.2.3, and mitigation measures identified in Section 4.0 would reduce potential adverse impacts to less-than-significant levels. Therefore, the Proposed Action would not result in significant impacts associated with land use compatibility.

3.8.3 No Action Alternative

Under the No Action Alternative, the site would not be taken into trust and would remain in its current condition. No project-related development would take place on any part of the site in the near term. No land use conflicts would occur under the No Action Alternative. Therefore, the No Action Alternative would not result in adverse impacts related to land use.

3.9 PUBLIC SERVICES AND UTILITIES

3.9.1 Affected Environment

The following discussion describes the existing public services and utilities in the vicinity of the proposed project site.

3.9.1.1 Regulatory Setting

Rancho California Water District 2020 Urban Water Management Plan

The 2020 Final Urban Water Management Plan prepared for the RCWD includes RCWD's estimates for water supply and demands through the year 2045. These projections, which are based on historical supply reliability data, include scenarios for average/normal, single-dry, and multiple-dry years (RCWD 2021a).

3.9.1.2 Environmental Setting

Water Supply

The proposed project site is located within the service area of the RCWD, an agency that provides water supply services to customers within the Cities of Temecula and Murrieta, and some unincorporated areas of Riverside County.

Water Supply Infrastructure

The RCWD operates 31 potable water pump stations and 48 active potable groundwater production wells and maintains 39 potable water storage reservoirs with a capacity of 149.7 million gallons. RCWD's potable water system includes 950 miles of water pipelines that convey water from its source to water customers. In addition, the RCWD owns an open surface water reservoir, Vail Lake, with a current storage capacity of 31,395 acre-feet used to help recharge the groundwater basin using natural runoff. The RCWD operates six recycled water pump stations and three active recycled water storage reservoirs, with a combined capacity of 7.5 million gallons, and five recycled water storage ponds, with a total storage of 1,496 AFY. The recycled water system includes 58.9 miles of water pipelines and conveys recycled water for irrigation. The recycled water supply is from tertiary facilities at the Santa Rosa Water Reclamation Facility and the seasonal storage ponds constructed adjacent to the reclamation facility. Recycled water is also received from the Temecula Valley Regional Water Reclamation Facility, under agreement with the Eastern Municipal Water District (EMWD) (RCWD 2021a).

Water Supply Sources and Demand

The RCWD currently obtains its water supplies from the following primary water sources: local groundwater from the Temecula Valley Groundwater Basin, imported State Water Project and Colorado River water from the Metropolitan Water District of Southern California via the EMWD and Western Municipal Water District, and recycled water from the EMWD. Treated imported potable water is received from Metropolitan Water District's storage and filtration facility at Lake Skinner, directly into RCWD's distribution system, through four turnouts (RCWD 2021a).

Wastewater Service

The EMWD provides wastewater treatment to the proposed project site (RCWD 2021b). EMWD has four operational regional water reclamation facilities (RWRFs), which have recently completed expansions and have a combined capacity of 86,300 AFY. Inter-connections between the local collection systems serving each treatment plant allow for operational flexibility, improved reliability, and expanded deliveries of recycled water (EMWD 2021a). The Temecula Valley RWRF currently provides wastewater treatment service to the City and the proposed project site (EMWD 2021a). The Temecula Valley RWRF has a treatment capacity of 26,900 AFY (EMWD 2021b).

Solid Waste Service

Solid waste services for the City are currently contracted to private companies, including CR&R Incorporated (City of Temecula 2005; CR&R Incorporated 2022). The City's solid waste is transferred to the El Sobrante and Badlands Landfills, located in unincorporated areas of Riverside County. El Sobrante Landfill is located approximately 31 miles northwest of the proposed project site, and the Badlands Landfill is located approximately 34 miles northeast of the proposed project site (City of Temecula 2005). El Sobrante Landfill is permitted to receive up to 400 tons of solid waste per day and, as of May 2016, had an estimated maximum capacity of 6,229,670 cubic yards (CalRecycle 2019a). Badlands Landfill is permitted to receive up to 4,800 tons of solid waste per day and, as of January 2015, had an estimated maximum capacity of 34,400,000 cubic yards (CalRecycle 2019b). Both the El Sobrante and Badlands Landfills are designated as a Class III landfill by the state, and are permitted to receive construction and demolition waste, green materials, and mixed municipal waste, among other waste types (CalRecycle 2019a, 2019b).

Recreation

The proposed project site is not currently used for sanctioned recreational purposes. Of the 39 parks managed by the City, four are within 2.5 miles of the proposed project site. All parks located near the proposed project site are within the City of Temecula limits. The nearest are the Vail Ranch Park and Stephen Linen Jr. Memorial Park. The Paseo Gallante Park and Patricia H. Birdsall Sports Park are also located nearby (City of Temecula 2022a).

Electricity and Natural Gas

SCE provides electrical services to the proposed project site and vicinity, and SoCalGas provides natural gas services to the proposed project site and vicinity (City of Temecula 2022b).

Southern California Edison

SCE generates, transmits, and distributes electric power to a 50,000-square-mile territory that includes the City, Riverside County, and all or portions of 14 other California counties (SCE 2022a). The closest existing SCE distribution infrastructure to the proposed project site is located approximately 1.7 miles north of the site, directly north of SR-79 (SCE 2022b).

Southern California Gas Company

SoCalGas provides natural gas service to approximately 21.8 million consumers in over 500 communities within a 24,000-square-mile service area in Central and Southern California. SoCalGas, the nation's largest natural gas distribution utility, provides natural gas service to customers throughout Riverside County (SoCalGas 2022).

SoCalGas infrastructure in the vicinity of the proposed project site includes one high-pressure distribution line located to the west of the proposed project site, along Pechanga Parkway, and one transmission line to the northwest of the proposed project site that traverses from north to south, along Butterfield State Road. Additional transmission infrastructure exists along Anza Road, to the southwest of the proposed project site (SCE 2022b).

Law Enforcement

The proposed project site is within the service boundary of the Temecula Police Department. The City contracts with the Riverside County Sheriff's Department, which handles all criminal matters in unincorporated areas and provides incarceration facilities for all offenders (City of Temecula 2022c). More specifically, the Riverside County Sheriff's Department Southwest Station (Southwest Station) currently services the contract with the City and the proposed project site (Riverside County Sheriff's Department 2022). In addition to the Southwest Station,

there are two substations available to the public for police services at the Promenade Mall and in Old Town. The Temecula Police Department currently employs officers at the rate of approximately one officer per 1,063 residents (City of Temecula 2022c).

The Pechanga tribal Ranger Department has assisted the Tribe in exercising its tribal sovereignty by providing public safety services, enforcing tribal ordinances, protecting Reservation residents, and maintaining a positive relationship with outside law enforcement. The Pechanga tribal Ranger Department provides law enforcement services for the Reservation, and provides services such as dispatch, background investigations, animal control, fleet, tribal emergency response, evidence/property, tribal rangers, traffic enforcement, schools resource officers, court services, and community participation (Pechanga Band of Luiseño Indians 2022a). Should the Fee-to-Trust Application be approved, and absent an agreement otherwise, law enforcement of the proposed project site would remain largely unchanged, with the Temecula Police Department continuing to provide law enforcement to the extent consistent with Public Law 280, in addition to patrols by the Pechanga tribal Ranger Department in its security capacities.

Fire Protection and Emergency Medical Services

The proposed project site is located within the service boundaries of the Temecula Fire Department, which is composed of one division chief, two battalion chiefs, and 60 firefighting personnel that serve from five fire stations within the City. Each fire engine of the Temecula Fire Department is staffed with a four-person paramedic assessment engine, which ensures a minimum of one pracademic and three emergency medical technician (EMT)-level personnel at the scene of all emergencies, to provide emergency medical services (City of Temecula 2022d). The closest station to the proposed project site is the Temecula Fire Department Station 92, located adjacent to the southern parcel to the northwest, at 32211 Wolf Valley Road (City of Temecula 2022e).

Temecula Fire Department currently provides fire protection services to the proposed project site. Temecula Fire Department Station 92 is located west of the proposed project site, at 32211 Wolf Valley Road (City of Temecula 2022d, 2022e). Should the Fee-to-Trust Application be approved, fire protection services would be provided by the Pechanga Fire Department. Two Pechanga Fire Department Stations are situated southwest near the proposed project site.

The Pechanga Fire Department provides fire protection and medical emergency services to the Tribe's Reservation. It has two fire stations within 4 miles of the proposed project site, one of which is located at 45417 Pechanga Resort Drive, approximately 3.3 miles southwest of the proposed project site. The other Pechanga Fire Department near the proposed project site is located at 48240 Pechanga Road, approximately 2.3 miles southwest of the proposed project site. The Pechanga Fire Department's firefighting apparatus consists of a Type I American La France engine, the American La France 100-foot Tiller Quint, a Type III engine, a Type II engine, and a Type II water tender. The Pechanga Fire Department includes a fire chief, a division chief/fire marshal, three battalion chiefs, six fire captains, six fire apparatus engineers, twelve firefighters, a fire inspector, an emergency services coordinator, and nine fuels management crewmembers. In addition, the Pechanga Fire Department employs twelve full-time firefighter paramedics (Pechanga Band of Indians 2022b). The Pechanga Fire Department has the capacity to serve the proposed project site (Appendix H). Although the Tribe has mutual aid agreements with the County of Riverside for public services, such as fire protection, the Pechanga Fire Department would be expected to address any emergency issues, primarily due to the Pechanga Fire Department's close proximity to the proposed project site.

The closest medical facility to the proposed project site with a full-service emergency department is the Temecula Valley Hospital, located at 31700 Temecula Parkway, approximately 3.6 miles northwest of the proposed project site. The emergency department is open 24 hours a day, and is staffed by a team of physicians, registered nurses, and other specialists (Temecula Valley Hospital 2022).

3.9.2 Proposed Project Alternative

Water Supply

CalEEMod output rates were used to estimate the average daily water usage associated with the Proposed Project Alternative. Based on CalEEMod generation rates, future development anticipated under the Proposed Project Alternative is anticipated to use approximately 13 million gallons per year (MGY) for indoor water use and approximately 8.2 MGY for outdoor use, thus totaling water use of the Proposed Project Alternative to 21.2 MGY (see Appendix A, Air Quality and Greenhouse Gas Analysis). Water that would serve future development under the Proposed Project Alternative would be supplied by the RCWD. The total water demand experience by the RCWD in 2020 (the most recent year for which actual use data are available) was approximately 57,667 acre-feet per year (AFY); demand is anticipated to increase to 78,193 AFY by 2030 during a normal year and 81,378 AFY by 2030 during a single-dry year (RCWD 2021b). Therefore, the estimated annual water demand of the Proposed Project Alternative represents only 0.1% of RCWD's actual total demand in 2020, and less than 0.1% of RCWD's projected total demand in 2030 during both a normal and single-dry year. Lastly, RCWD has expressed its willingness to serve the proposed project site subject to RCWD's processes, rules, and regulations. (Appendix C, RCWD Letter). As a result, the proposed project is not anticipated to have a significant direct, indirect, or cumulative impact to water supply. No mitigation is required.

Wastewater Service

CalEEMod output rates were used to estimate the average daily wastewater usage associated with the Proposed Action. Based on CalEEMod generation rates, future development anticipated under the Proposed Action is anticipated to use approximately 13 MGY for indoor water use, which equates to 13 MGY of wastewater (see Appendix A). As discussed above, wastewater generated by the Proposed Action would be treated at the Temecula Valley RWRF, which currently has a capacity of 26,900 AFY (EMWD 2021b). Therefore, the estimated annual wastewater treatment demand of the Proposed Action represents less than 0.1% of Temecula Valley RWRF's current capacity. Eastern Municipal Water District has expressed its willingness to serve the proposed project site (Appendix G, EMWD Letter). Therefore, no significant short- and long-term direct or indirect adverse impacts to wastewater treatment service providers would occur. No mitigation is required.

Solid Waste Service

Future construction of the Proposed Action would result in a temporary increase in waste generation. The waste stream would consist of excess construction materials, resulting in a short- and long-term direct adverse impact. Waste that cannot be recycled would be disposed of at the El Sobrante and Badlands Landfills.

Solid waste generated by the Proposed Action would be disposed of at the El Sobrante and Badlands Landfills, which have a joint capacity of 40.6 million cubic yards (CalRecycle 2019a, 2019b). According to CalRecycle, the El Sobrante landfill has 68% capacity remaining, an estimated cease operation date of 2051, and a daily permitted throughput of 16,014 tons. Therefore, capacity at existing landfills would be able to accommodate waste generated by the Proposed Action during future operations and the Proposed Action would not have significant adverse effects on solid waste services. No mitigation is required.

Recreation

Since the Proposed Action could result in an increase in population, as discussed in Section 3.6.1, demand for additional recreation facilities could grow under the Proposed Action. However, the need for an increase in recreational facilities is not anticipated. The Proposed Action would be located in close proximity to the existing parks, and construction and operation of the Proposed Action would not impede access to these facilities. Therefore, no significant short- or long-term direct or indirect adverse impacts to recreational facilities would occur.

Electricity and Natural Gas

Under the Proposed Action, electricity would be obtained from SCE and natural gas would be provided by SoCalGas. The proposed project site has been zoned for residential development by Riverside County. Therefore, development of the Proposed Action has been accounted for in various County planning documents and in SCE

and SoCalGas projections, and it is not anticipated that implementation of the Proposed Action alone would require upgrades to SCE's or SoCalGas' existing infrastructure. If needed for future development, payment for electrical service and for any distribution infrastructure upgrades or renovations necessary to provide service to the proposed project site would be negotiated through agreements with SCE and SoCalGas. Therefore, no significant short- or long-term direct or indirect adverse impacts to electricity and natural gas would occur.

Law Enforcement

As described in Section 3.9.1, above, the proposed project site is within the service boundary of the Temecula Police Department. The City contracts with the Riverside County Sheriff's Department for law enforcement services (City of Temecula 2022c). The Temecula Police Department and the Riverside County Sheriff's Department would continue to provide law enforcement services to the Proposed Action. In accordance with Public Law 280 (18 USC 1162; 28 USC 1360), when the land is taken into trust, the State of California would exercise concurrent jurisdiction with the Tribe to enforce criminal laws against all individuals on the property, and state criminal prosecutions committed by anyone on the proposed project site would continue to be brought in California Courts. It is likely that the Pechanga Ranger Department will also be responsible for patrolling tribal lands, including the proposed project site, in its security capacities.

Future development of the Proposed Action would result in 10,000-square-foot and 20,000-square-foot lots for single-family residential homes, consistent with the County's zoning. In addition, the City periodically reviews population figures and revises its contract with the Riverside County Sheriff's Department to maintain the level of police protection services concurrent with anticipated growth (City of Temecula 2022c). Because the Temecula Police Department and the Riverside County Sheriff's Department currently provide law enforcement services to the proposed project site, and because the Proposed Action is consistent with development anticipated under the County's General Plan, it is not anticipated that these existing law enforcement agencies would require additional facilities to continue to provide services subsequent to the development of the Proposed Action. Therefore, no significant impacts to law enforcement would occur.

Fire Protection and Emergency Medical Services

Equipment and vehicles used during construction activities may create sparks, which could ignite vegetation on the proposed project site result in a short-term direct adverse impact. The use of power tools and acetylene torches may also increase the risk of fire during construction. BMPs listed in Section 2.2.3 would ensure that construction of the Proposed Action would not create a substantial fire hazard. Structural fire protection would be provided through voluntary compliance with International Fire Code requirements, as adopted under the Tribal Building and Fire Safety Code for residential structures, including requirements for fire flow, sprinkler systems, and fire extinguishers. Therefore, with implementation of existing regulations and BMPs, no significant impacts to fire protection and emergency medical services would occur during construction.

Although the Tribe has mutual aid agreements with the County of Riverside for public services, such as fire protection, the Pechanga Fire Department would largely be expected to address any emergency issues, primarily due to Pechanga Fire Department's close proximity to the proposed project site. Due to the minimal increase in demand for fire protection and emergency medical services, and because the Proposed Action would be consistent with the zoning and land use designations of the site, is not anticipated to trigger the need to construct new facilities. In addition, the Pechanga Fire Department has confirmed that it has the capacity to serve the proposed project site and would not be adversely affected by the addition to its service area. Therefore, no significant impacts to fire protection and emergency medical services would occur.

3.9.3 No Action Alternative

Under the No Action Alternative, the site would not be taken into trust, and no development would occur. No additional public services would be extended to the site. Therefore, no increase in demand for any public services would occur under the No Action Alternative.

3.10 VISUAL RESOURCES

3.10.1 Affected Environment

The following discussion describes the existing visual resources in the vicinity of the proposed project site.

3.10.1.1 Regulatory Setting

Development of the proposed project site is currently guided by the County's General Plan and Municipal Code. The visual resources regulatory setting is described in detail below.

Local

Riverside County General Plan

Development of the proposed project site is currently guided by the County's General Plan and Municipal Code. Components of the County's General Plan, relevant to the topic of aesthetics and neighborhood preservation and enhancement, are included below (County of Riverside 2022a, 2022b).

17.24.020- Development Standards for R-1 One-Family Dwelling Zone

A. Building height shall not exceed three stories, with a maximum height of forty (40) feet.
B. Lot area shall be not less than seven thousand two hundred (7,200) square feet. The maximum lot area shall be determined by excluding that portion of a lot that is used solely for access to the portion of a lot used as a building site.
C. The minimum average width of that portion of a lot to be used as a building site shall be sixty (60) feet with a minimum average depth of one hundred (100) feet. That portion of a lot used for access on flag lots shall have a minimum width of twenty (20) feet.
D. The minimum frontage of a small lot shall be sixty (60) feet, except that lots fronting on knuckles or cul-de-sac may have a minimum frontage of thirty-five (35) feet. Lot frontage along curvilinear streets may be measured at the building setback in accordance with zone development standards.
E. Minimum yard requirements are as follows:
    1. The front yard shall not be less than twenty (20) feet, measured from the existing street line or from any future street line as shown on any specific plan of highways, whichever is nearer the proposed structure.
    2. Side yards on interior and through lots shall be not less than ten (10) percent of the width of the lot, but not less than three feet in width in any event and need not exceed a width of five feet. Side yards on corner and reversed corner lots shall be not less than ten (10) feet from the existing street line or from any future street line as shown on any specific plan of highways, whichever is nearer the proposed structure, upon which the main building sides, except that where the lot is less than fifty (50) feet wide the yard need not exceed twenty (20) percent of the width of the lot.
    3. The rear yard shall not be less than (10) feet.
    4. No structural encroachments shall be permitted in the front, side, or rear yard except as provided for in section 17.172.140.
F. Automobile storage space shall be provided as required by Chapter 17.188.
G. Lot Coverage. In no case shall more than fifty (50) percent of any lot be covered by dwelling.

17.64- Development Standards for R-5 Open Area Combining Zone, Residential Developments

A. Lot Area. This zone is to be applied to those areas within subdivisions and other residential developments that provide open space and recreational area and facilities for the project. Therefore, no minimum lot size is established for the zone.
B. Yards. Whenever a building is to be constructed on a lot in this zone, it shall have a front yard, side yard and rear yard, each of which shall not be less than fifty (50) feet. If more than one building is constructed on one lot, there shall be not less than twenty (20) feet separation between the buildings. No structural encroachments shall be permitted in the front, side, or rear yard except as provided for in section 17.172.140.
C. Trash Areas. All trash collection areas shall be enclosed with a solid fence or wall no less than six feet high.
D. Automobile storage space shall be provided as required by Chapter 17.188.
E. All buildings and structures shall not exceed fifty (50) feet in height, unless a height up to seventy-five (75) feet is specifically permitted under the provisions of section 17.172.220.

Land Use Element Hillside Development and Slope (LU 11.1)

Natural slopes are one of Riverside County's primary aesthetic resources. Foothill and mountain areas, which are visible throughout the County, create a dramatic backdrop for local communities and help define the character of the County. Hillside areas also provide an important location for habitat and for recreational activities. In addition, there are public safety issues, such as slope failures, landslides, and mudslides, that occur naturally or as a result of development, grading, and landscaping.

The severity of these slopes, the ability to provide infrastructure and services (such as transportation, water, sewer, etc.), and safety considerations can drastically alter the use and development potential of individual properties. Development on hillsides within the County, where land use designations permit, will require careful siting, grading, and design in order to minimize exposure to hazards and to maintain and enhance the scenic quality of the County.

LU 11.1 Apply the following policies to areas where development is allowed and that contain natural slopes, canyons, or other significant elevation changes, regardless of land use designation: (AI 1, 23, 24) (County of Riverside 2021).

A. Require that hillside development minimize alteration of the natural landforms and natural vegetation.
B. Allow development clustering to retain slopes in natural open space whenever possible.
C. Require that areas with slope be developed in a manner to minimize the hazards from erosion and slope failures.
D. Restrict development on visually significant ridgelines, canyon edges and hilltops through sensitive siting and appropriate landscaping to ensure development is visually unobtrusive.
E. Require hillside adaptive construction techniques, such as post and beam construction, and special foundations for development when the need is identified in a soils and geology report which has been accepted by the County.
F. Encourage the limitation of grading, cut, and fill to the amount necessary to provide stable areas for structural foundations, street rights-of-way, parking facilities, and other intended uses.

Ordinance No. 915 Outdoor Lighting

This Ordinance is adopted pursuant to the Board of Supervisors' police power as set forth under Article XI, section 7 of the California Constitution. The purpose of this Ordinance is to provide minimum requirements for outdoor lighting in order to reduce light trespass, and to protect the health, property, and well-being of residents in the unincorporated areas of the County (County of Riverside 2022c).

> Section 5. Standard: All outdoor luminaries shall be located, adequately shielded, and directed such that no direct light falls outside the parcel of origin, or onto the public right-of-way.

Section 6. Exemptions: The following outdoor luminaires shall be exempt from the provisions of this Ordinance when properly installed and in compliance with all County ordinances:

A. Luminaires used or otherwise required by law enforcement or other emergency personnel.
B. Luminaires used to illuminate publicly owned property, including but not limited to parks, recreation areas, schools, streets, street signs and sidewalks.
C. Luminaires used to illuminate authorized public and private monuments.
D. Luminaires authorized by a provision of state or federal law as long as that lighting conforms to the requirements of the state or federal law.
E. Luminaires used for holiday decoration.
F. Luminaires producing light directly by the combustion of fossil fuels (such as kerosene lanterns, and gas lamps).
G. Neon luminaires.
H. Luminaires used to illuminate agricultural activities, operations or facilities as defined in *Section 5 of Riverside County Ordinance No. 625*.

3.10.1.2 Environmental Setting

Aesthetics

A viewshed is the geographical area that is visible from at least one location, referred to as a viewpoint. Each viewpoint provides a line of sight of the viewshed. The visual experience of an object within a viewshed is composed of the overall visibility of the object within the viewshed, the amount of time the object is exposed to viewers within the viewshed, the distance of the viewer from the object, and the number of viewers anticipated to experience the viewshed.

There is no comprehensive list of specific features that automatically qualify as scenic resources; however, certain characteristics can be identified that contribute to the determination of a scenic resource. The following is a partial list of visual qualities and conditions that if present, may indicate the presence of a scenic resource (Caltrans 2022):

- A tree that displays outstanding features of form or age
- A landmark tree or a group of distinctive trees accented in a setting as a focus of attention
- An unusual planting that has historical value
- A unique, massive rock formation
- A historic building that is a rare example of its period, style, or design, or that has special architectural features and details of importance
- A feature specifically identified in applicable planning documents as having a special scenic value
- A unique focus or a feature integrated with its surroundings or overlapping other scenic elements to form a panorama
- A vegetative or structural feature that has local, regional, or statewide importance

Proposed Project Site

The proposed project site located on partially unincorporated lands along the southeastern border of the City of Temecula, which is located immediately north of the Pechanga Reservation in the Riverside County. As discussed in the Land Resources section (3.1.1) above, the elevation of the proposed project site is relatively flat and slopes from approximately 1,290 feet above mean sea level (amsl) in the northwest corner of the project site to approximately 1,580 feet amsl in the southeast corner of the project site, resulting in a 290-foot elevation difference moving east to west. The proposed project site has an elevation of approximately 1,400 feet amsl across the central portion of the site with a general topographic gradient of the site vicinity towards the southwest (Appendix B). The topography surrounding the proposed project site is also generally flat, with mountainous terrain located immediately south of the proposed project site, within the Pechanga Indian Reservation. The proposed project site is surrounded by vacant land and residential development to the west and northwest. Adjoining properties to the northeast consist of a single-family residential subdivision, rural-type residential

properties, and vacant land, while the RCWD El Chimisal Reclaimed Reservoir with four water tanks is on the adjoining property to the east at 34695 El Mirador (Appendix B).

Scenic Highways

There are no state designated scenic highways or roads adjacent to or near the vicinity of the City; however, I-15, located approximately 4.2 miles west of the proposed project site, is considered an eligible State Scenic Highway (Caltrans 2022).

Scenic Resources

The County's General Plan identifies topographical features, such as the western escarpment and southern ridgelines, hillsides in the northern area, natural drainage courses, and environmental resources of the Santa Margarita River as scenic resources, that should be protected from insensitive development and activities. Public views to these areas should be maintained to the extent possible (City of Temecula 2005). The proposed project site is located in a moderately developed area, including residential development to the west and northwest. No scenic resources are located in the vicinity of the proposed project site.

Lighting and Shadow

No significant sources of lighting, shadow, or glare are currently present on the proposed project site. Sources of nighttime lighting and glare in the vicinity of the site include streetlights and adjacent residential development, as well as the existing RCWD El Chimisal Reclaimed Reservoir.

3.10.2 Proposed Action

Aesthetics

Although no development is proposed at the proposed project site at this time, it is anticipated that implementation of the Proposed Action would result in future development of the proposed project site. Future development could result in 10,000-square-foot and 20,000-square-foot lots for residential uses, resulting in a long-term direct adverse impact to aesthetics. However, as stated in Section 2.2.2 above, although not required, the Tribe anticipates it will design the development in a manner consistent with the County's municipal codes for lighting and architectural design guidelines. Therefore, the Proposed Action would be consistent with the City's zoning and land use designations of the site. The nearest residential developments to the proposed project site are the residences west and northwest of the proposed project site. However, as discussed in Section 3.10.1.1, above, the County's Municipal Code provides standards for development of the proposed project site, which would ensure that future development of the Proposed Action would not significantly exceed the bulk and scale of surrounding development. In addition, the Proposed Action would be visible from nearby roadways, including Anza Road and Butterfield Stage Road. However, because the proposed project site is located adjacent to existing residential development and would comply with the County's Municipal Code standards for development, the Proposed Action would be consistent with the surrounding area. Lastly, the proposed development would not block views of scenic resources or from scenic highways in the vicinity of the proposed project site, as none are present nearby (Caltrans 2022; City of Temecula 2005). Therefore, the Proposed Action's impacts to aesthetics would not be significant.

Lighting

The Proposed Action would introduce new sources of light to the proposed project site during construction and operations for aesthetic and security purposes, resulting in a short- and long-term direct adverse impacts to lighting. However, proposed lighting would be similar to the sources of light from nearby development. This lighting associated with the Proposed Project Alternative would constitute an increase over the existing ambient light levels on the proposed project site; however, as stated in Section 2.2.2 above, lighting proposed on site would meet the County's lighting requirements. Therefore, no significant adverse impacts associated with lighting would occur.

3.10.3 No Action Alternative

Under the No Action Alternative, the site would not be taken into trust, and no development would occur. The site would remain in its current state. Therefore, the No Action Alternative would have no impact related to visual resources.

3.11 NOISE

3.11.1 Affected Environment

The following discussion describes the existing noise environment in the vicinity of the proposed project site.

3.11.1.1 Regulatory Setting

Local

County of Riverside General Plan

The County of Riverside General Plan Noise Element Policy N 1.3 specifies that residential land uses are considered to be noise-sensitive and discourages the construction of residential land uses that are in areas exceeding 65 dBA CNEL.

County of Riverside Municipal Code

Section 9.52.020(I) (Exemptions) of Chapter 9.52 (Noise Regulation) of the County's Municipal Code specifies that noise from private construction projects within 0.25 miles of an inhabited dwelling is prohibited between the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September and between the hours of 6:00 p.m. and 7:00 a.m. between the hours of October through May.

Section 9.52.020(L) (Exemptions) of Chapter 9.52 exempts noise from heating and air conditioning equipment from the County's general sound level standards.

3.11.1.2 Environmental Setting

The proposed project site is currently undeveloped, with no major noise-producing sources (such as airports, freeways, or large industrial sites) in the immediate vicinity. Existing traffic on local roadways in the neighboring residential areas to the north constitutes the primary source of ambient noise at the proposed project site. Noise-sensitive land uses in the vicinity include single-family residences to the north, in the City of Temecula. No existing sources of groundborne vibration (aside from vehicular traffic, which produces relatively low levels) are located in the vicinity.

3.11.2 Proposed Action

Although no development is proposed at the proposed project site at this time, it is anticipated that implementation of the Proposed Action would result in future development of the proposed project site. For the purpose of the analysis in this EA, the Tribe has proposed a reasonably foreseeable development scenario for the proposed project site that would construct approximately 112 single-family housing units, consistent with existing County land use designations and in compliance with local construction and design codes and requirements.

Construction Noise

Construction noise could result in short-term direct adverse impacts to existing nearby residences. Noise from construction activities, while relatively high at times, would occur within the allowable hours for construction set forth in the County's Noise Ordinance (Section 9.52.020 of the Riverside County Municipal Code). As stated in Section 2.2.2 above, if the proposed development is approved, the Tribe would voluntarily follow the County's Noise Ordinance for allowable hours for construction activities to reduce potential noise and vibration impacts. Using the same construction equipment assumptions as used for the air quality analysis (Section 3.3), typical construction noise levels from the proposed project were estimated using a spreadsheet version of the Federal Highway Administration's Roadway Construction Noise Model

(RCNM) (FHWA 2008). Input variables for the RCNM consist of the receiver/land use types, the equipment type (e.g., backhoe, crane, truck), the number of equipment pieces, the duty cycle for each piece of equipment (i.e., percentage of each time period the equipment typically is in operation), and the distance between the construction noise source and the sensitive receiver. The RCNM has default duty-cycle values for the various pieces of equipment that were derived from an extensive study of typical construction activity patterns. Those default duty-cycle values were used for this noise analysis. Because specific site plan layouts have not yet been developed for the proposed project at this preliminary stage, it was assumed that typical construction activities would take place at distances of approximately 100 feet or more from nearby existing residences. As shown in Table 3-10, construction noise levels assuming that the nearest equipment is 100 feet away would range from 67 dBA $L_{eq\ 8\text{-}hour}$ during the architectural coating phase to 75 dBA $L_{eq\ 8\text{-}hour}$ during site preparation. While construction noise levels of this magnitude could result in short-term annoyance at times at nearby existing residences, the estimated noise levels would be below the Federal Transit Administration's advisory noise standard of 80 dBA $L_{eq\ 8\text{-}hr}$, which (while non-binding) is often cited in the absence of a local quantitative noise standard, as is the case for the County of Riverside. As detailed in Section 3.12.1.1, Riverside County regulates noise from construction through limitation on hours of operation rather than with a quantified standard. Because (as detailed in Section 3.9, Land Use) the Proposed Action would be consistent with the County's General Plan Land Use Element and would voluntarily follow the municipal noise ordinance, noise during construction would not be significant.

Construction Vibration

Construction activities that might expose persons to excessive groundborne vibration or groundborne noise could cause a short-term adverse impact. Groundborne vibration information related to construction activities (including demolition) has been collected by the California Department of Transportation (Caltrans) (Caltrans 2020). Information from Caltrans indicates that continuous vibrations with a peak particle velocity of approximately 0.1 inches per second begin to annoy people. The heavier pieces of construction equipment used for a project of this type, such as bulldozers, would have peak particle velocities of approximately 0.089 inches per second or less at a distance of 25 feet (DOT 2018). Groundborne vibration is typically attenuated over short distances. At the distance from the nearest vibration-sensitive receivers (residences located to the north) to where construction activity would typically be occurring (i.e., at a distance of 100 feet or more), and with the anticipated construction equipment, the peak particle velocity vibration level would be approximately 0.011 inches per second. For relatively brief periods of time, construction could occur relatively near to existing residences to the north, depending on the ultimate site design. At a distance of 22 feet, the vibration threshold of potential annoyance of 0.1 inches per second would be exceeded, resulting in annoyance; however, similarly to noise from construction, such instances would be relatively short term and would occur only during daytime hours. As stated in Section 2.2.2 above, the Tribe would voluntarily limit construction times during allowable hours of the day to meet the County Noise Ordinance; therefore, vibrations from construction would be consistent with City standards.

The major concern with regards to construction vibration is related to building damage, which typically occurs at vibration levels of 0.5 inches per second or greater for buildings of reinforced concrete, steel, or timber construction. As discussed above, typical vibration levels associated with construction would be approximately 0.011 inches per second or less, which is well below the threshold of 0.5 inches per second for building damage. Therefore, impacts associated with vibration-produced damage would not be significant.

Operational Noise

Noise associated with operation of the Proposed Action would include off-site traffic noise generated by vehicle trips, as well as on-site noise from mechanical equipment (generally consisting of residential heating, ventilation, and air conditioning [HVAC] equipment).

Traffic Noise

Traffic noise impacts were assessed using data derived as part of the Transportation/Circulation analysis for the proposed project (Section 3.7). The Proposed Action would generate approximately 1,603 average daily trips (ADT), as shown in Table 3-12. Comparing the Proposed Action trips to the Existing and Buildout year trips

along Butterfield Stage Road (the primary arterial roadway along which project traffic would pass, the corresponding change in noise levels was estimated using the using the following relation:

Sound level change (dB) = 10*Log (V2/V1)

in which: V1 = Existing (or Buildout) year traffic volume; V2 = Existing (or Buildout) plus project traffic volume (Diehl 1973). Thus, for example, a doubling of the traffic volume will, all other things being equal, result in a 3 dB increase in noise. As shown in Table 3-12, the project would result in changes in traffic noise levels on the order of 0.9 dB or less. A change in noise level (either an increase or a decrease) of 1 dB or less is not an audible change in the context of community noise (i.e., outside of a controlled test environment). Therefore, impacts associated with traffic noise would not be less significant.

Table 3-10.
Estimated Project-Related Traffic Noise Increase (dB)

Roadway Segment	Average Daily Traffic (ADT)						Estimated Project-Related Noise Increase (dB)	
	Year 2022[a]	Project Trips	Existing plus Project	Buildout [b]	Project Trips	Buildout plus Project	Existing plus Project	Buildout plus Project
Butterfield Stage Road, north of Nighthawk Pass	15,172	1,603	16,775	19,031	1,603	20,634	0.4	0.4
Butterfield Stage Road, south of Nighthawk Pass	7,890	1,886	9,776	9,904	1,886	11,790	0.9	0.8

Source: Traffic data collected as part of Traffic Impact Analysis for Northern Boundary Project, Riverside County, July 2022. Project-related noise increase derived using the equation: Sound level change (dB) = 10*Log (V2/V1) per Diehl 1973.
a. Year 2022 ADT was collected in April 2022 when schools were in session and there were no COVID (pandemic) restrictions in effect
b. Buildout traffic volumes were estimated using the currently available Riverside County Transportation Demand Model (RIVCOM) ADT plots for the year 2045.

On-Site Noise

Noise generated by residential HVAC equipment is exempt from Riverside County noise standards, as detailed in Section 3.12.1.1 (Regulatory Setting). Thus, noise impacts would not be significant.

Operational Vibration

During operation, no major sources of groundborne vibration are anticipated. Mechanical equipment, such as from HVAC equipment, typically generates relatively low levels of vibration, and vibration from sources such as truck deliveries is typically low because trucks have flexible suspension systems and rubber tires, and speeds within the proposed project site are low. Thus, long-term direct and indirect groundborne vibration impacts during operation would not be significant.

3.11.3 No Action Alternative

Under the No Action Alternative, the proposed project site would not be taken into trust by the Tribe and development would not occur in the near-term. As a result, no adverse impacts related to noise or groundborne vibration would occur.

3.12 HAZARDOUS MATERIALS

3.12.1 Affected Environment

The following discussion describes the existing hazards environment in the vicinity of the proposed project site.

3.12.1.1 Regulatory Setting

Federal

At the federal level, human exposure to chemical agents, and in some cases environmental and wildlife exposure to such agents, is regulated primarily by four agencies: USEPA, the Food and Drug Administration, the Occupational Safety and Health Administration (OSHA), and the Consumer Product Safety Commission. USEPA administers several Congressional statutes pertaining to human health and the environment, including the Clean Air Act, which regulates hazardous air pollutants, and the Resource Conservation and Recovery Act (codified in 42 USC Section 6901 et seq.), which regulates land disposal of hazardous materials, defined as substances that display one or more of the following characteristics: corrosivity, flammability, reactivity, or toxicity (40 CFR Section 261). The Consumer Product Safety Commission plays a limited role in regulating hazardous substances; it deals primarily with the labeling of consumer products. The Food and Drug Administration also plays a limited role in regulating hazardous substances; it primarily regulates food additives and contaminants, human drugs, medical devices, and cosmetics. OSHA regulations (codified in 29 CFR Parts 70–71, 2200–2205, 2400, and 1910) require facilities to document the potential risk associated with the storage, use, and handling of toxic and flammable substances. In addition to these regulatory agencies, the U.S. Department of Transportation regulates the interstate transport of hazardous materials. The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 provides a Federal Superfund to clean up uncontrolled or abandoned hazardous waste sites, as well as accidental releases of pollutants and contaminants into the environment. USEPA has the power to seek out responsible parties and gain their cooperation in the cleanup. USEPA takes responsibility for hazardous sites when the responsible party cannot be identified or fails to act.

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) addresses the sale, distribution, and labeling of pesticides, as well as the certification and training of pesticide applicators. The FIFRA also establishes recordkeeping and reporting requirements on certified applicators of restricted-use pesticides, as well as imposing storage, disposal, and transportation requirements on registrants, and applicants for registration, of pesticides. Pesticide use is regulated through requirements to apply pesticides in a manner consistent with the label. The labeling requirement includes directions for use, warnings, and cautions, along with the uses for which the pesticide is registered (i.e., pests and appropriate applications). Labeling requirements also include specific conditions for the application, mixture, storage, and time period for re-entry to fields following pesticide application, and when crops may be harvested after applications. If a pesticide is used in a manner contrary to its labeling, the use constitutes a violation of the FIFRA.

State

“Hazardous material” is defined in CCR, Title 22, Division 4.5, Chapter 10, Article 2, Section 66260.10, as “[Any] material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. ‘Hazardous materials’ include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.”

3.12.1.2 Environmental Setting

2017 Phase I Environmental Site Assessment

Hazardous materials are products or substances that, due to their characteristics or concentrations, could adversely impact public safety or environmental health. A site visit to the proposed project site (i.e., “subject property”) was conducted in November 2017. Although no buildings or ancillary structures were identified on site, small trash piles were observed deposited randomly along the driving paths, as well as into the hilly areas. Observed trash consisted mostly of household furnishings, electronics and appliances, toys and clothing, and cardboard. Small Quantities of automotive (tires) and medical drug-related trash were also observed (Appendix B).

A Phase I Environmental Site Assessment (ESA) for the subject property was conducted by Geocon in November 2017 in accordance with the requirements of 40 Code of Federal Regulations (CFR) Part 312 titled *Standards and Practices for all Appropriate Inquiries*, as required under Sections 101(35)(B)(ii) and (iii) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as well as ASTM Designation E 1527-13 ESAs. The Phase I ESA is included as Appendix B of this EA. The purpose of the Phase I ESA was to identify any environmental conditions or hazards present on the subject property that could adversely impact human health or the environment as a result of the Proposed Action. Because the subject property is vacant land, no recognized environmental conditions or controlled recognized environmental conditions were observed on site. Utility boxes and posts were observed within the area fronting Anza Road but did not appear to extend further into the Site. Utilities noted included overhead electrical power lines and utility boxes, cable and telecom installations, fire hydrants, recycled water lines, and other RCWD water standpipes (Appendix B). The subject property was reviewed for historical RECs (HRECs) by reviewing historical aerial photographs, historical topographic maps, and city directories provided by Environmental Data Resources, Inc. (EDR). No site or vicinity conditions were observed in the aerial or topographical photos that would suggest the presences of RECs on the subject property or adjoining properties. The EDR city directory report indicated no listings for the subject property (Appendix B). The Tribe provided a previous Phase I ESA completed by EcoTech, Inc., in 2005 for the Redhawk Valley Project, though the parcel numbers used in the 2005 report have since changed. Results of the Phase I ESA from 2005 similarly did not identify any onsite or offsite environmental concerns in connection with the subject property (Appendix B).

3.12.2 Proposed Action

Adverse impacts to human health or the environment from the release or storage of hazardous materials would primarily occur during the construction phase. Incidents related to the release of hazardous materials that could potentially occur include the incidental release of fuels, oils, and grease from construction equipment, as well as the accidental release of hazardous-material-containing substances during their transport. Adoption of construction BMPs, such as diesel emissions reduction strategies outlined by USEPA, reduce the chance for accidental release of hazardous materials. Stormwater management BMPs, in accordance with a SWPPP for the site, would also be implemented to prevent or reduce stormwater contamination, control sedimentation and erosion, and comply with the requirements of the CWA in the event of a storm. Although hazardous materials were not identified on site during the Phase I ESA (Appendix B), adoption of construction and stormwater BMPs is necessary to minimize or eliminate adverse impacts from potentially undiscovered hazardous substances.

Small quantities of hazardous materials would be present on the subject property during the operational phase of the Proposed Action. Hazardous materials could include small quantities of cleaning chemicals, solvents, pesticides, herbicides, fuels, and paints related to ongoing maintenance at the site. Small quantities of these hazardous materials are commonly observed on most residential properties and would not pose a threat to public health or the environment. Therefore, with proper handling and storage of hazardous materials, implementation of the Proposed Action would not result in significant adverse impacts.

3.12.3 No Action Alternative

Under the No Action Alternative, the subject property would not be taken into trust by the Pechanga Band of Indians, and development would not occur in the near-term. As a result, no adverse impacts resulting from the generation, use, handling, or storage of hazardous materials would occur on the subject property from this alternative.

3.13 CUMULATIVE IMPACTS AND INDIRECT EFFECTS

3.13.1 Cumulative Setting

Cumulative impacts are defined by the CEQ as effects "on the environment which result from the incremental effect of the action when added to other past, present, and reasonably foreseeable future actions" (40 CFR Section 1508.7). The City's website was reviewed to identify future projects that may overlap with the Proposed Action. General urban development, including housing projects, flood control structures, and various specific plans, are anticipated to continue within the City of Temecula and Riverside County. However, none of

these projects are located in the vicinity of the proposed project site. When contacted, the Tribe did not identify any potential future projects that could overlap with the Proposed Action. Therefore, no reasonably foreseeable future actions would directly overlap with the Proposed Project Alternative.

3.13.2 Cumulative Impacts

As discussed throughout Section 3, with implementation of the BMPs listed in Section 2.2.3 and the mitigation measures in Section 4.0, the Proposed Action would not result in significant short- or long-term direct adverse environmental impacts. General development would result in an increase in traffic and air quality impacts. However, when combined with the minimal impacts associated with the Proposed Action, impacts would not constitute significant adverse cumulative effect. In addition, it is anticipated that any future actions would implement similar BMPs or mitigation measures to reduce potentially significant impacts associated with air quality, land and water resources, biological resources, cultural resources, noise, transportation, and public services and utilities. Cumulative effects from continued urban development would need be analyzed and the impacts incorporated into the effects analysis of the Proposed Action and other projects. The Proposed Action, being an infill project, would comply and be consistent with existing zoning and land uses and would have beneficial impacts to the local and tribal economies.

3.13.3 No Action Alternative

Under the No Action Alternative the Proposed Action would not take place and the fee to trust transfer would not take place and there would be no development. Therefore, under cumulative conditions, the No Action Alternative would likely result in no cumulative effects associated with air quality, land and water resources, biological resources, cultural resources, noise, transportation, and public services and utilities as described above for the development alternatives.

3.13.4 Indirect Effects

According to CEQ regulations, indirect effects are removed in time or in distance from a project but are caused by the project and are reasonably foreseeable. These include growth-inducing effects, as well as changes in land use, population density, and related effects on natural systems (40 CFR Section 1508.8).

Growth-Inducing Effects

Construction and operation of the Proposed Action would not in itself induce growth. The number of new employees requiring new facilities and services (including schools and recreational sites) would not be high enough to warrant the need to construct new schools or other public facilities (refer to Section 3.9, Public Services and Utilities). Current public facilities and utilities would have capacity to provide services to new employees that have moved to the area as a result of the Proposed Action.

The Proposed Action's contribution to the planned development for the Tribe does not have the potential to significantly induce economic growth within the City and County as it is only planned for 112 units. This output would be generated from direct, indirect, and induced economic activity. Indirect and induced output could stimulate further commercial growth; however, such demand would be diffused and distributed among a variety of different sectors and businesses in the City and County. As such, significant regional commercial growth-inducing impacts would not be anticipated to occur under the Proposed Action. Furthermore, if the Proposed Action were not approved, similar levels of economic growth in the area would still be likely to occur in the future. Development throughout the City and County is subject to their General Plan policies and environmental review requirements pursuant to the California Environmental Quality Act.

SECTION 4.0

MITIGATION MEASURES

NEPA requires that, if a project would have significant adverse effects on the environment, mitigation for those impacts must be identified. Mitigation consists of the following (40 CFR 1508.20):

a. Avoiding the impact altogether by not taking a certain action or parts of an action.
b. Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
c. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
d. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
e. Compensating for the impact by replacing or providing substitute resources or environments.

Mitigation measures to be implemented during construction and operation of the Proposed Action are summarized in Table 4-1. All mitigation is enforceable because it is inherent to the project design and/or required through provisions of federal or state statute.

Table 4-1
Proposed Mitigation Measures for the Proposed Action

Resource Area	Proposed Mitigation
Biological Resources	**MM-BIO-1**:
	MM-BIO-2: Vegetation removal shall be conducted during the non-nesting season for migratory birds to avoid direct impacts. A qualified biologist shall conduct a pre-construction nesting bird survey within 3 days prior to vegetation- or ground-disturbing activities if such activities are proposed during the nesting season (February 1 through September 15). The survey shall include 100% coverage of the proposed project site. If no active avian nests are found during the survey, no further work in this regard is required. If an active avian nest is discovered during the survey, they shall be flagged and a 200-foot buffer shall be fenced around the nest. A biological monitor shall visit the site once a week during ground-disturbing activities to ensure that all fencing is in place and no sensitive species are being impacted. If such activities are delayed or suspended for more than 7 days after the survey, the site shall be resurveyed. Should eggs or fledglings be discovered in any nest, these resources shall not be disturbed until the young have hatched and fledged (matured to a stage that they can leave the nest on their own). Once the qualified biologist has determined that young birds have successfully fledged or the nest has otherwise become inactive, a monitoring report shall be prepared and submitted to the Pechanga Band of Indians (Tribe) for review and approval prior to reinitiating vegetation- and/or ground-disturbing activities within the buffer area. The monitoring report shall summarize the results of the nest monitoring, described construction restrictions currently in place, and confirm that construction activities can proceed within the buffer area without jeopardizing the survival of the young birds. This measure shall be implemented to the satisfaction of the Tribe.
Cultural Resources	**MM-CUL-1**: A Pechanga tribal Monitor(s) and an archaeologist from the Pechanga tribal Historic Preservation Office shall monitor ground-disturbing activities associated with any future development project(s). The tribal Monitor and archaeologist shall have authority to stop and redirect grading in the immediate area of a find to evaluate the find and determine the appropriate next steps. The evaluation shall include culturally appropriate temporary and permanent treatment, which may include avoidance of cultural and archeological finds; in-place preservation; or reburial on the property in an area not subject to future disturbance for preservation in perpetuity with agreement of the landowner.
	MM-CUL-2: In the event that Native American cultural resources are discovered during ground-disturbing activities, all work within 50 feet of the find(s) shall cease and the tribal Historic Preservation Officer and a qualified archaeologist from the Pechanga Cultural

Table 4-1
Proposed Mitigation Measures for the Proposed Action

Resource Area	Proposed Mitigation
	Resources Department shall be immediately contacted to assess the find(s). Work outside the immediate vicinity of the find may continue during this assessment period.
	MM-CUL-3: If human remains are encountered during ground-disturbing activities, the Native American Graves Protection and Repatriation Act (NAGPRA) shall apply. All work within 50 feet of the find(s) shall cease and all reasonable efforts shall be made to protect the human remains and any other cultural items from further impact. The responsible tribal official must be notified immediately and the applicable provisions of NAGPRA shall be followed.
	MM-CUL-4: Per tribal Custom and Tradition, oak trees and elderberry trees should not be cut down. If they cannot be avoided through project design, they shall be side-boxed, relocated, and preserved in an appropriate open space in perpetuity.
Transportation	**MM-TRAN-1:** If the development is built with 112 units as proposed, the applicant would pay its fair-share towards re-striping the southbound approach of the Butterfield Stage Road/ SR-79-Temecula Parkway intersection to add a second southbound left turn lane. The intersection includes a second southbound left-turn lane; however, the lane is currently striped off and not in operation. Please note that this improvement was included in the intersection geometrics proposed for the Butterfield Stage Road/SR-79-Temecula Parkway intersection in the City's General Plan Update Circulation Element Traffic Study (City of Temecula 2004).

SECTION 5.0

CONSULTATION AND COORDINATION

Agencies, Organizations, and Individuals Consulted

California Department of Conservation

Summary of Consultation and Coordination:

The Department of Conservation was consulted for their Preliminary Geologic Map of the Murrieta 7.5-Minute Quadrangle, Riverside County, California; Earthquake Zones of Required Investigation; Quaternary Surficial Geology of Southern California; 2018 Data Viewer; The Alquist-Priolo Earthquake Fault Zoning Act; and Seismic Hazards Mapping Act.

California Department of Fish and Wildlife

Summary of Consultation and Coordination:

CDFW was consulted for a List of Vegetation Alliances and Associations.

California Department of Resources Recycling and Recovery

Summary of Consultation and Coordination:

CalRecycle was consulted for information on El Sobrante Landfill and Badlands Sanitary Landfill.

California Department of Transportation

Summary of Consultation and Coordination:

Caltrans was consulted for its California State Scenic Highway System Map.

California Department of Water Resources

Summary of Consultation and Coordination:

The Department of Water Resources was consulted for the Temecula Valley Groundwater Basin Bulletin 118, Sustainable Groundwater Management Act (SGMA) 2019 Basin Prioritization Frequently Asked Questions, and SGMA Basin Prioritization Dashboard.

California Native Plant Society

Summary of Consultation and Coordination:

The California Native Plant Society was consulted for a list of rare and endangered plants.

City of Temecula

Summary of Consultation and Coordination:

The City of Temecula was consulted for information regarding the General Plan, Zoning Map, and Municipal Code, as well as information regarding existing public services, including law enforcement, fire protection, parks, utilities, and solid waste. (Western Riverside County MSHCP)

County of Riverside

Summary of Consultation and Coordination:

The County of Riverside was consulted for its Fiscal Year 2021/2022 Recommended Budget State Schedules.

County of Riverside Treasurer

Summary of Consultation and Coordination:

The Riverside County Treasurer was consulted for its Annual Secured Property Tax Bill for Fiscal Year July 1, 2020, through June 30, 2021.

Eastern Municipal Water District

Summary of Consultation and Coordination:

The EMWD was consulted for information on wastewater services, including the Temecula Valley Regional Water Reclamation Facility, and the 2020 Urban Water Management Plan.

Federal Emergency Management Agency (FEMA)

Summary of Consultation and Coordination:

FEMA was consulted for the Guidelines for Implementing Executive Order 11988, Floodplain Management, and Executive Order 13690, Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input; and the FEMA Flood Map Service Center, Map 06065C3305G.

Native American Heritage Commission:

Summary of Consultation and Coordination:

The Native American Heritage Commission was contacted for a list of additional tribes in the vicinity of the proposed project site.

Rancho California Water District

Summary of Consultation and Coordination:

The RCWD was consulted for its Water Facilities Master Plan, Urban Water Management Plan, and Sewer Facilities Master Plan.

Southern California Association of Governments

Summary of Consultation and Coordination:

The Southern California Association of Governments was consulted for its Table II-A Derivation of Square Feet per Employee Based on: Median Employees per Acre, per Median Far.

State Water Resources Control Board

Summary of Consultation and Coordination:

The SWRCB was consulted for its Regional Water Quality Board Directory.

University of California Davis

Summary of Consultation and Coordination:

The University of California Davis was consulted for the California Water Indicators Portal (CWIP) – Department of Environmental Science and Policy, Lower Temecula Creek.

U.S. Census Bureau

Summary of Consultation and Coordination:

The U.S. Census Bureau was consulted for its American Community Survey, My Tribal Area Census data, and Riverside County and Temecula City Census data.

U.S. Department of Agriculture

Summary of Consultation and Coordination:

USDA was consulted for its Archaeological Resources Protection document.

U.S. Department of the Interior, Bureau of Indian Affairs (BIA), Pacific Regional Office

Summary of Consultation and Coordination:

The BIA was consulted regarding the scope and content of this EA.

U.S. Fish and Wildlife Service

Summary of Consultation and Coordination:

USFWS was consulted for the list of threatened and endangered species inquiry (IPaC), National Hydrography Dataset, and National Wetland Inventory.

U.S. Geological Survey

Summary of Consultation and Coordination:

USGS was consulted for A Tapestry of Time and Terrain pamphlet.

SECTION 6.0

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SECTION 7.0

PREPARERS

Dudek

Name	Participation
Jonathan Rigg	Project Manager
Michelle Ogburn	Deputy Project Manager/Environmental Planner
Kristin Arakawa	Environmental Analyst
Matthew Morales	Air Quality Specialist
Kimberly Narel	Biologist
Tommy Moolio	Senior Biologist
Michael Greene	Noise Specialist
Sabita Tewani	Transportation Planner
Andrew Greis	GIS Specialist
Anne McDonnell	Technical Editor
Chelsea Ringenback	Publications Specialist

Pechanga Band of Indians

Name	Participation
Kelcey Stricker	Environmental Director
Lindsey Dollman	Senior Associate General Counsel

Bureau of Indian Affairs

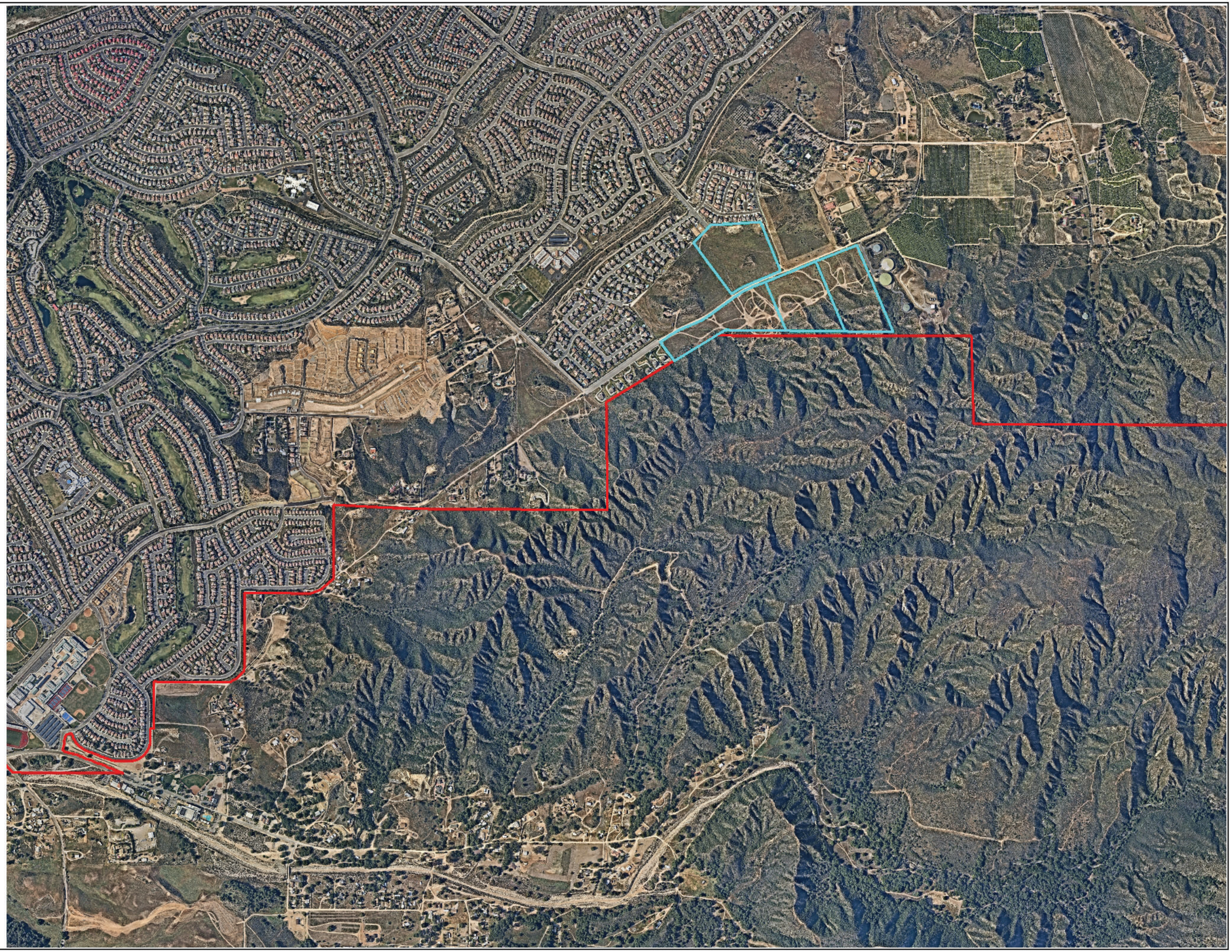
Name	Participation
Chad Broussard	Environmental Protection Specialist
Dan Hall	Regional Archeologist

Pechanga Tribal Government

Pechanga Indian Reservation

Northern Boundary Parcels

- APN - 966-380-006
- APN - 966-380-007
- APN - 966-380-008
- APN - 966-380-009
- Pechanga Reservation

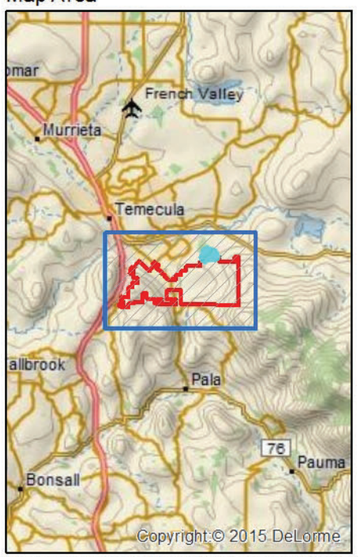


N

0 1,300 2,600 Feet

1 inch = 1,300 feet

Map Area



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\2018\LGL 0201 NB Reservation

LANDSCAPE/SLOPE

LANDSCAPE/SLOPE

44'
20'
128'
93'
50'
100'
120'
150'
135'
160'

OPEN SPACE

OPEN SPACE

OPEN SPACE

OPEN SPACE

POTENTIAL CUSTOM LOTS

EXISTING RESERVATION

50'
20'
44'
115'
133'
165'

SHEET OF

ANDERSON CONSULTING ENGINEERS, INC.

NORTHERN BOUNDARY

CONCEPTUAL LAYOUT 4
112 UNITS – 10,000 & 20,000 SF

APPENDICES

APPENDIX A

AIR QUALITY AND GREENHOUSE GAS MEMORANDUM

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Pechanga Northern Properties Fee to Trust Project

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	200.00	Dwelling Unit	81.00	360,000.00	572

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2034
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Up to 200 single family homes on 81-acres

Construction Phase - Default duration

Off-road Equipment - Default

Trips and VMT -

Vehicle Trips - Adjusted trip rates based on project-specific traffic trip generation

Woodstoves - Default

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	PhaseEndDate	2/24/2034	10/7/2033
tblConstructionPhase	PhaseEndDate	4/22/2033	12/3/2032
tblConstructionPhase	PhaseEndDate	5/14/2027	12/25/2026

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstructionPhase	PhaseEndDate	9/23/2033	5/6/2033
tblConstructionPhase	PhaseEndDate	10/9/2026	5/22/2026
tblConstructionPhase	PhaseStartDate	9/24/2033	5/7/2033
tblConstructionPhase	PhaseStartDate	5/15/2027	12/26/2026
tblConstructionPhase	PhaseStartDate	10/10/2026	5/23/2026
tblConstructionPhase	PhaseStartDate	4/23/2033	12/4/2032
tblConstructionPhase	PhaseStartDate	7/18/2026	3/1/2026
tblLandUse	LotAcreage	64.94	81.00
tblVehicleTrips	ST_TR	9.54	9.53
tblVehicleTrips	SU_TR	8.55	8.54
tblVehicleTrips	WD_TR	9.44	9.43

2.0 Emissions Summary

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2026	0.3078	2.9528	2.6678	6.2000e-003	1.3278	0.1214	1.4492	0.5928	0.1117	0.7046	0.0000	545.0583	545.0583	0.1705	5.0000e-004	549.4716
2027	0.2048	1.7334	2.3614	4.7200e-003	0.1206	0.0700	0.1906	0.0324	0.0659	0.0983	0.0000	414.7278	414.7278	0.0730	7.9100e-003	418.9109
2028	0.2027	1.7248	2.3407	4.6700e-003	0.1201	0.0697	0.1898	0.0323	0.0656	0.0979	0.0000	410.5217	410.5217	0.0726	7.6800e-003	414.6250
2029	0.2022	1.7297	2.3395	4.6600e-003	0.1206	0.0700	0.1905	0.0324	0.0658	0.0982	0.0000	409.7295	409.7295	0.0728	7.5200e-003	413.7908
2030	0.1934	1.1364	2.3402	5.1600e-003	0.1206	0.0204	0.1410	0.0324	0.0204	0.0528	0.0000	447.9699	447.9699	0.0154	7.3500e-003	450.5443
2031	0.1923	1.1356	2.3346	5.1400e-003	0.1206	0.0204	0.1410	0.0324	0.0203	0.0527	0.0000	446.1468	446.1468	0.0153	7.1900e-003	448.6736
2032	0.1915	1.1232	2.3200	5.0400e-003	0.1135	0.0222	0.1356	0.0305	0.0221	0.0526	0.0000	437.2012	437.2012	0.0153	6.5700e-003	439.5416
2033	1.1984	0.3690	0.8395	1.5300e-003	0.0159	0.0160	0.0319	4.2200e-003	0.0160	0.0203	0.0000	131.8913	131.8913	5.7800e-003	2.0000e-004	132.0955
Maximum	**1.1984**	**2.9528**	**2.6678**	**6.2000e-003**	**1.3278**	**0.1214**	**1.4492**	**0.5928**	**0.1117**	**0.7046**	**0.0000**	**545.0583**	**545.0583**	**0.1705**	**7.9100e-003**	**549.4716**

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2026	0.3078	2.9528	2.6678	6.2000e-003	1.3278	0.1214	1.4492	0.5928	0.1117	0.7046	0.0000	545.0577	545.0577	0.1705	5.0000e-004	549.4709
2027	0.2048	1.7334	2.3614	4.7200e-003	0.1206	0.0700	0.1906	0.0324	0.0659	0.0983	0.0000	414.7275	414.7275	0.0730	7.9100e-003	418.9105
2028	0.2027	1.7248	2.3407	4.6700e-003	0.1201	0.0697	0.1898	0.0323	0.0656	0.0979	0.0000	410.5213	410.5213	0.0726	7.6800e-003	414.6247
2029	0.2022	1.7297	2.3395	4.6600e-003	0.1206	0.0700	0.1905	0.0324	0.0658	0.0982	0.0000	409.7291	409.7291	0.0728	7.5200e-003	413.7904
2030	0.1934	1.1364	2.3402	5.1600e-003	0.1206	0.0204	0.1410	0.0324	0.0204	0.0528	0.0000	447.9695	447.9695	0.0154	7.3500e-003	450.5439
2031	0.1923	1.1356	2.3346	5.1400e-003	0.1206	0.0204	0.1410	0.0324	0.0203	0.0527	0.0000	446.1464	446.1464	0.0153	7.1900e-003	448.6732
2032	0.1915	1.1232	2.3200	5.0400e-003	0.1135	0.0222	0.1356	0.0305	0.0221	0.0526	0.0000	437.2008	437.2008	0.0153	6.5700e-003	439.5412
2033	1.1984	0.3690	0.8395	1.5300e-003	0.0159	0.0160	0.0319	4.2200e-003	0.0160	0.0203	0.0000	131.8912	131.8912	5.7800e-003	2.0000e-004	132.0954
Maximum	**1.1984**	**2.9528**	**2.6678**	**6.2000e-003**	**1.3278**	**0.1214**	**1.4492**	**0.5928**	**0.1117**	**0.7046**	**0.0000**	**545.0577**	**545.0577**	**0.1705**	**7.9100e-003**	**549.4709**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-1-2026**	**5-31-2026**	0.9232	0.9232
2	**6-1-2026**	**8-31-2026**	1.0165	1.0165
3	**9-1-2026**	**11-30-2026**	1.0054	1.0054

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	**12-1-2026**	**2-28-2027**	0.6214	0.6214
5	**3-1-2027**	**5-31-2027**	0.4878	0.4878
6	**6-1-2027**	**8-31-2027**	0.4875	0.4875
7	**9-1-2027**	**11-30-2027**	0.4829	0.4829
8	**12-1-2027**	**2-29-2028**	0.4827	0.4827
9	**3-1-2028**	**5-31-2028**	0.4870	0.4870
10	**6-1-2028**	**8-31-2028**	0.4866	0.4866
11	**9-1-2028**	**11-30-2028**	0.4820	0.4820
12	**12-1-2028**	**2-28-2029**	0.4766	0.4766
13	**3-1-2029**	**5-31-2029**	0.4862	0.4862
14	**6-1-2029**	**8-31-2029**	0.4858	0.4858
15	**9-1-2029**	**11-30-2029**	0.4813	0.4813
16	**12-1-2029**	**2-28-2030**	0.3791	0.3791
17	**3-1-2030**	**5-31-2030**	0.3346	0.3346
18	**6-1-2030**	**8-31-2030**	0.3342	0.3342
19	**9-1-2030**	**11-30-2030**	0.3313	0.3313
20	**12-1-2030**	**2-28-2031**	0.3277	0.3277
21	**3-1-2031**	**5-31-2031**	0.3341	0.3341
22	**6-1-2031**	**8-31-2031**	0.3337	0.3337
23	**9-1-2031**	**11-30-2031**	0.3308	0.3308
24	**12-1-2031**	**2-29-2032**	0.3308	0.3308
25	**3-1-2032**	**5-31-2032**	0.3335	0.3335
26	**6-1-2032**	**8-31-2032**	0.3331	0.3331
27	**9-1-2032**	**11-30-2032**	0.3303	0.3303
28	**12-1-2032**	**2-28-2033**	0.2765	0.2765
29	**3-1-2033**	**5-31-2033**	0.3966	0.3966
30	**6-1-2033**	**8-31-2033**	0.7066	0.7066
31	**9-1-2033**	**9-30-2033**	0.2304	0.2304
		Highest	1.0165	1.0165

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.1301	0.0756	3.3285	3.3500e-003		0.2024	0.2024		0.2024	0.2024	21.2438	44.1924	65.4362	0.0666	1.4400e-003	67.5300
Energy	0.0305	0.2607	0.1109	1.6600e-003		0.0211	0.0211		0.0211	0.0211	0.0000	584.3992	584.3992	0.0296	8.4200e-003	587.6506
Mobile	0.6607	0.9155	7.0622	0.0177	2.4047	0.0114	2.4161	0.6419	0.0107	0.6526	0.0000	1,636.6068	1,636.6068	0.0797	0.0774	1,661.6626
Waste						0.0000	0.0000		0.0000	0.0000	47.6054	0.0000	47.6054	2.8134	0.0000	117.9405
Water						0.0000	0.0000		0.0000	0.0000	4.1341	46.2772	50.4113	0.4285	0.0105	64.2529
Total	**2.8213**	**1.2518**	**10.5016**	**0.0227**	**2.4047**	**0.2349**	**2.6396**	**0.6419**	**0.2342**	**0.8761**	**72.9833**	**2,311.4755**	**2,384.4589**	**3.4178**	**0.0978**	**2,499.0365**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.1301	0.0756	3.3285	3.3500e-003		0.2024	0.2024		0.2024	0.2024	21.2438	44.1924	65.4362	0.0666	1.4400e-003	67.5300
Energy	0.0305	0.2607	0.1109	1.6600e-003		0.0211	0.0211		0.0211	0.0211	0.0000	584.3992	584.3992	0.0296	8.4200e-003	587.6506
Mobile	0.6607	0.9155	7.0622	0.0177	2.4047	0.0114	2.4161	0.6419	0.0107	0.6526	0.0000	1,636.6068	1,636.6068	0.0797	0.0774	1,661.6626
Waste						0.0000	0.0000		0.0000	0.0000	47.6054	0.0000	47.6054	2.8134	0.0000	117.9405
Water						0.0000	0.0000		0.0000	0.0000	4.1341	46.2772	50.4113	0.4285	0.0105	64.2529
Total	**2.8213**	**1.2518**	**10.5016**	**0.0227**	**2.4047**	**0.2349**	**2.6396**	**0.6419**	**0.2342**	**0.8761**	**72.9833**	**2,311.4755**	**2,384.4589**	**3.4178**	**0.0978**	**2,499.0365**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	3/1/2026	5/22/2026	5	60	
2	Grading	Grading	5/23/2026	12/25/2026	5	155	
3	Building Construction	Building Construction	12/26/2026	12/3/2032	5	1550	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Paving	Paving	12/4/2032	5/6/2033	5	110	
5	Architectural Coating	Architectural Coating	5/7/2033	10/7/2033	5	110	

Acres of Grading (Site Preparation Phase): 90

Acres of Grading (Grading Phase): 465

Acres of Paving: 0

Residential Indoor: 729,000; Residential Outdoor: 243,000; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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

Trips and VMT

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	72.00	21.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	14.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5897	0.0000	0.5897	0.3031	0.0000	0.3031	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0742	0.7570	0.5374	1.1400e-003		0.0326	0.0326		0.0300	0.0300	0.0000	100.4010	100.4010	0.0325	0.0000	101.2128
Total	**0.0742**	**0.7570**	**0.5374**	**1.1400e-003**	**0.5897**	**0.0326**	**0.6223**	**0.3031**	**0.0300**	**0.3331**	**0.0000**	**100.4010**	**100.4010**	**0.0325**	**0.0000**	**101.2128**

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4400e-003	9.4000e-004	0.0138	4.0000e-005	5.9400e-003	2.0000e-005	5.9600e-003	1.5800e-003	2.0000e-005	1.6000e-003	0.0000	4.0910	4.0910	8.0000e-005	1.0000e-004	4.1222
Total	**1.4400e-003**	**9.4000e-004**	**0.0138**	**4.0000e-005**	**5.9400e-003**	**2.0000e-005**	**5.9600e-003**	**1.5800e-003**	**2.0000e-005**	**1.6000e-003**	**0.0000**	**4.0910**	**4.0910**	**8.0000e-005**	**1.0000e-004**	**4.1222**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5897	0.0000	0.5897	0.3031	0.0000	0.3031	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0742	0.7570	0.5374	1.1400e-003		0.0326	0.0326		0.0300	0.0300	0.0000	100.4008	100.4008	0.0325	0.0000	101.2126
Total	**0.0742**	**0.7570**	**0.5374**	**1.1400e-003**	**0.5897**	**0.0326**	**0.6223**	**0.3031**	**0.0300**	**0.3331**	**0.0000**	**100.4008**	**100.4008**	**0.0325**	**0.0000**	**101.2126**

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4400e-003	9.4000e-004	0.0138	4.0000e-005	5.9400e-003	2.0000e-005	5.9600e-003	1.5800e-003	2.0000e-005	1.6000e-003	0.0000	4.0910	4.0910	8.0000e-005	1.0000e-004	4.1222
Total	**1.4400e-003**	**9.4000e-004**	**0.0138**	**4.0000e-005**	**5.9400e-003**	**2.0000e-005**	**5.9600e-003**	**1.5800e-003**	**2.0000e-005**	**1.6000e-003**	**0.0000**	**4.0910**	**4.0910**	**8.0000e-005**	**1.0000e-004**	**4.1222**

3.3 Grading - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.7133	0.0000	0.7133	0.2832	0.0000	0.2832	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2249	2.1656	2.0407	4.8100e-003		0.0876	0.0876		0.0806	0.0806	0.0000	422.4232	422.4232	0.1366	0.0000	425.8387
Total	**0.2249**	**2.1656**	**2.0407**	**4.8100e-003**	**0.7133**	**0.0876**	**0.8009**	**0.2832**	**0.0806**	**0.3638**	**0.0000**	**422.4232**	**422.4232**	**0.1366**	**0.0000**	**425.8387**

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1300e-003	2.6900e-003	0.0396	1.3000e-004	0.0170	7.0000e-005	0.0171	4.5200e-003	6.0000e-005	4.5900e-003	0.0000	11.7428	11.7428	2.4000e-004	2.8000e-004	11.8324
Total	**4.1300e-003**	**2.6900e-003**	**0.0396**	**1.3000e-004**	**0.0170**	**7.0000e-005**	**0.0171**	**4.5200e-003**	**6.0000e-005**	**4.5900e-003**	**0.0000**	**11.7428**	**11.7428**	**2.4000e-004**	**2.8000e-004**	**11.8324**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.7133	0.0000	0.7133	0.2832	0.0000	0.2832	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2249	2.1656	2.0407	4.8100e-003		0.0876	0.0876		0.0806	0.0806	0.0000	422.4226	422.4226	0.1366	0.0000	425.8381
Total	**0.2249**	**2.1656**	**2.0407**	**4.8100e-003**	**0.7133**	**0.0876**	**0.8009**	**0.2832**	**0.0806**	**0.3638**	**0.0000**	**422.4226**	**422.4226**	**0.1366**	**0.0000**	**425.8381**

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1300e-003	2.6900e-003	0.0396	1.3000e-004	0.0170	7.0000e-005	0.0171	4.5200e-003	6.0000e-005	4.5900e-003	0.0000	11.7428	11.7428	2.4000e-004	2.8000e-004	11.8324
Total	**4.1300e-003**	**2.6900e-003**	**0.0396**	**1.3000e-004**	**0.0170**	**7.0000e-005**	**0.0171**	**4.5200e-003**	**6.0000e-005**	**4.5900e-003**	**0.0000**	**11.7428**	**11.7428**	**2.4000e-004**	**2.8000e-004**	**11.8324**

3.4 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.7300e-003	0.0249	0.0322	5.0000e-005		1.0600e-003	1.0600e-003		9.9000e-004	9.9000e-004	0.0000	4.6384	4.6384	1.0900e-003	0.0000	4.6657
Total	**2.7300e-003**	**0.0249**	**0.0322**	**5.0000e-005**		**1.0600e-003**	**1.0600e-003**		**9.9000e-004**	**9.9000e-004**	**0.0000**	**4.6384**	**4.6384**	**1.0900e-003**	**0.0000**	**4.6657**

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.4100e-003	5.6000e-004	1.0000e-005	2.7000e-004	1.0000e-005	2.8000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	0.6711	0.6711	1.0000e-005	1.0000e-004	0.7007
Worker	3.8000e-004	2.5000e-004	3.6800e-003	1.0000e-005	1.5800e-003	1.0000e-005	1.5900e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.0909	1.0909	2.0000e-005	3.0000e-005	1.0993
Total	**4.2000e-004**	**1.6600e-003**	**4.2400e-003**	**2.0000e-005**	**1.8500e-003**	**2.0000e-005**	**1.8700e-003**	**5.0000e-004**	**2.0000e-005**	**5.2000e-004**	**0.0000**	**1.7620**	**1.7620**	**3.0000e-005**	**1.3000e-004**	**1.7999**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.7300e-003	0.0249	0.0322	5.0000e-005		1.0600e-003	1.0600e-003		9.9000e-004	9.9000e-004	0.0000	4.6384	4.6384	1.0900e-003	0.0000	4.6656
Total	**2.7300e-003**	**0.0249**	**0.0322**	**5.0000e-005**		**1.0600e-003**	**1.0600e-003**		**9.9000e-004**	**9.9000e-004**	**0.0000**	**4.6384**	**4.6384**	**1.0900e-003**	**0.0000**	**4.6656**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.4100e-003	5.6000e-004	1.0000e-005	2.7000e-004	1.0000e-005	2.8000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	0.6711	0.6711	1.0000e-005	1.0000e-004	0.7007
Worker	3.8000e-004	2.5000e-004	3.6800e-003	1.0000e-005	1.5800e-003	1.0000e-005	1.5900e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.0909	1.0909	2.0000e-005	3.0000e-005	1.0993
Total	**4.2000e-004**	**1.6600e-003**	**4.2400e-003**	**2.0000e-005**	**1.8500e-003**	**2.0000e-005**	**1.8700e-003**	**5.0000e-004**	**2.0000e-005**	**5.2000e-004**	**0.0000**	**1.7620**	**1.7620**	**3.0000e-005**	**1.3000e-004**	**1.7999**

3.4 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.8200e-003	0.0913	0.0360	4.5000e-004	0.0173	7.7000e-004	0.0181	4.9900e-003	7.4000e-004	5.7300e-003	0.0000	42.9342	42.9342	5.3000e-004	6.3000e-003	44.8258
Worker	0.0236	0.0148	0.2263	7.5000e-004	0.1033	3.9000e-004	0.1037	0.0274	3.6000e-004	0.0278	0.0000	69.1388	69.1388	1.3300e-003	1.6100e-003	69.6516
Total	**0.0264**	**0.1062**	**0.2623**	**1.2000e-003**	**0.1206**	**1.1600e-003**	**0.1218**	**0.0324**	**1.1000e-003**	**0.0335**	**0.0000**	**112.0729**	**112.0729**	**1.8600e-003**	**7.9100e-003**	**114.4774**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.8200e-003	0.0913	0.0360	4.5000e-004	0.0173	7.7000e-004	0.0181	4.9900e-003	7.4000e-004	5.7300e-003	0.0000	42.9342	42.9342	5.3000e-004	6.3000e-003	44.8258
Worker	0.0236	0.0148	0.2263	7.5000e-004	0.1033	3.9000e-004	0.1037	0.0274	3.6000e-004	0.0278	0.0000	69.1388	69.1388	1.3300e-003	1.6100e-003	69.6516
Total	**0.0264**	**0.1062**	**0.2623**	**1.2000e-003**	**0.1206**	**1.1600e-003**	**0.1218**	**0.0324**	**1.1000e-003**	**0.0335**	**0.0000**	**112.0729**	**112.0729**	**1.8600e-003**	**7.9100e-003**	**114.4774**

3.4 Building Construction - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4953	301.4953	0.0709	0.0000	303.2671
Total	**0.1778**	**1.6211**	**2.0910**	**3.5000e-003**		**0.0686**	**0.0686**		**0.0645**	**0.0645**	**0.0000**	**301.4953**	**301.4953**	**0.0709**	**0.0000**	**303.2671**

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7900e-003	0.0902	0.0356	4.4000e-004	0.0173	7.6000e-004	0.0180	4.9800e-003	7.3000e-004	5.7000e-003	0.0000	41.9535	41.9535	5.5000e-004	6.1500e-003	43.7991
Worker	0.0222	0.0136	0.2140	7.3000e-004	0.1029	3.7000e-004	0.1033	0.0273	3.4000e-004	0.0277	0.0000	67.0730	67.0730	1.2200e-003	1.5300e-003	67.5588
Total	**0.0250**	**0.1038**	**0.2497**	**1.1700e-003**	**0.1201**	**1.1300e-003**	**0.1213**	**0.0323**	**1.0700e-003**	**0.0334**	**0.0000**	**109.0264**	**109.0264**	**1.7700e-003**	**7.6800e-003**	**111.3579**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4949	301.4949	0.0709	0.0000	303.2667
Total	**0.1778**	**1.6211**	**2.0910**	**3.5000e-003**		**0.0686**	**0.0686**		**0.0645**	**0.0645**	**0.0000**	**301.4949**	**301.4949**	**0.0709**	**0.0000**	**303.2667**

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7900e-003	0.0902	0.0356	4.4000e-004	0.0173	7.6000e-004	0.0180	4.9800e-003	7.3000e-004	5.7000e-003	0.0000	41.9535	41.9535	5.5000e-004	6.1500e-003	43.7991
Worker	0.0222	0.0136	0.2140	7.3000e-004	0.1029	3.7000e-004	0.1033	0.0273	3.4000e-004	0.0277	0.0000	67.0730	67.0730	1.2200e-003	1.5300e-003	67.5588
Total	**0.0250**	**0.1038**	**0.2497**	**1.1700e-003**	**0.1201**	**1.1300e-003**	**0.1213**	**0.0323**	**1.0700e-003**	**0.0334**	**0.0000**	**109.0264**	**109.0264**	**1.7700e-003**	**7.6800e-003**	**111.3579**

3.4 Building Construction - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2029

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7800e-003	0.0899	0.0356	4.3000e-004	0.0173	7.6000e-004	0.0181	4.9900e-003	7.3000e-004	5.7200e-003	0.0000	41.3435	41.3435	5.7000e-004	6.0500e-003	43.1598
Worker	0.0210	0.0126	0.2048	7.2000e-004	0.1033	3.4000e-004	0.1036	0.0274	3.2000e-004	0.0277	0.0000	65.7311	65.7311	1.1300e-003	1.4700e-003	66.1975
Total	**0.0238**	**0.1025**	**0.2404**	**1.1500e-003**	**0.1206**	**1.1000e-003**	**0.1217**	**0.0324**	**1.0500e-003**	**0.0335**	**0.0000**	**107.0746**	**107.0746**	**1.7000e-003**	**7.5200e-003**	**109.3572**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2029

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7800e-003	0.0899	0.0356	4.3000e-004	0.0173	7.6000e-004	0.0181	4.9900e-003	7.3000e-004	5.7200e-003	0.0000	41.3435	41.3435	5.7000e-004	6.0500e-003	43.1598
Worker	0.0210	0.0126	0.2048	7.2000e-004	0.1033	3.4000e-004	0.1036	0.0274	3.2000e-004	0.0277	0.0000	65.7311	65.7311	1.1300e-003	1.4700e-003	66.1975
Total	**0.0238**	**0.1025**	**0.2404**	**1.1500e-003**	**0.1206**	**1.1000e-003**	**0.1217**	**0.0324**	**1.0500e-003**	**0.0335**	**0.0000**	**107.0746**	**107.0746**	**1.7000e-003**	**7.5200e-003**	**109.3572**

3.4 Building Construction - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0336	343.0336	0.0138	0.0000	343.3777
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0336**	**343.0336**	**0.0138**	**0.0000**	**343.3777**

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2030

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7700e-003	0.0892	0.0355	4.2000e-004	0.0173	7.6000e-004	0.0181	4.9900e-003	7.2000e-004	5.7200e-003	0.0000	40.6178	40.6178	5.8000e-004	5.9300e-003	42.3999
Worker	0.0198	0.0117	0.1962	7.0000e-004	0.1033	3.2000e-004	0.1036	0.0274	2.9000e-004	0.0277	0.0000	64.3184	64.3184	1.0400e-003	1.4200e-003	64.7667
Total	**0.0226**	**0.1009**	**0.2317**	**1.1200e-003**	**0.1206**	**1.0800e-003**	**0.1217**	**0.0324**	**1.0100e-003**	**0.0334**	**0.0000**	**104.9363**	**104.9363**	**1.6200e-003**	**7.3500e-003**	**107.1666**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0332	343.0332	0.0138	0.0000	343.3773
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0332**	**343.0332**	**0.0138**	**0.0000**	**343.3773**

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2030

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7700e-003	0.0892	0.0355	4.2000e-004	0.0173	7.6000e-004	0.0181	4.9900e-003	7.2000e-004	5.7200e-003	0.0000	40.6178	40.6178	5.8000e-004	5.9300e-003	42.3999
Worker	0.0198	0.0117	0.1962	7.0000e-004	0.1033	3.2000e-004	0.1036	0.0274	2.9000e-004	0.0277	0.0000	64.3184	64.3184	1.0400e-003	1.4200e-003	64.7667
Total	**0.0226**	**0.1009**	**0.2317**	**1.1200e-003**	**0.1206**	**1.0800e-003**	**0.1217**	**0.0324**	**1.0100e-003**	**0.0334**	**0.0000**	**104.9363**	**104.9363**	**1.6200e-003**	**7.3500e-003**	**107.1666**

3.4 Building Construction - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0336	343.0336	0.0138	0.0000	343.3777
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0336**	**343.0336**	**0.0138**	**0.0000**	**343.3777**

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2031

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7600e-003	0.0893	0.0355	4.1000e-004	0.0173	7.3000e-004	0.0180	4.9900e-003	7.0000e-004	5.6900e-003	0.0000	39.9201	39.9201	6.0000e-004	5.8200e-003	41.6696
Worker	0.0187	0.0109	0.1906	6.9000e-004	0.1033	3.0000e-004	0.1036	0.0274	2.8000e-004	0.0277	0.0000	63.1931	63.1931	9.7000e-004	1.3700e-003	63.6264
Total	**0.0215**	**0.1002**	**0.2262**	**1.1000e-003**	**0.1206**	**1.0300e-003**	**0.1216**	**0.0324**	**9.8000e-004**	**0.0334**	**0.0000**	**103.1132**	**103.1132**	**1.5700e-003**	**7.1900e-003**	**105.2959**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0332	343.0332	0.0138	0.0000	343.3773
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0332**	**343.0332**	**0.0138**	**0.0000**	**343.3773**

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2031

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7600e-003	0.0893	0.0355	4.1000e-004	0.0173	7.3000e-004	0.0180	4.9900e-003	7.0000e-004	5.6900e-003	0.0000	39.9201	39.9201	6.0000e-004	5.8200e-003	41.6696
Worker	0.0187	0.0109	0.1906	6.9000e-004	0.1033	3.0000e-004	0.1036	0.0274	2.8000e-004	0.0277	0.0000	63.1931	63.1931	9.7000e-004	1.3700e-003	63.6264
Total	**0.0215**	**0.1002**	**0.2262**	**1.1000e-003**	**0.1206**	**1.0300e-003**	**0.1216**	**0.0324**	**9.8000e-004**	**0.0334**	**0.0000**	**103.1132**	**103.1132**	**1.5700e-003**	**7.1900e-003**	**105.2959**

3.4 Building Construction - 2032

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1584	0.9601	1.9550	3.7500e-003		0.0179	0.0179		0.0179	0.0179	0.0000	318.0618	318.0618	0.0128	0.0000	318.3808
Total	**0.1584**	**0.9601**	**1.9550**	**3.7500e-003**		**0.0179**	**0.0179**		**0.0179**	**0.0179**	**0.0000**	**318.0618**	**318.0618**	**0.0128**	**0.0000**	**318.3808**

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2032

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5500e-003	0.0823	0.0330	3.8000e-004	0.0161	6.7000e-004	0.0167	4.6300e-003	6.5000e-004	5.2800e-003	0.0000	36.4757	36.4757	5.7000e-004	5.3100e-003	38.0727
Worker	0.0164	9.5000e-003	0.1706	6.3000e-004	0.0958	2.6000e-004	0.0960	0.0254	2.4000e-004	0.0257	0.0000	57.5729	57.5729	8.4000e-004	1.2400e-003	57.9624
Total	**0.0190**	**0.0918**	**0.2036**	**1.0100e-003**	**0.1118**	**9.3000e-004**	**0.1128**	**0.0301**	**8.9000e-004**	**0.0310**	**0.0000**	**94.0486**	**94.0486**	**1.4100e-003**	**6.5500e-003**	**96.0350**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1584	0.9601	1.9550	3.7500e-003		0.0179	0.0179		0.0179	0.0179	0.0000	318.0615	318.0615	0.0128	0.0000	318.3805
Total	**0.1584**	**0.9601**	**1.9550**	**3.7500e-003**		**0.0179**	**0.0179**		**0.0179**	**0.0179**	**0.0000**	**318.0615**	**318.0615**	**0.0128**	**0.0000**	**318.3805**

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2032

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5500e-003	0.0823	0.0330	3.8000e-004	0.0161	6.7000e-004	0.0167	4.6300e-003	6.5000e-004	5.2800e-003	0.0000	36.4757	36.4757	5.7000e-004	5.3100e-003	38.0727
Worker	0.0164	9.5000e-003	0.1706	6.3000e-004	0.0958	2.6000e-004	0.0960	0.0254	2.4000e-004	0.0257	0.0000	57.5729	57.5729	8.4000e-004	1.2400e-003	57.9624
Total	**0.0190**	**0.0918**	**0.2036**	**1.0100e-003**	**0.1118**	**9.3000e-004**	**0.1128**	**0.0301**	**8.9000e-004**	**0.0310**	**0.0000**	**94.0486**	**94.0486**	**1.4100e-003**	**6.5500e-003**	**96.0350**

3.5 Paving - 2032

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0139	0.0712	0.1585	2.8000e-004		3.3100e-003	3.3100e-003		3.3100e-003	3.3100e-003	0.0000	24.0995	24.0995	1.1300e-003	0.0000	24.1278
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0139**	**0.0712**	**0.1585**	**2.8000e-004**		**3.3100e-003**	**3.3100e-003**		**3.3100e-003**	**3.3100e-003**	**0.0000**	**24.0995**	**24.0995**	**1.1300e-003**	**0.0000**	**24.1278**

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2032

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.6000e-004	2.9400e-003	1.0000e-005	1.6500e-003	0.0000	1.6500e-003	4.4000e-004	0.0000	4.4000e-004	0.0000	0.9913	0.9913	1.0000e-005	2.0000e-005	0.9980
Total	**2.8000e-004**	**1.6000e-004**	**2.9400e-003**	**1.0000e-005**	**1.6500e-003**	**0.0000**	**1.6500e-003**	**4.4000e-004**	**0.0000**	**4.4000e-004**	**0.0000**	**0.9913**	**0.9913**	**1.0000e-005**	**2.0000e-005**	**0.9980**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0139	0.0712	0.1585	2.8000e-004		3.3100e-003	3.3100e-003		3.3100e-003	3.3100e-003	0.0000	24.0995	24.0995	1.1300e-003	0.0000	24.1277
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0139**	**0.0712**	**0.1585**	**2.8000e-004**		**3.3100e-003**	**3.3100e-003**		**3.3100e-003**	**3.3100e-003**	**0.0000**	**24.0995**	**24.0995**	**1.1300e-003**	**0.0000**	**24.1277**

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2032

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.6000e-004	2.9400e-003	1.0000e-005	1.6500e-003	0.0000	1.6500e-003	4.4000e-004	0.0000	4.4000e-004	0.0000	0.9913	0.9913	1.0000e-005	2.0000e-005	0.9980
Total	**2.8000e-004**	**1.6000e-004**	**2.9400e-003**	**1.0000e-005**	**1.6500e-003**	**0.0000**	**1.6500e-003**	**4.4000e-004**	**0.0000**	**4.4000e-004**	**0.0000**	**0.9913**	**0.9913**	**1.0000e-005**	**2.0000e-005**	**0.9980**

3.5 Paving - 2033

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0623	0.3204	0.7132	1.2600e-003		0.0149	0.0149		0.0149	0.0149	0.0000	108.4478	108.4478	5.0800e-003	0.0000	108.5749
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0623**	**0.3204**	**0.7132**	**1.2600e-003**		**0.0149**	**0.0149**		**0.0149**	**0.0149**	**0.0000**	**108.4478**	**108.4478**	**5.0800e-003**	**0.0000**	**108.5749**

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2033

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2100e-003	7.0000e-004	0.0128	5.0000e-005	7.4200e-003	2.0000e-005	7.4400e-003	1.9700e-003	2.0000e-005	1.9900e-003	0.0000	4.3913	4.3913	6.0000e-005	9.0000e-005	4.4207
Total	**1.2100e-003**	**7.0000e-004**	**0.0128**	**5.0000e-005**	**7.4200e-003**	**2.0000e-005**	**7.4400e-003**	**1.9700e-003**	**2.0000e-005**	**1.9900e-003**	**0.0000**	**4.3913**	**4.3913**	**6.0000e-005**	**9.0000e-005**	**4.4207**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0623	0.3204	0.7132	1.2600e-003		0.0149	0.0149		0.0149	0.0149	0.0000	108.4477	108.4477	5.0800e-003	0.0000	108.5748
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0623**	**0.3204**	**0.7132**	**1.2600e-003**		**0.0149**	**0.0149**		**0.0149**	**0.0149**	**0.0000**	**108.4477**	**108.4477**	**5.0800e-003**	**0.0000**	**108.5748**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2033

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2100e-003	7.0000e-004	0.0128	5.0000e-005	7.4200e-003	2.0000e-005	7.4400e-003	1.9700e-003	2.0000e-005	1.9900e-003	0.0000	4.3913	4.3913	6.0000e-005	9.0000e-005	4.4207
Total	**1.2100e-003**	**7.0000e-004**	**0.0128**	**5.0000e-005**	**7.4200e-003**	**2.0000e-005**	**7.4400e-003**	**1.9700e-003**	**2.0000e-005**	**1.9900e-003**	**0.0000**	**4.3913**	**4.3913**	**6.0000e-005**	**9.0000e-005**	**4.4207**

3.6 Architectural Coating - 2033

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.1263					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1900e-003	0.0471	0.0989	1.6000e-004		1.1200e-003	1.1200e-003		1.1200e-003	1.1200e-003	0.0000	14.0429	14.0429	5.7000e-004	0.0000	14.0571
Total	**1.1335**	**0.0471**	**0.0989**	**1.6000e-004**		**1.1200e-003**	**1.1200e-003**		**1.1200e-003**	**1.1200e-003**	**0.0000**	**14.0429**	**14.0429**	**5.7000e-004**	**0.0000**	**14.0571**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Architectural Coating - 2033

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3700e-003	7.9000e-004	0.0146	5.0000e-005	8.4600e-003	2.0000e-005	8.4900e-003	2.2500e-003	2.0000e-005	2.2700e-003	0.0000	5.0093	5.0093	7.0000e-005	1.1000e-004	5.0429
Total	**1.3700e-003**	**7.9000e-004**	**0.0146**	**5.0000e-005**	**8.4600e-003**	**2.0000e-005**	**8.4900e-003**	**2.2500e-003**	**2.0000e-005**	**2.2700e-003**	**0.0000**	**5.0093**	**5.0093**	**7.0000e-005**	**1.1000e-004**	**5.0429**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.1263					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1900e-003	0.0471	0.0989	1.6000e-004		1.1200e-003	1.1200e-003		1.1200e-003	1.1200e-003	0.0000	14.0429	14.0429	5.7000e-004	0.0000	14.0571
Total	**1.1335**	**0.0471**	**0.0989**	**1.6000e-004**		**1.1200e-003**	**1.1200e-003**		**1.1200e-003**	**1.1200e-003**	**0.0000**	**14.0429**	**14.0429**	**5.7000e-004**	**0.0000**	**14.0571**

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Architectural Coating - 2033

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3700e-003	7.9000e-004	0.0146	5.0000e-005	8.4600e-003	2.0000e-005	8.4900e-003	2.2500e-003	2.0000e-005	2.2700e-003	0.0000	5.0093	5.0093	7.0000e-005	1.1000e-004	5.0429
Total	**1.3700e-003**	**7.9000e-004**	**0.0146**	**5.0000e-005**	**8.4600e-003**	**2.0000e-005**	**8.4900e-003**	**2.2500e-003**	**2.0000e-005**	**2.2700e-003**	**0.0000**	**5.0093**	**5.0093**	**7.0000e-005**	**1.1000e-004**	**5.0429**

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6607	0.9155	7.0622	0.0177	2.4047	0.0114	2.4161	0.6419	0.0107	0.6526	0.0000	1,636.6068	1,636.6068	0.0797	0.0774	1,661.6626
Unmitigated	0.6607	0.9155	7.0622	0.0177	2.4047	0.0114	2.4161	0.6419	0.0107	0.6526	0.0000	1,636.6068	1,636.6068	0.0797	0.0774	1,661.6626

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,886.00	1,906.00	1708.00	6,367,619	6,367,619
Total	1,886.00	1,906.00	1,708.00	6,367,619	6,367,619

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.552878	0.058674	0.179099	0.125460	0.022021	0.006385	0.011275	0.016765	0.000587	0.000264	0.022177	0.001040	0.003376

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	282.4994	282.4994	0.0238	2.8900e-003	283.9568
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	282.4994	282.4994	0.0238	2.8900e-003	283.9568
NaturalGas Mitigated	0.0305	0.2607	0.1109	1.6600e-003		0.0211	0.0211		0.0211	0.0211	0.0000	301.8998	301.8998	5.7900e-003	5.5300e-003	303.6938
NaturalGas Unmitigated	0.0305	0.2607	0.1109	1.6600e-003		0.0211	0.0211		0.0211	0.0211	0.0000	301.8998	301.8998	5.7900e-003	5.5300e-003	303.6938

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	5.65739e+006	0.0305	0.2607	0.1109	1.6600e-003		0.0211	0.0211		0.0211	0.0211	0.0000	301.8998	301.8998	5.7900e-003	5.5300e-003	303.6938
Total		**0.0305**	**0.2607**	**0.1109**	**1.6600e-003**		**0.0211**	**0.0211**		**0.0211**	**0.0211**	**0.0000**	**301.8998**	**301.8998**	**5.7900e-003**	**5.5300e-003**	**303.6938**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	5.65739e+006	0.0305	0.2607	0.1109	1.6600e-003		0.0211	0.0211		0.0211	0.0211	0.0000	301.8998	301.8998	5.7900e-003	5.5300e-003	303.6938
Total		**0.0305**	**0.2607**	**0.1109**	**1.6600e-003**		**0.0211**	**0.0211**		**0.0211**	**0.0211**	**0.0000**	**301.8998**	**301.8998**	**5.7900e-003**	**5.5300e-003**	**303.6938**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.59293e+006	282.4994	0.0238	2.8900e-003	283.9568
Total		**282.4994**	**0.0238**	**2.8900e-003**	**283.9568**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.59293e+006	282.4994	0.0238	2.8900e-003	283.9568
Total		**282.4994**	**0.0238**	**2.8900e-003**	**283.9568**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.1301	0.0756	3.3285	3.3500e-003		0.2024	0.2024		0.2024	0.2024	21.2438	44.1924	65.4362	0.0666	1.4400e-003	67.5300
Unmitigated	2.1301	0.0756	3.3285	3.3500e-003		0.2024	0.2024		0.2024	0.2024	21.2438	44.1924	65.4362	0.0666	1.4400e-003	67.5300

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1126					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3009					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.6551	0.0519	1.2714	3.2400e-003		0.1910	0.1910		0.1910	0.1910	21.2438	40.8233	62.0671	0.0634	1.4400e-003	64.0806
Landscaping	0.0615	0.0237	2.0571	1.1000e-004		0.0114	0.0114		0.0114	0.0114	0.0000	3.3691	3.3691	3.2100e-003	0.0000	3.4494
Total	**2.1301**	**0.0756**	**3.3285**	**3.3500e-003**		**0.2024**	**0.2024**		**0.2024**	**0.2024**	**21.2438**	**44.1924**	**65.4362**	**0.0666**	**1.4400e-003**	**67.5300**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1126					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3009					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.6551	0.0519	1.2714	3.2400e-003		0.1910	0.1910		0.1910	0.1910	21.2438	40.8233	62.0671	0.0634	1.4400e-003	64.0806
Landscaping	0.0615	0.0237	2.0571	1.1000e-004		0.0114	0.0114		0.0114	0.0114	0.0000	3.3691	3.3691	3.2100e-003	0.0000	3.4494
Total	**2.1301**	**0.0756**	**3.3285**	**3.3500e-003**		**0.2024**	**0.2024**		**0.2024**	**0.2024**	**21.2438**	**44.1924**	**65.4362**	**0.0666**	**1.4400e-003**	**67.5300**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	50.4113	0.4285	0.0105	64.2529
Unmitigated	50.4113	0.4285	0.0105	64.2529

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	13.0308 / 8.21507	50.4113	0.4285	0.0105	64.2529
Total		**50.4113**	**0.4285**	**0.0105**	**64.2529**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	13.0308 / 8.21507	50.4113	0.4285	0.0105	64.2529
Total		**50.4113**	**0.4285**	**0.0105**	**64.2529**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	47.6054	2.8134	0.0000	117.9405
Unmitigated	47.6054	2.8134	0.0000	117.9405

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	234.52	47.6054	2.8134	0.0000	117.9405
Total		**47.6054**	**2.8134**	**0.0000**	**117.9405**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	234.52	47.6054	2.8134	0.0000	117.9405
Total		**47.6054**	**2.8134**	**0.0000**	**117.9405**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

Pechanga Northern Properties Fee to Trust Project - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B

PHASE I ENVIRONMENTAL SITE ASSESSMENT



PHASE I ENVIRONMENTAL SITE ASSESSMENT

REDHAWK VALLEY PROJECTS
TENTATIVE TRACT MAPS 32227 AND 32778
APNS 966-380-006, -007, -008, AND -009
TEMECULA, CALIFORNIA

PREPARED FOR:
KEARNY REAL ESTATE COMPANY
402 W. BROADWAY, SUITE 180
SAN DIEGO, CALIFORNIA 92101

PREPARED BY:
GEOCON WEST, INC.
41571 CORNING PLACE, SUITE 101
MURRIETA, CA 92562-7065

GEOCON PROJECT NO. T2798-77-01

NOVEMBER 2017

GEOCON

GEOCON
WEST, INC.
GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS

Project No. T2798-77-01
November 14, 2017

Jeffrey Givens
Kearny Real Estate Company
402 W. Broadway, Suite 180
San Diego, California 92101

Subject: PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT
REDHAWK VALLEY PROJECTS
TENTATIVE TRACT MAPS 32227 AND 32778
APNs 966-380-006, -007, -008, AND -009
TEMECULA AREA, RIVERSIDE COUNTY, CALIFORNIA

Dear Mr. Givens:

As you requested on behalf of Kearny Real Estate Company (the Client), we have performed a Phase I Environmental Site Assessment (Phase I ESA) of the property for the proposed residential developments known as the Redhawk Valley Projects, located near the intersection of Anza Road and the planned extension of Rio Linda Road (the Site) in the Temecula Area of Riverside County, California. The Site is identified by Riverside County assessor's parcel numbers (APNs) 966-380-006, -007, -008, and -009.

You requested a Phase I ESA to provide information regarding the potential for existing hazardous substances and/or petroleum product impacts at the Site as part of your due diligence process prior to acquiring the Site. The accompanying report presents the details of our Phase I ESA.

We appreciate the opportunity to have performed this Phase I ESA for Kearny Real Estate Company. Please contact us if you have any questions concerning this report or if we may be of further service.

Very truly yours,

GEOCON WEST, INC.

Ann Laudermilk
Senior Project Geologist

Jim Brake, PG
Senior Geologist

(EMAIL) Addressee

TABLE OF CONTENTS

PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT PAGE

1. INTRODUCTION 1
   1.1 Purpose and Objectives 1
   1.2 Scope of Services 2
   1.3 Report Limitations 3
   1.4 Data Gaps 3

2. SITE DESCRIPTION 4
   2.1 Location and Legal Description 4
   2.2 Site and Vicinity General Characteristics 4
      2.2.1 Topography 4
      2.2.2 Geologic and Hydrogeologic Conditions 4
   2.3 Current and Planned Uses of the Site 5
   2.4 Descriptions of Structures, Roads, Other Improvements on the Site 5
   2.5 Current Uses of Adjoining Properties 5

3. USER–PROVIDED INFORMATION 6
   3.1 Title, Appraisal and Sale Agreement Records 6
   3.2 Environmental Liens or Activity and Use Limitations 6
   3.3 Specialized Knowledge 6
   3.4 Commonly Known or Reasonably Ascertainable Information 6
   3.5 Owner, Property Manager, and Occupant Information 6
   3.6 Valuation Reduction for Environmental Issues 6
   3.7 Reason for Performing Phase I ESA 6

4. RECORDS REVIEW 7
   4.1 Standard Environmental Record Sources 7
      4.1.1 Site 7
      4.1.2 Nearby Properties 7
   4.2 Additional Environmental Record Sources 7
      4.2.1 GeoTracker and EnviroStor Websites 7
      4.2.2 State of California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR) 8
      4.2.3 City of Temecula 8
      4.2.4 Previous Environmental Reports 8

5. HISTORICAL USE 9
   5.1 Aerial Photographs 9
   5.2 Topographic Maps 10
   5.3 City Directory 11
   5.4 Sanborn Fire Insurance Maps 12

6. SITE RECONNAISSANCE 12
   6.1 Methodology and Limiting Conditions 12
   6.2 General Site Setting 12
   6.3 Onsite Survey 12
   6.4 Offsite Survey 13

TABLE OF CONTENTS (Continued)

7. INTERVIEWS 13

8. CONCLUSIONS AND RECOMMENDATIONS 13

9. REFERENCES 14

10. QUALIFICATIONS 15

FIGURES
1. Vicinity Map
2. Site Plan

PHOTOGRAPHS 1 through 14

APPENDICES
A. Client Questionnaire
B. EDR Radius Map™ Report with GeoCheck®
C. EDR Historical Aerial Photographs
D. EDR Historical Topographic Maps
E. EDR City Directory Abstract
F. EDR Sanborn Fire Insurance Maps

PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT

1. INTRODUCTION

This report presents the findings of a Phase I Environmental Site Assessment (ESA) of a property located near the intersection of Anza Road and the planned extension of Rio Linda Road (the Site) in the Temecula area of Riverside County, California. The Site is identified by Riverside County assessor's parcel numbers (APNs) 966-380-006, -007, -008, and -009. The Phase I ESA was requested by Kearny Real Estate Company (the Client) to provide information regarding the potential for existing hazardous substances and/or petroleum product impacts at the Site as part of their due diligence process prior to acquiring the Site.

1.1 Purpose and Objectives

The purpose of the Phase I ESA was to identify evidence or indications of 'recognized environmental conditions' (REC) as defined by the American Society for Testing and Materials (ASTM) *Designation E 1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. Section 1.1.1 of ASTM Designation E 1527-13 defines an REC as "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions." De minimis conditions are those that generally do not present a threat to human health or the environment and that generally would not be the subject of the enforcement action if brought to the attention of appropriate governmental agencies.

ASTM *Designation E 1527-13* also defines 'Historical' and 'Controlled' RECs. They define an 'Historical REC' as "A past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls)." ASTM defines a 'Controlled REC' as "a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls)." An HREC is not a REC if a property meets current standards for unrestricted residential use. A CREC remains a REC by definition when a property does not meet the unrestricted residential use requirement unconditionally.

We also conducted the Phase I ESA in general accordance with the requirements of 40 Code of Federal Regulations (CFR) Part 312 titled *Standards and Practices for All Appropriate Inquiries*, as required under Sections 101(35)(B)(ii) and (iii) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The purpose of conducting an all appropriate inquiries investigation into the previous ownership and uses of a property is to meet the provisions necessary for the landowner, contiguous property owner, and/or bona fide prospective purchaser to qualify for certain landowner liability protections under CERCLA.

The following principles are an integral part of ASTM Designation E1527-13:

- **"Uncertainty Not Eliminated** - No environmental site assessment can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for recognized environmental conditions in connection with a property, and this practice recognizes reasonable limits of time and cost."
- **"Not Exhaustive -** All Appropriate Inquiries does not mean an exhaustive assessment of a property. There is a point at which the cost of information obtained or the time required to gather it outweighs the usefulness of the information and, in fact, may be a material detriment to the orderly completion of transactions. One of the purposes of this practice is to identify a balance between the competing goals of limiting the costs and time demands inherent in performing an environmental site assessment and the reduction of uncertainty about unknown conditions resulting from additional information."
- **"Level of Inquiry is Variable** – Not every property will warrant the same level of assessment. Consistent with good commercial and customary practice, the appropriate level of environmental site assessment will be guided by the type of property subject to assessment, the expertise and risk tolerance of the user, and the information developed in the course of the inquiry."

1.2 Scope of Services

Our Proposal No. IE-2025, dated October 4, 2017, describes the scope of services for this Phase I ESA. We performed the scope of services outlined in the proposal with the exception that we did not review Sanborn Fire Insurance Maps (Sanborn maps). Environmental Data Resources, Inc. (EDR) confirmed that Sanborn map coverage does not exist for the Site.

The main components of the Phase I ESA and their objectives, as specified by the referenced standards, include the following:

- **Physical Setting:** we reviewed physical setting references to obtain information concerning the topographic, geologic, and hydrogeologic characteristics of the Site and vicinity. Such information may be indicative of the direction and/or extent that a contaminant could migrate in the event of a spill or release.
- **Regulatory Agency Records Review:** we reviewed regulatory agency records to obtain information that could potentially help identify RECs at or potentially affecting the Site. We reviewed publicly available Federal, State, and local regulatory agency records for the Site.

- **Site History:** we reviewed historical references to assess the previous uses of the Site and surrounding area to identify those that could have led to RECs on or near the Site. Historical sources reviewed included aerial photographs, topographic maps, and city directories. In addition, we conducted interviews with persons who were expected to be reasonably knowledgeable about historical and/or current conditions at and uses of the Site.
- **Site Reconnaissance:** we performed a site reconnaissance to observe site conditions and activities for indications of evidence of RECs. The site reconnaissance was for the Site only. Offsite properties and features were viewed solely from the vantage of the Site and public thoroughfares.

1.3 Report Limitations

We prepared this Phase I ESA report exclusively for the Client. The information obtained is only relevant for the dates of the records reviewed or as of the date of the latest site visit. Therefore, the information contained herein is only valid as of the date of the report and will require an update to reflect recent records/site visits.

The Client should recognize that this report is not a comprehensive site characterization and should not be construed as such. The findings and conclusions presented in this report are predicated on the site reconnaissance, a review of the specified regulatory records, and a review of the historical usage of the Site, as presented in this report. The Client should also understand that wetlands, asbestos-containing building materials, lead-containing paint, lead in drinking water, radon, mercury related to mining activities, methane, and mold surveys were not included in the scope of services for this Phase I ESA.

Therefore, the report should only be deemed conclusive with respect to the information obtained. No guarantee or warranty of the results of the report is implied within the intent of this report or any subsequent reports, correspondence or consultation, either express or implied. We strived to conduct the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.

1.4 Data Gaps

ASTM Designation E 1527-13 defines a data gap as "a lack of or inability to obtain information required by this practice despite good faith efforts by the environmental professional to gather such information." Data gaps could include such things as insufficient historical information, the inability to interview persons with direct site knowledge (e.g., the owner(s), past owner(s), tenants, workers, etc.) or the lack of access to all parts of a site during the site reconnaissance. No significant data gaps were identified during the performance of this Phase I ESA.

As stated in Section 1.2, we did not review Sanborn maps for the Site since they are not available for the Site and vicinity. However, based on our review of other historical information, we do not consider the lack of Sanborn map coverage a data gap.

2. SITE DESCRIPTION

This section provides information regarding the location and physical characteristics of the Site including its size, topography, geologic, soil, and hydrogeologic conditions.

2.1 Location and Legal Description

The Site is located at the intersection of Anza Road and the planned extension of Rio Linda Road in the Temecula area of Riverside County, California (Figure 1). The Site is identified by Riverside County APNs 966-380-006, -007, -008, and -009. Parcel 966-380-009 is on the north side of Anza Road and the other three are on the south side.

2.2 Site and Vicinity General Characteristics

The approximately 72-acre Site consists of vacant and undeveloped land. Properties in the surrounding vicinity are primarily occupied by single-family residential subdivisions, larger acreage, rural-type properties that accommodate horses, citrus groves, and steep foothill terrain or otherwise vacant and undeveloped land. The Rancho California Water District operates El Chimisal Reclaimed Reservoir adjacent to the east of the Site.

2.2.1 Topography

The topography of the Site is gently sloping toward the northwest, with rolling foothills on the southern portions of parcels 966-380-006 and -007. The *USGS Pechanga, 7.5-minute Topographic Map* (USGS, 2012) shows the site elevation at approximately 1,400 feet above mean sea level (MSL) across the central portion of the site, with a general topographic gradient of the site vicinity to the northwest. Elevations range from approximately 1,580 feet above MSL in the southeastern portion of the Site in the foothills to 1,290 feet above MSL in the northwestern portion of the Site near Butterfield Stage Road.

2.2.2 Geologic and Hydrogeologic Conditions

The Site is located on the Perris Block in the northern portion of the Peninsular Ranges geomorphic province. The province is bounded by the Santa Monica, Raymond, Sierra Madre, and Cucamonga fault zones on the north, the San Jacinto Fault Zone on the east, the Pacific Ocean coastline on the west, and extends through Baja California to the south. The province is characterized by elongate northwest-trending mountain ridges separated by straight-sided sediment-filled valleys. The northwest trend is further reflected in the direction of the dominant geologic structural features of the province that are northwest to west-northwest trending folds and faults, such as the nearby Wildomar, Elsinore, and Wolf Valley fault zones, located within approximately 2 miles southwest of the Site (CDMG, 2000).

The southern portion of the Site, in the foothill area, is underlain by the Pliocene age Temecula Arkose Formation, which is a non-marine sedimentary bedrock unit. The flat-lying areas of the Site are on primarily sandstone and siltstone of the early Pleistocene Pauba Formation with an area of Holocene and late Pleistocene young colluvial deposits in the northern portion of the Site (CDMG, 2000).

Groundwater was not encountered onsite to a maximum depth explored of 31.5 feet in exploratory borings in alluvial areas on the eastern site parcel in 2004 (Consolidated Geoscience, 2004).

2.3 Current and Planned Uses of the Site

The Site is undeveloped vacant land. The Client plans to develop the Site with single-family residences.

2.4 Descriptions of Structures, Roads, Other Improvements on the Site

Anza Road and Rio Linda Road are currently unpaved roads. The Site will be serviced by public utilities, available in the public right-of-way within Anza Road.

2.5 Current Uses of Adjoining Properties

The Site is bounded by the Pechanga Indian Reservation to the south and vacant land and residential development to the west and northwest. Adjoining properties to the northeast consist of a single-family residential subdivision, rural-type residential properties, and vacant land. The Rancho California Water District El Chimisal Reclaimed Reservoir with four water tanks () is on the adjoining property to the east at 34695 El Mirador.

3. USER–PROVIDED INFORMATION

This section provides responses to inquiries made to the Client for site information. The Client was asked if they know of previous environmental reports or documents that may exist and, if so, whether copies could be provided. They were also asked if they have knowledge of legal or administrative proceedings involving the Site. Jeffrey Givens, a representative of the Client, completed a User Questionnaire (Appendix A).

3.1 Title, Appraisal and Sale Agreement Records

The Client did not provide a title, appraisal or sale agreement records.

3.2 Environmental Liens or Activity and Use Limitations

Mr. Givens stated that he is unaware of any environmental liens on, or use limitations for, the Site.

3.3 Specialized Knowledge

Mr. Givens indicated that he has no specialized knowledge regarding the Site or nearby properties.

3.4 Commonly Known or Reasonably Ascertainable Information

Mr. Givens provided no commonly known information or reasonably ascertainable information unique to the Site.

3.5 Owner, Property Manager, and Occupant Information

Mr. Givens stated that the current ownership entities of the Site are Redhawk Valley 44 Rancon, Redhawk Valley, and Redhawk Valley II.

3.6 Valuation Reduction for Environmental Issues

Mr. Givens indicated that he was not aware of any environmental conditions on the Site which could lead to a potential valuation reduction of the Site.

3.7 Reason for Performing Phase I ESA

The Client requested the Phase I ESA to obtain information regarding the potential for existing hazardous substances or petroleum product impacts at the Site as part of their due diligence process prior to acquiring the Site.

4. RECORDS REVIEW

This section summarizes our review of readily available agency records for the Site and properties in the surrounding vicinity.

4.1 Standard Environmental Record Sources

EDR searched Federal, State, and local databases for the Site and surrounding area within one mile of the Site. A copy of *The EDR Radius Map™ Report with GeoCheck*, dated October 24, 2017, is in Appendix B.

4.1.1 Site

The Site is not listed in any of the databases searched by EDR.

4.1.2 Nearby Properties

Specialty Diesel (45590 Anza Road), approximately 650 feet southwest of the Site on Anza Road, is listed on the EDR Hist Auto database. The address is the fourth residential listing southwest of the Site, which suggests that this may be the business owner's residence and that automotive repair was not performed there. This facility is listed as a general automotive repair shop from 2009 through 2011. The facility is not listed on databases indicative of spills or releases. The lack of any known contaminant releases and its cross-gradient hydrologic position suggest that the historical automotive repair facility at this location is unlikely to have caused an REC at the Site.

School Sites (Monte Verde Road/Via Pascal), approximately 2,000 feet west and northwest of the Site, are listed on the ENVIROSTOR database. The same cross streets are listed as three separate schools as three separate ENVIROSTOR listings, which appear to have resulted in the development of Tony Tobin Elementary School. The listed high school does not appear to have been developed. The database report indicates that Phase I ESAs were conducted for the properties in 2001 and no action was required. The lack of findings warranting further action suggest that these properties would not have caused RECs at the Site.

4.1.3 Orphan Summary

The EDR *Orphan Summary* identifies properties that have incomplete address information and could not be specifically plotted. No listings are identified in the EDR *Orphan Summary*.

4.2 Additional Environmental Record Sources

4.2.1 GeoTracker and EnviroStor Websites

We reviewed the California State Water Resources Control Board's (SWRCB) GeoTracker online database (http://geotracker.waterboards.ca.gov/) and the California Department of Toxic Substances Control's

(DTSC) EnviroStor online database (http://www.envirostor.dtsc.ca.gov/public/) for information regarding nearby properties/facilities of concern. GeoTracker and EnviroStor listed no facilities within ¼ mile of the Site that were not identified in EDR's database search (Section 4.1.2).

4.2.2 State of California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR)

We reviewed information available from the DOGGR wellfinder database (http://www.conservation.ca.gov/doggr/wellfinder) for existing/former oil, gas, or geothermal wells on or within the site vicinity. No oil and gas wells are listed as being on or within at least one mile of the Site.

4.2.3 City of Temecula

We reviewed the City of Temecula online public document database (https://temeculaca.gov/1124/Online-Documents) for records pertaining to the site parcels and tentative tracts. We identified one document referencing the project tract numbers- in 2005 the County of Riverside Planning Department commented on a draft EIR for a City of Temecula General Plan Update. A recommendation was made to remove the site and surrounding areas from a designation known as the Rural Preservation Area and shift it to Low Medium or Low Density Residential Development. No additional records were identified.

4.2.4 Previous Environmental Reports

The client provided a previous Phase I ESA completed by EcoTech, Inc., in 2005 for the Redhawk Valley Project. The parcel numbers have been changed since 2005. The report covered current APNs 966-380-007, -008, and -009 (Tentative Tract 32227).

The Site was reported to be partially dry farmland used for feed oats cultivation and partially vacant at the time of the site assessment. The report indicated a similar historical use based on interviews, site reconnaissance, and review of historical sources. An owner interview was not included in the report. EcoTech, Inc., did not identify any onsite or offsite environmental concerns in connection with the Site.

5. HISTORICAL USE

This section summarizes information obtained from a variety of sources regarding the historical uses of the Site and identifies historical uses that could have led to RECs. The sources of information included historical aerial photographs, historical topographic maps, and city directories provided by EDR.

5.1 Aerial Photographs

We reviewed historical aerial photographs for the years 1939, 1946, 1949, 1953, 1961, 1967, 1978, 1985, 1989, 1995, 1996, 2005, 2006, 2009, 2010 and 2012 (Appendix C) for indications of past land uses that had the potential to have impacted the Site through the use, storage or disposal of hazardous substances and/or petroleum products. The following summarizes our observations of the Site and vicinity on the aerial photographs:

Year	Observations	
	Site	Adjacent Properties
1939 (1" = 500")	The Site appears to have been vacant and undeveloped. The flat-lying areas of the Site appeared to have been natural washes emanating from the hills.	Adjacent properties appear to have been vacant and undeveloped.
1946 (1" = 500")	Conditions were similar to those observed on the 1939 photograph.	Conditions were similar to those observed on the 1939 photograph.
1949 (1" = 500")	Conditions were similar to those observed on the 1946 photograph.	Conditions were similar to those observed on the 1946 photograph.
1953 (1" = 500')	Conditions were similar to those observed on the 1949 photograph.	Conditions were similar to those observed on the 1949 photograph.
1961 (1" = 500')	The wash areas appear to be less prominent.	Conditions were similar to those observed on the 1953 photograph.
1967 (1" = 500')	The flat-lying areas of the Site appear to have been disced. A dirt road extended across the Site in the alignment of Anza Road.	Adjacent properties appear to have been disced. Dirt roads were present in the alignments of Anza Road and Rio Linda Road.
1978 (1" = 500')	Conditions were similar to those observed on the 1967 photograph.	Conditions were generally similar to those observed on the 1967 photograph. A driveway had been extended from Anza Road to the top of a hill north of the southwestern portion of the Site.
1985 (1" = 500')	Conditions were similar to those observed on the 1978 photograph.	Properties to the northeast of the Site (not adjoining) appear to have been developed with residences.
1989 (1" = 500')	Conditions were similar to those observed on the 1985 photograph.	Groves appear to have been planted on properties northeast, northwest, and east of the Site (not adjoining).
1995 (1" = 500')	Conditions were similar to those observed on the 1989 photograph.	One water reservoir had been constructed on the adjacent property to the east. A residence had been constructed adjacent to the north of the Site.

Year	Observations	
	Site	Adjacent Properties
1996 (1" = 500')	Conditions were similar to those observed on the 1995 photograph.	An additional water tank had been constructed adjacent to the east of the Site.
2005 (1' = 500')	Conditions were similar to those observed on the 1996 photograph.	Two additional water tanks had been constructed adjacent to the east of the Site. Residential development was in progress west and northwest of the Site.
2006 (1' = 500')	Conditions were generally similar to those observed on the 2005 photograph. A network of dirt paths/bike paths had been established in the central portion of the Site.	Conditions were similar to those observed on the 2005 photograph, with several completed houses.
2009 (1" = 500')	Conditions were similar to those observed on the 2006 photograph.	Conditions were similar to those observed on the 2006 photograph.
2010 (1" = 500')	Conditions were similar to those observed on the 2009 photograph.	Conditions were similar to those observed on the 2009 photograph.
2012 (1" = 500')	Conditions were similar to those observed on the 2010 photograph.	Conditions were similar to those observed on the 2010 photograph.

The discing observed on aerial photographs supports a history of dry farming as reported by EcoTech Inc. No site or vicinity conditions were observed on the aerial photographs that would suggest the potential presence of RECs on the Site or adjoining properties.

5.2 Topographic Maps

We reviewed historical topographic maps for the years 1901, 1947, 1949, 1950, 1968, 1982, 1988, 1997, and 2012 (Appendix D). The following summarizes observations of the Site and adjacent properties on the historical topographic maps.

Year	Observations	
	Site	Adjacent Properties
1901 (1: 125,000)	A road in the general alignment of Anza Road is depicted. A natural wash is depicted in the eastern portion of the Site flowing around the northern portion of the Site toward the west.	Dirt roads and scattered residential-type structures are depicted in the site vicinity. The Pechanga Indian Reservation is depicted south of the Site.
1947 (1: 50,000)	The road is not depicted. A territorial boundary is depicted in the approximate alignment of Anza Road (depicted on County APN map as the Pauba Rancho Boundary Line).	No significant changes from the 1901 topographic map are depicted other than the removal of the road.

Year	Observations	
	Site	Adjacent Properties
1949 (1:24,000)	No significant changes from the 1947 topographic map are depicted. The natural washes in the area are depicted differently, with none of them depicted across the site.	No significant changes from the 1947 topographic map are depicted.
1950 (1:24,000)	No significant changes from the 1949 topographic map are depicted.	No significant changes from the 1949 topographic map are depicted.
1968 (1:24,000)	Unimproved roads are depicted in the alignment of Anza Road and Rio Linda Road.	The unimproved roads are depicted toward the northeast. An area of groves is depicted to the northeast of the Site.
1982 (1:24,000)	No significant changes from the 1968 topographic map are depicted other than Anza Road being depicted as a light duty road.	Scattered residential-type structures and additional areas of groves are depicted to the northeast of the Site.
1988 (1:24,000)	No significant changes from the 1982 topographic map are depicted.	No significant changes from the 1982 topographic map are depicted.
1997 (1:24,000)	No significant changes from the 1988 topographic map are depicted.	Additional structures are depicted adjacent to the north of the Site. One water tank and one building are depicted adjacent to the east of the Site.
2012 (1:24,000)	No significant changes from the 1997 topographic map are depicted.	The roads of the current residential development west and northwest of the Site are depicted. Structures are not depicted.

No site or vicinity conditions were observed on the topographic maps that would suggest the potential presence of RECs on the Site or adjoining properties.

5.3 City Directory

EDR prepared a city directory image report of cross-referenced directories reviewed at approximately 5-year intervals from 1975 through 2014, if available. A copy of the EDR city directory image report including information regarding offsite facilities is in Appendix E. The report indicates no listings for the site parcels.

Various residential listings are identified on Anza Road southwest of the Site. Three of these also have business listings in 2010 or 2014, including Specialty Diesel in 2010. However, as described in Section 4.1.2, the former automotive repair listing is not expected to have caused an REC at the Site. A listing for Hopkins Imaging Systems is identified at 34721 El Mirador Corte, which is located east of the Site, adjacent to the southeast of the RCWD facility. Hopkins Imaging Systems is listed online as a medical supply company.

5.4 Sanborn Fire Insurance Maps

EDR's Sanborn Map Report dated October 10, 2017, indicates that Sanborn maps do not exist for the Site or vicinity (Appendix F).

6. SITE RECONNAISSANCE

This section summarizes observations of the Site and surrounding properties made during the site reconnaissance.

6.1 Methodology and Limiting Conditions

Alice Orton with Geocon performed the site reconnaissance on October 31, 2017, by walking the Site. Ms. Orton performed the offsite survey by observing adjacent properties from the Site and adjacent roads and thoroughfares. Photographs of various site features and offsite properties are appended. Figure 2 illustrates selected site features.

6.2 General Site Setting

The Site is located in an area of mixed agricultural and residential use.

6.3 Onsite Survey

The Site is currently undeveloped and vacant. The Site as a whole slopes to the northwest. Unpaved Anza Road extends across the central portion of the Site from southwest to northeast, separating the site parcel northwest of Anza Road from the three southeast of Anza Road. Recreational walkers, runners, bicyclists, and motorists were observed onsite during the site reconnaissance. The portions of the Site fronting Anza Road had been disced for weed control. Utility boxes and posts are exposed within the area fronting Anza Road, but do not appear to extend further into the Site. Utilities include overhead electrical power lines and utility boxes, cable and telecom installations, fire hydrants, recycled water lines, and other RCWD water standpipes.

The main portion of the Site is in a semi-natural state, with driving and walking trails traversing the front (gently sloping) portion of the Site and winding into the hilly areas (Photos 1-4). Small trash piles have been deposited randomly along the driving paths, as well as into the hilly areas. Observed trash consists mostly of household furnishings, electronics and appliances, toys and clothing, and cardboard (Photos 7-8). Small quantities of automotive (tires) and medical drug-related trash were also observed. No soil staining or evidence of a release was observed in association with the trash and debris.

The additional parcel to the northwest of Anza Road is in a more natural (less utilized) state (Photos 5-6). Unpaved access roads are located around the perimeter. This parcel also slopes to the northwest. More resistant deposits form topographic highs in the northeastern and central portion of the parcel.

No evidence of RECs or potential RECs was observed on the Site during the site reconnaissance.

6.4 Offsite Survey

Properties immediately adjacent to the Site include:

- **North –** A single-family residential subdivision, undeveloped vacant land, rural residential properties and agricultural land (Photo 13).
- **West –** A rural residential property (Photo 10) and residential housing development (Photo 11).
- **South –** Undeveloped mountainous region of the Pechanga Indian Reservation. Approximately 200 feet of chain link fence is present along the southern site boundary in the central portion of the Site (Photo 2). A tank, approximately 1,500 to 2,000-gallon capacity, and a satellite dish or solar panel approximately 40 to 50 feet south of the fence. The contents of the tank, if any, are unknown; however, it appears to be a water tank.
- **East** – Undeveloped vacant land (Photo 14), and RCWD El Chimisal Reclaimed Reservoir (Photo 12).

7. INTERVIEWS

John Johnson of Redhawk Valley, LLC completed a site owner interview questionnaire. Mr. Johnson stated that the site parcels are currently vacant and that they were dry farmed several years ago. He indicated that water lines and utility lines are located within the ROW of Anza Road and public sewer is in Anza Road at the western end of the Site. Mr. Johnson indicated that there are two capped water supply wells on the site, one on APN 966-380-009 and one on APN 966-380-007. To his knowledge they have not been used. Mr. Johnson stated that he was not aware of any environmental conditions that would have negatively impacted the Site.

8. CONCLUSIONS AND RECOMMENDATIONS

We have performed a Phase I ESA, in general conformance with the scope and limitations of ASTM *Designation E 1527-13*, for the Site, APNs 966-380-006, -007, -008, and -009, in the Temecula area of Riverside County, California. Any exceptions to, or deletions from, this practice are described in Section 1.3 of this report.

The assessment has revealed no evidence of RECs in connection with the Site. No further environmental assessment of the Site appears to be warranted at this time. The two wells, if present, should be abandoned in accordance with Riverside County requirements.

9. REFERENCES

American Society for Testing and Materials, *Designation E 1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, 2013.

California Division of Mines and Geology, *Geologic Map of the Pechanga 7.5' Quadrangle San Diego and Riverside Counties, California, a Digital Database, Version 1.0,* 2000.

California Division of Oil, Gas & Geothermal Resources, 2016. Website database, District 1, http://maps.conservation.ca.gov/doms/index.html.

California State Water Resources Control Board, GeoTracker website, 2017, https://geotracker.waterboards.ca.gov.

Consolidated Geoscience, Inc., *Preliminary Geotechnical Investigation Report, Proposed Residential Development, Parcel Map No. 5136, Parcel 3, Anza Road, Rancho California*, 2004.

Department of Toxic Substances Control, EnviroStor website, 2016, http://www.envirostor.dtsc.ca.gov.

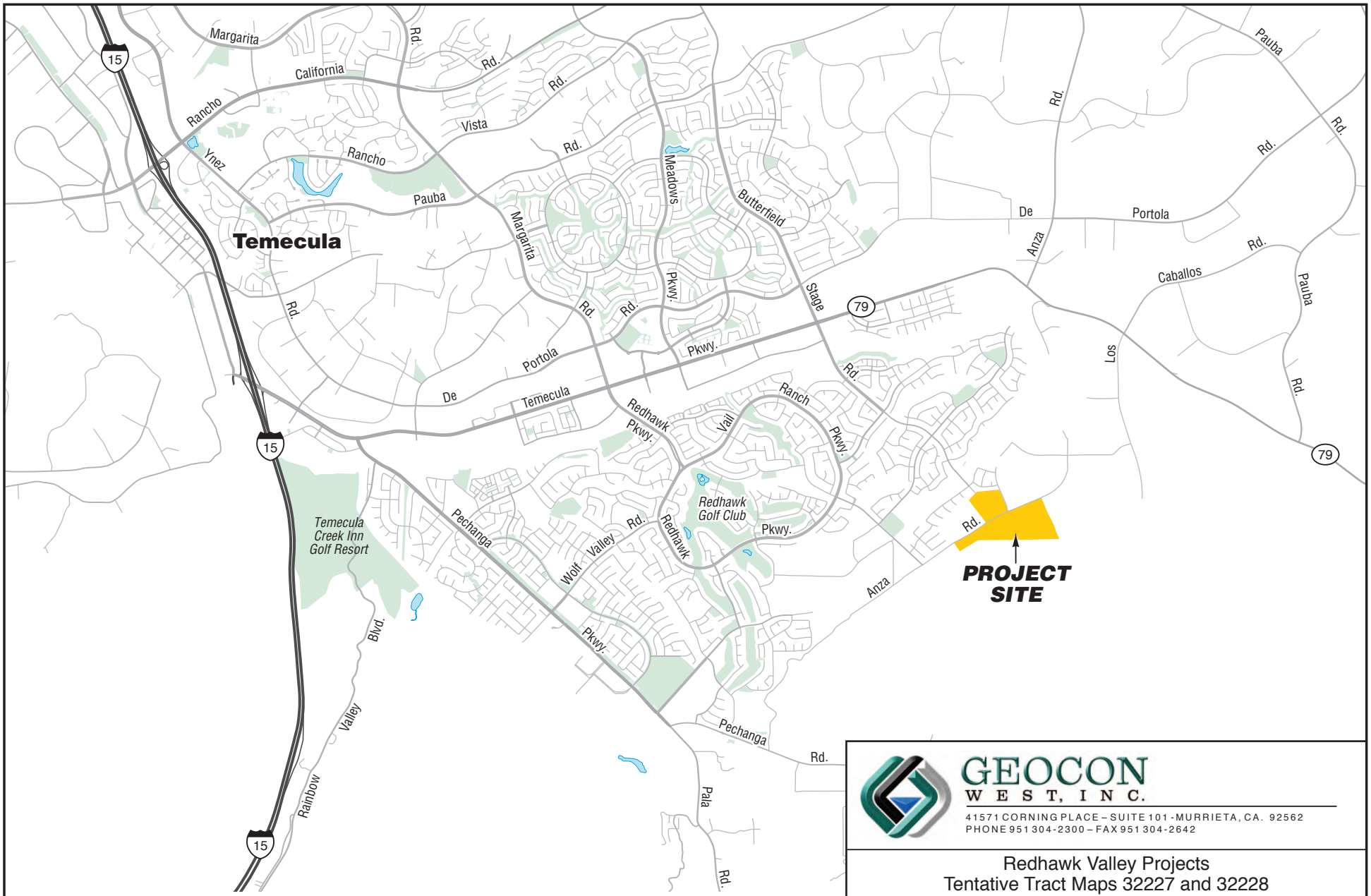
United States Geological Survey, *Pechanga, Quadrangle Topographic Map (7.5', 1:24,000)*, 2012.

10. QUALIFICATIONS

This Phase I ESA report was prepared by Ms. Ann Laudermilk and reviewed by Mr. Jim Brake. We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in Section 312.10 of 40 CFR Part 312. We have the specific qualifications based on education, training, and experience, to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries investigation in conformance with the standards and practices set forth in 40 CFR Part 312.

Ms. Laudermilk has over 14 years conducting and managing environmental investigations in California. Ms. Laudermilk has completed numerous Phase I and II ESAs, underground storage tank removals, and remedial investigations for a variety of residential, commercial, school, industrial, agricultural, and municipal properties. She has a BA degree in Geology.

Mr. Brake has an MS degree in Geological Science and 29 years of experience in environmental investigation and remediation, including implementation of Remedial Investigation/Feasibility Study programs and soil and groundwater remedial actions for private industrial and government clients. He has managed a wide variety of projects for clients in the manufacturing, transportation, mining, automobile and real estate industries including Environmental Protection Agency and DTSC Superfund sites. Mr. Brake has extensive experience in the performance of Phase I and II ESAs of commercial, industrial, and agricultural properties throughout Northern California.



GEOCON WEST, INC.
41571 CORNING PLACE – SUITE 101 - MURRIETA, CA. 92562
PHONE 951 304-2300 – FAX 951 304-2642

Redhawk Valley Projects
Tentative Tract Maps 32227 and 32228

APNs 966-380-006, -007, 008, -009
Temecula Area, Riverside County, California

VICINITY MAP

T2798-77-01	November 2017	Figure 1



SOURCE: Google Maps, 2017

LEGEND

Locations are approximate

Site Boundary

14 Site Photograph Location and Orientation

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SITE PLAN

REDHAWK VALLEY PROJECTS
TENTATIVE TRACT MAPS 32227 AND 32228
APNS 966-380-006, -007, -008, & -009
TEMECULA AREA, RIVERSIDE COUNTY, CALIFORNIA

AMO			NOVEMBER, 2017	PROJECT NO. T2798-77-01	FIG. 2



Photo 1 – View toward south from Anza Road in the southeastern portion of the Site.



Photo 2 – View toward west from the central portion of the southern property line; 200’ fence line in view.

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SITE PHOTOGRAPHS

REDHAWK VALLEY PROJECTS
TENTATIVE TRACT MAPS 32227 AND 32228
APNS 966-380-006, -007, -008, & -009
TEMECULA AREA, RIVERSIDE COUNTY, CALIFORNIA

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Photo 3 – View toward west from east-central portion of Site.



Photo 4 – View toward southwest from Anza Road at northeastern portion of Site.

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SITE PHOTOGRAPHS

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TEMECULA AREA, RIVERSIDE COUNTY, CALIFORNIA

NOVEMBER, 2017 | PROJECT NO. T2798-77-01



Photo 5 – View toward north-northwest from Anza Road at southwest portion of APN 966-380-009.



Photo 6 - View toward northwest from Anza Road at southeast portion of APN 966-380-009.

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TEMECULA AREA, RIVERSIDE COUNTY, CALIFORNIA

NOVEMBER, 2017 | PROJECT NO. T2798-77-01



Photo 7 – View toward southwest of household debris and furniture in the east-central portion of the Site.



Photo 8 – View toward south of household trash and debris in the east-central portion of the Site.

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Photo 9 – View toward south from the central portion of the southern property line; offsite tank and satellite/solar panel in view beyond fence line.



Photo 10 – View toward north from Anza Road in southwestern portion of site; offsite residence.

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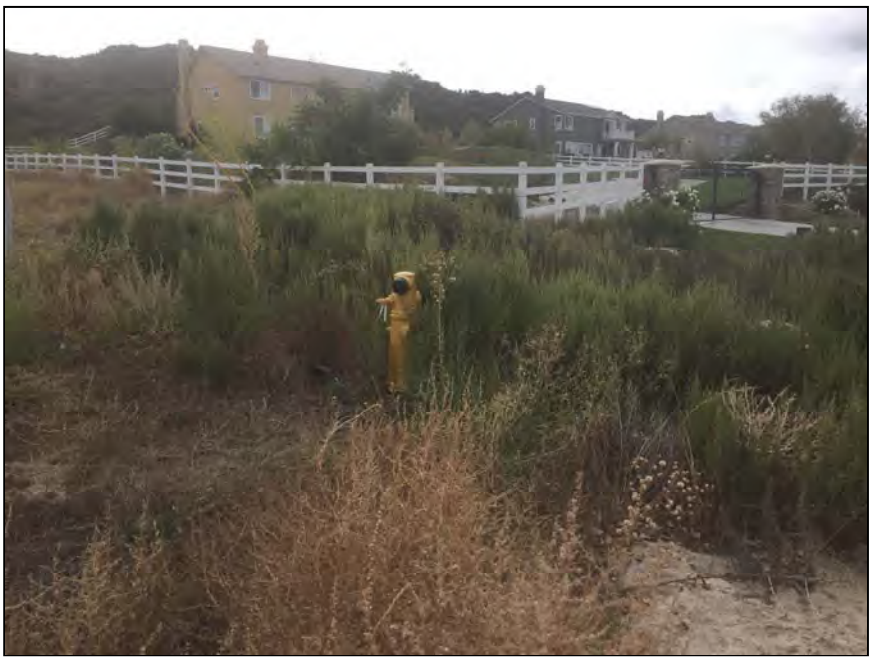


Photo 11 – View toward southwest from Anza Road at southwestern end of Site; residential development and water hydrant in view.



Photo 12 – View toward east from east-central portion of Site of RCWD El Chimisal Reservoir facility.

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TEMECULA AREA, RIVERSIDE COUNTY, CALIFORNIA

NOVEMBER, 2017 | PROJECT NO. T2798-77-01



Photo 13 – View toward north from northeastern portion of Site of offsite rural residential and agricultural property.



Photo 14 – View toward southeast from northeastern portion of APN 966-380-009 across Rio Linda Road and vacant adjacent parcel.

APPENDIX A

User Questionnaire

The following are a list of questions that are required to be asked of the user of the report as part of the All Appropriate Inquiry requirements for Phase I ESAs. Please answer them to the best of your knowledge.

1) Are chain of title, appraisal and sale agreement records available for the Site? If available, please provide.

N/A

2) Please provide names and contact information of all known current and previous Site owners, occupants, and property managers.

Redhawk Valley 44 Rancon, Redhawk Valley, Redhawk Valley II

3) If the reason for this Phase I is other than to identify recognized environmental conditions (RECs) at the property, please indicate the reason.

N/A

4) Are you aware of any environmental cleanup liens against the *property* that are filed or recorded under federal, tribal, state or local law? *(Reference: 40 CFR 312.25 - Environmental cleanup liens that are filed or recorded against the site).*

None

5) Are you aware of any activity and use limitations (AULs), such as *engineering controls*, land use restrictions or *institutional controls* that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law? *(Reference: 40 CFR 312.26 - Activity and land use limitations that are in place on the site or that have been filed or recorded in a registry).*

None

6) As the *user* of this *ESA*, do you have any specialized knowledge or experience related to the *property* or nearby properties? For example, are you involved in the same line of business as the current or former *occupants* of the *property* or an adjoining *property* so that you would have specialized knowledge of the chemicals and processes used by this type of business? *(Reference: 40 CFR 312.28 - Specialized knowledge or experience of the person seeking to qualify for the LLP).*

None

7) Does the purchase price being paid for this *property* reasonably reflect the fair market value of the *property*? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property*? *(Reference: 40 CFR 312.29 - Relationship of the purchase price to the fair market value of the property if it were not contaminated).*

Yes

8) Are you aware of commonly known or *reasonably ascertainable* information about the *property* that would help the *environmental professional* to identify conditions indicative of releases or threatened releases? *(Reference: 40 CFR 312.30 - Commonly known or reasonably ascertainable information about the property).*

For example, as *user*,

(a) Do you know the past uses of the *property*?

No

(b) Do you know of specific chemicals that are present or once were present at the *property*?

No

(c) Do you know of spills or other chemical releases that have taken place at the *property*?

No

(d) Do you know of any environmental cleanups that have taken place at the *property*?

No

9) As the *user* of this *ESA*, based on your knowledge and experience related to the *property* are there any *obvious* indications of the presence or likely presence of contamination at the *property*? *(Reference: 40 CFR 312.31 - The degree of obviousness of the presence of likely presence of contamination at the property, and the ability to detect the contamination by appropriate investigation).*

No

APPENDIX B

Redhawk Valley Projects
APNs 966-380-006, -007, -008, and -009
Temecula, CA 92592

Inquiry Number: 5085929.2s
October 24, 2017

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	8
Orphan Summary	15
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-11
Physical Setting Source Map Findings	A-13
Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

APNS 966-380-006, -007, -008, AND -009
TEMECULA, CA 92592

COORDINATES

Latitude (North):	33.4680470 - 33° 28' 4.96''
Longitude (West):	117.0539980 - 117° 3' 14.39''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	494982.4
UTM Y (Meters):	3702985.2
Elevation:	1451 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5636481 PECHANGA, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140530
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
APNS 966-380-006, -007, -008, AND -009
TEMECULA, CA 92592

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	SPECIALTY DIESEL	45590 ANZA RD	EDR Hist Auto	Lower	605, 0.115, WSW
A2	MORGAN HILL ELEMENTA	VIA PASCAL/MONTE VER	ENVIROSTOR, SCH	Lower	1875, 0.355, West
A3	DENHA HIGH SCHOOL AK	MONTE VERDE ROAD/VIA	ENVIROSTOR, SCH	Lower	1875, 0.355, West
A4	DENHA HIGH SCHOOL AK	MONTE VERDE ROAD/VIA	ENVIROSTOR, SCH	Lower	1875, 0.355, West

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List

US INST CONTROL---------- Sites with Institutional Controls

Federal ERNS list

ERNS---------- Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE---------- State Response Sites

State and tribal landfill and/or solid waste disposal site lists

SWF/LF---------- Solid Waste Information System

State and tribal leaking storage tank lists

LUST---------- Geotracker's Leaking Underground Fuel Tank Report
INDIAN LUST---------- Leaking Underground Storage Tanks on Indian Land
SLIC---------- Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST---------- Underground Storage Tank Listing
UST---------- Active UST Facilities
AST---------- Aboveground Petroleum Storage Tank Facilities
INDIAN UST---------- Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP---------- Voluntary Cleanup Priority Listing
VCP---------- Voluntary Cleanup Program Properties

State and tribal Brownfields sites

BROWNFIELDS---------- Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS---------- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT---------- Waste Management Unit Database
SWRCY---------- Recycler Database
HAULERS---------- Registered Waste Tire Haulers Listing
INDIAN ODI---------- Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9---------- Torres Martinez Reservation Illegal Dump Site Locations
ODI---------- Open Dump Inventory
IHS OPEN DUMPS---------- Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL---------- Delisted National Clandestine Laboratory Register

HIST Cal-Sites ---- Historical Calsites Database
SCH ---- School Property Evaluation Program
CDL ---- Clandestine Drug Labs
Toxic Pits ---- Toxic Pits Cleanup Act Sites
US CDL ---- National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

SWEEPS UST ---- SWEEPS UST Listing
HIST UST ---- Hazardous Substance Storage Container Database
CA FID UST ---- Facility Inventory Database

Local Land Records

LIENS ---- Environmental Liens Listing
LIENS 2 ---- CERCLA Lien Information
DEED ---- Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ---- Hazardous Materials Information Reporting System
CHMIRS ---- California Hazardous Material Incident Report System
LDS ---- Land Disposal Sites Listing
MCS ---- Military Cleanup Sites Listing
SPILLS 90 ---- SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR ---- RCRA - Non Generators / No Longer Regulated
FUDS ---- Formerly Used Defense Sites
DOD ---- Department of Defense Sites
SCRD DRYCLEANERS ---- State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR ---- Financial Assurance Information
EPA WATCH LIST ---- EPA WATCH LIST
2020 COR ACTION ---- 2020 Corrective Action Program List
TSCA ---- Toxic Substances Control Act
TRIS ---- Toxic Chemical Release Inventory System
SSTS ---- Section 7 Tracking Systems
ROD ---- Records Of Decision
RMP ---- Risk Management Plans
RAATS ---- RCRA Administrative Action Tracking System
PRP ---- Potentially Responsible Parties
PADS ---- PCB Activity Database System
ICIS ---- Integrated Compliance Information System
FTTS ---- FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS ---- Material Licensing Tracking System
COAL ASH DOE ---- Steam-Electric Plant Operation Data
COAL ASH EPA ---- Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ---- PCB Transformer Registration Database
RADINFO ---- Radiation Information Database
HIST FTTS ---- FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS ---- Incident and Accident Data
CONSENT ---- Superfund (CERCLA) Consent Decrees
INDIAN RESERV ---- Indian Reservations

FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
ABANDONED MINES	Abandoned Mines
FINDS	Facility Index System/Facility Registry System
UXO	Unexploded Ordnance Sites
ECHO	Enforcement & Compliance History Information
DOCKET HWC	Hazardous Waste Compliance Docket Listing
FUELS PROGRAM	EPA Fuels Program Registered Listing
CA BOND EXP. PLAN	Bond Expenditure Plan
Cortese	"Cortese" Hazardous Waste & Substances Sites List
CUPA Listings	CUPA Resources List
DRYCLEANERS	Cleaner Facilities
EMI	Emissions Inventory Data
ENF	Enforcement Action Listing
Financial Assurance	Financial Assurance Information Listing
HAZNET	Facility and Manifest Data
ICE	ICE
HIST CORTESE	Hazardous Waste & Substance Site List
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
MINES	Mines Site Location Listing
MWMP	Medical Waste Management Program Listing
NPDES	NPDES Permits Listing
PEST LIC	Pesticide Regulation Licenses Listing
PROC	Certified Processors Database
Notify 65	Proposition 65 Records
UIC	UIC Listing
WASTEWATER PITS	Oil Wastewater Pits Listing
WDS	Waste Discharge System
WIP	Well Investigation Program Case List

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants
EDR Hist Cleaner	EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF	Recovered Government Archive Solid Waste Facilities List
RGA LUST	Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 07/31/2017 has revealed that there are 3 ENVIROSTOR sites within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
MORGAN HILL ELEMENTA Facility Id: 33010096 Status: No Action Required	***VIA PASCAL/MONTE VER***	***W 1/4 - 1/2 (0.355 mi.)***	***A2***	***8***
DENHA HIGH SCHOOL AK Facility Id: 33650008 Status: No Action Required	***MONTE VERDE ROAD/VIA***	***W 1/4 - 1/2 (0.355 mi.)***	***A3***	***10***
DENHA HIGH SCHOOL AK Facility Id: 33650021 Status: No Action Required	***MONTE VERDE ROAD/VIA***	***W 1/4 - 1/2 (0.355 mi.)***	***A4***	***12***

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR Hist Auto: EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station,

service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

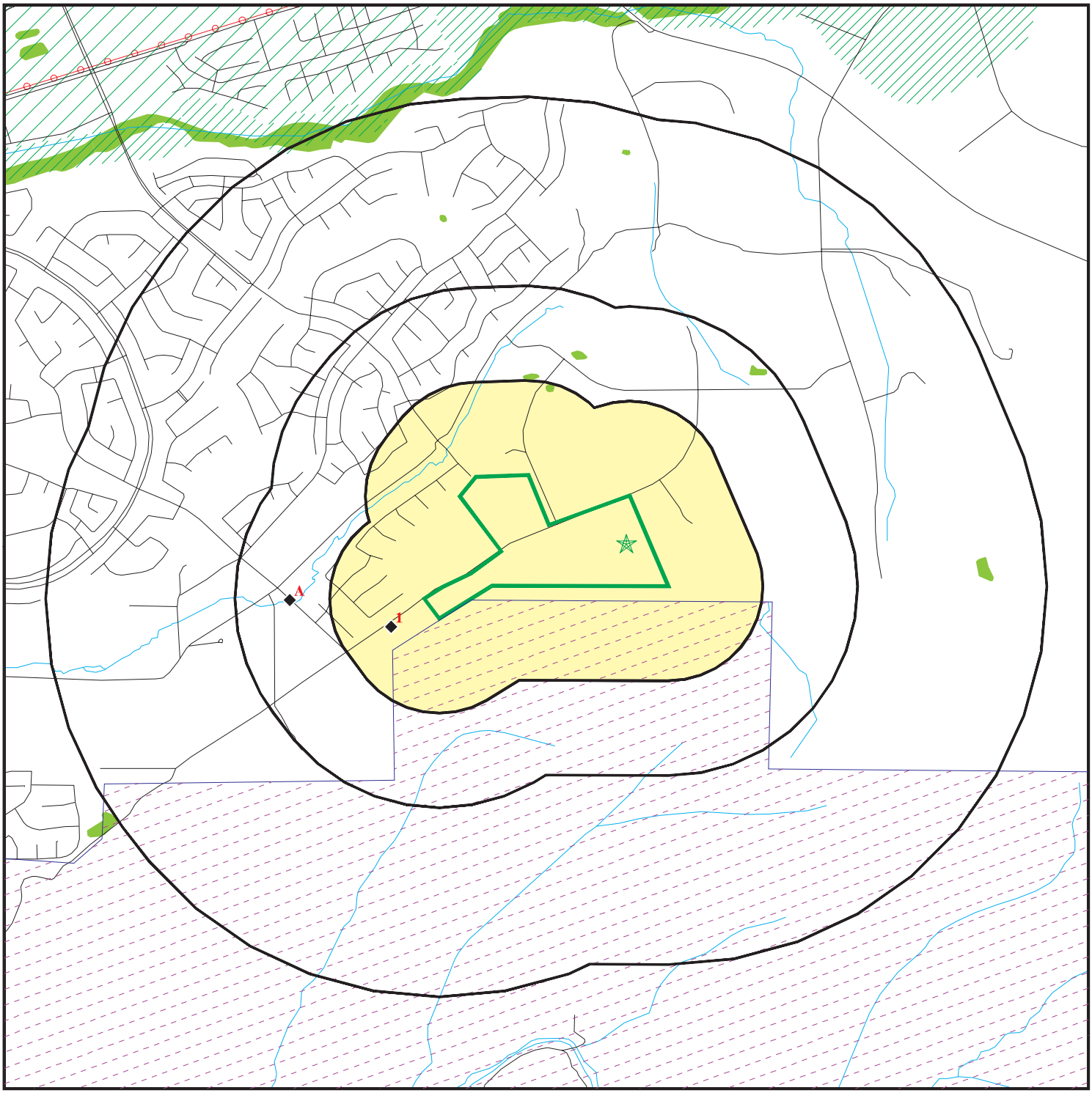
A review of the EDR Hist Auto list, as provided by EDR, has revealed that there is 1 EDR Hist Auto site within approximately 0.125 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
SPECIALTY DIESEL	45590 ANZA RD	WSW 0 - 1/8 (0.115 mi.)	1	8

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 5085929.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

Power transmission lines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Upgradient Area

Areas of Concern

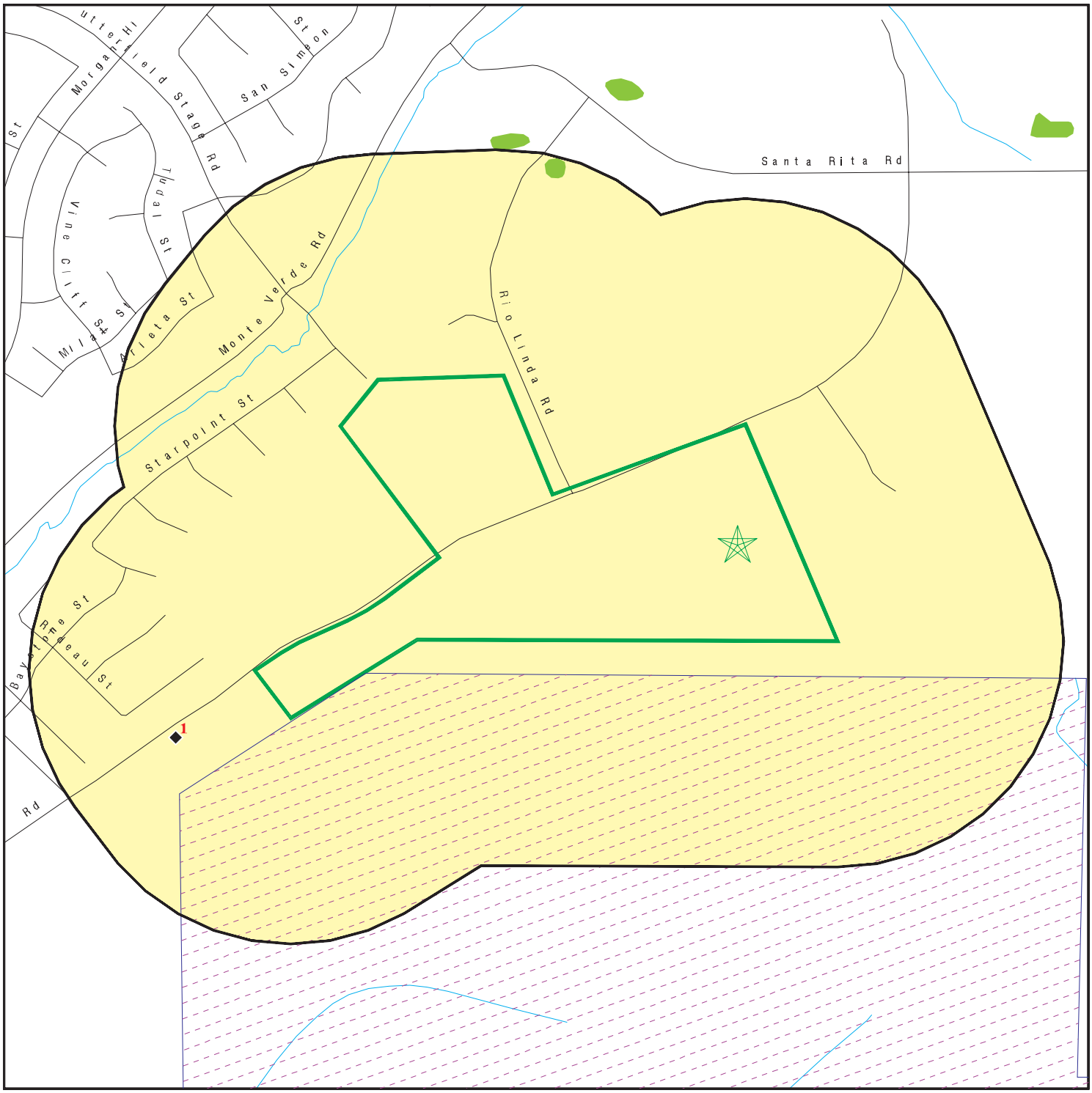
N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Redhawk Valley Projects	CLIENT:	Geocon Geotechnical & Env
ADDRESS:	APNs 966-380-006, -007, -008, and -009 Temecula CA 92592	CONTACT:	Ann Laudermilk
LAT/LONG:	33.468047 / 117.053998	INQUIRY #:	5085929.2s
		DATE:	October 24, 2017 3:03 pm

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DETAIL MAP - 5085929.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Redhawk Valley Projects	CLIENT:	Geocon Geotechnical & Env
ADDRESS:	APNs 966-380-006, -007, -008, and -009 Temecula CA 92592	CONTACT:	Ann Laudermilk
LAT/LONG:	33.468047 / 117.053998	INQUIRY #:	5085929.2s
		DATE:	October 24, 2017 3:08 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	0.001		0	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	3	0	NR	3
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	0.001		0	NR	NR	NR	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.001		0	NR	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.001		0	NR	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		1	NR	NR	NR	NR	1
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	1	0	3	0	0	4

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1
WSW
< 1/8
0.115 mi.
605 ft.

SPECIALTY DIESEL
45590 ANZA RD
TEMECULA, CA 92592

EDR Hist Auto **1020195931**
N/A

Relative:
Lower

Actual:
1319 ft.

EDR Hist Auto

Year:	Name:	Type:
2009	SPECIALTY DIESEL	General Automotive Repair Shops
2010	SPECIALTY DIESEL	General Automotive Repair Shops
2011	SPECIALTY DIESEL	General Automotive Repair Shops

A2
West
1/4-1/2
0.355 mi.
1875 ft.

MORGAN HILL ELEMENTARY
VIA PASCAL/MONTE VERDE ROADS
TEMECULA, CA 92592

ENVIROSTOR **S118756720**
SCH **N/A**

Site 1 of 3 in cluster A

Relative:
Lower

Actual:
1232 ft.

ENVIROSTOR:

Facility ID:	33010096
Status:	No Action Required
Status Date:	09/19/2002
Site Code:	404297
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	13.6
NPL:	NO
Regulatory Agencies:	DTSC
Lead Agency:	DTSC
Program Manager:	Shahir Haddad
Supervisor:	Thomas Cota
Division Branch:	Southern California Schools & Brownfields Outreach
Assembly:	75
Senate:	28
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	33.46594
Longitude:	-117.0694
APN:	NONE SPECIFIED
Past Use:	AGRICULTURAL - ROW CROPS
Potential COC:	NONE SPECIFIED No Contaminants found
Confirmed COC:	NONE SPECIFIED
Potential Description:	NMA
Alias Name:	TEMECULA VALLEY USD-MORGAN HILL ELEM
Alias Type:	Alternate Name
Alias Name:	404297
Alias Type:	Project Code (Site Code)
Alias Name:	33010096
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	09/19/2002
Comments:	Not reported

MORGAN HILL ELEMENTARY (Continued) **S118756720**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	12/18/2001
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

SCH:

Facility ID:	33010096
Site Type:	School Investigation
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	13.6
National Priorities List:	NO
Cleanup Oversight Agencies:	DTSC
Lead Agency:	DTSC
Lead Agency Description:	* DTSC
Project Manager:	Shahir Haddad
Supervisor:	Thomas Cota
Division Branch:	Southern California Schools & Brownfields Outreach
Site Code:	404297
Assembly:	75
Senate:	28
Special Program Status:	Not reported
Status:	No Action Required
Status Date:	09/19/2002
Restricted Use:	NO
Funding:	School District
Latitude:	33.46594
Longitude:	-117.0694
APN:	NONE SPECIFIED
Past Use:	AGRICULTURAL - ROW CROPS
Potential COC:	NONE SPECIFIED, No Contaminants found
Confirmed COC:	NONE SPECIFIED
Potential Description:	NMA
Alias Name:	TEMECULA VALLEY USD-MORGAN HILL ELEM
Alias Type:	Alternate Name
Alias Name:	404297
Alias Type:	Project Code (Site Code)
Alias Name:	33010096
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	09/19/2002

MORGAN HILL ELEMENTARY (Continued) **S118756720**

Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 12/18/2001
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

A3 **DENHA HIGH SCHOOL AKA HIGH SCHOOL #3** **ENVIROSTOR** **S118756731**
West **MONTE VERDE ROAD/VIA PASCAL** **SCH** **N/A**
1/4-1/2 **TEMECULA, CA 92592**
0.355 mi.
1875 ft. **Site 2 of 3 in cluster A**

Relative:
Lower

Actual:
1232 ft.

ENVIROSTOR:
Facility ID: 33650008
Status: No Action Required
Status Date: 01/23/2001
Site Code: 404178
Site Type: School Investigation
Site Type Detailed: School
Acres: 60
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Not reported
Supervisor: Javier Hinojosa
Division Branch: Southern California Schools & Brownfields Outreach
Assembly: 75
Senate: 28
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 33.4659
Longitude: -117.0694
APN: NONE SPECIFIED
Past Use: NONE
Potential COC: NONE SPECIFIED No Contaminants found
Confirmed COC: NONE SPECIFIED
Potential Description: NMA
Alias Name: DENHA HIGH SCHOOL
Alias Type: Alternate Name
Alias Name: DENHA HIGH SCHOOL AKA HIGH SCHOOL #3
Alias Type: Alternate Name
Alias Name: TEMECULA VALLEY UNIFIED SCHOOL DISTRICT
Alias Type: Alternate Name
Alias Name: 404178

DENHA HIGH SCHOOL AKA HIGH SCHOOL #3 (Continued) **S118756731**

Alias Type: Project Code (Site Code)
Alias Name: 33650008
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 01/23/2001
Comments: Phase I - Pursuant to an agreement between the Department of Toxic Substances Control (DTSC) and the California Department of Education, DTSC's Site Mitigation Program completed a review of a Phase I Environmental Assessment and has made a "No Action" determination for this Site.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SCH:

Facility ID: 33650008
Site Type: School Investigation
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: 60
National Priorities List: NO
Cleanup Oversight Agencies: SMBRP
Lead Agency: SMBRP
Lead Agency Description: DTSC - Site Cleanup Program
Project Manager: Not reported
Supervisor: Javier Hinojosa
Division Branch: Southern California Schools & Brownfields Outreach
Site Code: 404178
Assembly: 75
Senate: 28
Special Program Status: Not reported
Status: No Action Required
Status Date: 01/23/2001
Restricted Use: NO
Funding: School District
Latitude: 33.4659
Longitude: -117.0694
APN: NONE SPECIFIED
Past Use: NONE
Potential COC: NONE SPECIFIED, No Contaminants found
Confirmed COC: NONE SPECIFIED
Potential Description: NMA
Alias Name: DENHA HIGH SCHOOL
Alias Type: Alternate Name
Alias Name: DENHA HIGH SCHOOL AKA HIGH SCHOOL #3

DENHA HIGH SCHOOL AKA HIGH SCHOOL #3 (Continued) **S118756731**

Alias Type: Alternate Name
Alias Name: TEMECULA VALLEY UNIFIED SCHOOL DISTRICT
Alias Type: Alternate Name
Alias Name: 404178
Alias Type: Project Code (Site Code)
Alias Name: 33650008
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 01/23/2001
Comments: Phase I - Pursuant to an agreement between the Department of Toxic Substances Control (DTSC) and the California Department of Education, DTSC's Site Mitigation Program completed a review of a Phase I Environmental Assessment and has made a "No Action" determination for this Site.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

A4 **DENHA HIGH SCHOOL AKA HIGH SCHOOL NO. 3** **ENVIROSTOR** **S118756743**
West **MONTE VERDE ROAD/VIA PASCAL** **SCH** **N/A**
1/4-1/2 **TEMECULA, CA 92592**
0.355 mi.
1875 ft. **Site 3 of 3 in cluster A**

Relative:
Lower

Actual:
1232 ft.

ENVIROSTOR:
Facility ID: 33650021
Status: No Action Required
Status Date: 02/22/2001
Site Code: 404178
Site Type: School Investigation
Site Type Detailed: School
Acres: 65
NPL: NO
Regulatory Agencies: DTSC
Lead Agency: DTSC
Program Manager: Not reported
Supervisor: Javier Hinojosa
Division Branch: Southern California Schools & Brownfields Outreach
Assembly: 75
Senate: 28
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 33.4659
Longitude: -117.0694
APN: NONE SPECIFIED

DENHA HIGH SCHOOL AKA HIGH SCHOOL NO. 3 (Continued) **S118756743**

Past Use: NONE
Potential COC: NONE SPECIFIED No Contaminants found
Confirmed COC: NONE SPECIFIED
Potential Description: NMA
Alias Name: TEMECULA VALLEY USD-DENHA HS AKA HS # 3
Alias Type: Alternate Name
Alias Name: TEMECULA VALLEY USD/HIGH SCH NO. 3/VCA
Alias Type: Alternate Name
Alias Name: 404111
Alias Type: Project Code (Site Code)
Alias Name: 404178
Alias Type: Project Code (Site Code)
Alias Name: 33650021
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 01/23/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 01/20/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 02/22/2001
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SCH:

Facility ID: 33650021
Site Type: School Investigation
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: 65
National Priorities List: NO
Cleanup Oversight Agencies: DTSC
Lead Agency: DTSC
Lead Agency Description: * DTSC
Project Manager: Not reported
Supervisor: Javier Hinojosa

DENHA HIGH SCHOOL AKA HIGH SCHOOL NO. 3 (Continued) **S118756743**

Division Branch:	Southern California Schools & Brownfields Outreach
Site Code:	404178
Assembly:	75
Senate:	28
Special Program Status:	Not reported
Status:	No Action Required
Status Date:	02/22/2001
Restricted Use:	NO
Funding:	School District
Latitude:	33.4659
Longitude:	-117.0694
APN:	NONE SPECIFIED
Past Use:	NONE
Potential COC:	NONE SPECIFIED, No Contaminants found
Confirmed COC:	NONE SPECIFIED
Potential Description:	NMA
Alias Name:	TEMECULA VALLEY USD-DENHA HS AKA HS # 3
Alias Type:	Alternate Name
Alias Name:	TEMECULA VALLEY USD/HIGH SCH NO. 3/VCA
Alias Type:	Alternate Name
Alias Name:	404111
Alias Type:	Project Code (Site Code)
Alias Name:	404178
Alias Type:	Project Code (Site Code)
Alias Name:	33650021
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	01/23/2001
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Inspections/Visit (Non LUR)
Completed Date:	01/20/2001
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	02/22/2001
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 05/30/2017
Date Data Arrived at EDR: 06/08/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 99

Source: EPA
Telephone: N/A
Last EDR Contact: 10/05/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 05/30/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 98

Source: EPA
Telephone: N/A
Last EDR Contact: 10/05/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 05/30/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 98

Source: EPA
Telephone: N/A
Last EDR Contact: 10/05/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/07/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 92

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 10/06/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 07/11/2017
Date Data Arrived at EDR: 07/21/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 77

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 10/20/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 07/11/2017
Date Data Arrived at EDR: 07/28/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 70

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 10/20/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 09/13/2017
Date Data Arrived at EDR: 09/26/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 10

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 09/13/2017
Date Data Arrived at EDR: 09/26/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 10

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/13/2017
Date Data Arrived at EDR: 09/26/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 10

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 09/13/2017
Date Data Arrived at EDR: 09/26/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 10

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/13/2017
Date Data Arrived at EDR: 09/26/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 10

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/22/2017
Date Data Arrived at EDR: 06/13/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 94

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 08/10/2017
Next Scheduled EDR Contact: 11/27/2017
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 08/10/2017
Date Data Arrived at EDR: 08/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/30/2017
Next Scheduled EDR Contact: 12/11/2017
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 08/10/2017
Date Data Arrived at EDR: 08/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/30/2017
Next Scheduled EDR Contact: 12/11/2017
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/18/2017
Date Data Arrived at EDR: 09/21/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 22

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 09/21/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 07/31/2017
Date Data Arrived at EDR: 08/01/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 14

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/01/2017
Next Scheduled EDR Contact: 11/13/2017
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 07/31/2017
Date Data Arrived at EDR: 08/01/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 14

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/01/2017
Next Scheduled EDR Contact: 11/13/2017
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/14/2017
Date Data Arrived at EDR: 08/17/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 35

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 08/17/2017
Next Scheduled EDR Contact: 11/27/2017
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/12/2017
Date Data Arrived at EDR: 06/14/2017
Date Made Active in Reports: 08/22/2017
Number of Days to Update: 69

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 09/12/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Quarterly

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/24/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/14/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 05/01/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/13/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78
Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 10/07/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Quarterly

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/14/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71
Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/26/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/14/2016
Date Data Arrived at EDR: 01/27/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 98
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 07/28/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Semi-Annually

SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/12/2017
Date Data Arrived at EDR: 06/14/2017
Date Made Active in Reports: 08/23/2017
Number of Days to Update: 70
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/12/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35
Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36
Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11
Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17
Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 05/15/2017
Date Data Arrived at EDR: 05/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 136
Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 10/13/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 06/12/2017
Date Data Arrived at EDR: 06/14/2017
Date Made Active in Reports: 08/23/2017
Number of Days to Update: 70
Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 09/12/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69
Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 09/25/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

INDIAN UST R5: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/26/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71
Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 10/14/2016
Date Data Arrived at EDR: 01/27/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 98
Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 07/28/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 05/02/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/25/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/13/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78
Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/01/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 10/01/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/14/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 07/31/2017
Date Data Arrived at EDR: 08/01/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 14

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/01/2017
Next Scheduled EDR Contact: 11/13/2017
Data Release Frequency: Quarterly

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 09/25/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 06/27/2017
Date Data Arrived at EDR: 06/28/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 85
Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 09/21/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/19/2017
Date Data Arrived at EDR: 06/20/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 87
Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/20/2017
Next Scheduled EDR Contact: 01/01/2018
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30
Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 08/03/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 09/11/2017
Date Data Arrived at EDR: 09/12/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 9
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/12/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 05/30/2017
Date Data Arrived at EDR: 05/31/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 76

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 08/10/2017
Next Scheduled EDR Contact: 11/27/2017
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 08/01/2017
Next Scheduled EDR Contact: 11/13/2017
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/20/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 08/29/2017
Next Scheduled EDR Contact: 11/13/2017
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 07/13/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 30

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/30/2017
Next Scheduled EDR Contact: 12/11/2017
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 07/31/2017
Date Data Arrived at EDR: 08/01/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 14

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/01/2017
Next Scheduled EDR Contact: 11/13/2017
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2017
Date Data Arrived at EDR: 08/18/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 34

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 10/10/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 07/13/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 30

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/30/2017
Next Scheduled EDR Contact: 12/11/2017
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35
Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 06/02/2017
Date Data Arrived at EDR: 06/06/2017
Date Made Active in Reports: 08/25/2017
Number of Days to Update: 80
Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 08/24/2017
Next Scheduled EDR Contact: 12/11/2017
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database
The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18
Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CA FID UST: Facility Inventory Database
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24
Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 06/02/2017
Date Data Arrived at EDR: 06/06/2017
Date Made Active in Reports: 08/22/2017
Number of Days to Update: 77
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/31/2017
Next Scheduled EDR Contact: 12/18/2017
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 07/11/2017
Date Data Arrived at EDR: 07/26/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 79
Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 07/26/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 06/05/2017
Date Data Arrived at EDR: 06/06/2017
Date Made Active in Reports: 08/10/2017
Number of Days to Update: 65

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 09/06/2017
Next Scheduled EDR Contact: 12/18/2017
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 09/21/2017
Date Data Arrived at EDR: 09/21/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 22

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 09/21/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 05/09/2017
Date Data Arrived at EDR: 07/26/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 57

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 07/26/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Varies

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/12/2017
Date Data Arrived at EDR: 06/14/2017
Date Made Active in Reports: 08/18/2017
Number of Days to Update: 65

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/12/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/12/2017
Date Data Arrived at EDR: 06/14/2017
Date Made Active in Reports: 08/22/2017
Number of Days to Update: 69

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/12/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 09/13/2017
Date Data Arrived at EDR: 09/26/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 10

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 08/25/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/13/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/11/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 11/27/2017
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 05/10/2017
Date Data Arrived at EDR: 05/17/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 121

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 08/07/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/24/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 09/22/2017
Next Scheduled EDR Contact: 01/01/2018
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 133

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 08/23/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 07/28/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 09/27/2017
Date Data Arrived at EDR: 10/12/2017
Date Made Active in Reports: 10/20/2017
Number of Days to Update: 8

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 09/08/2017
Next Scheduled EDR Contact: 12/18/2017
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 02/01/2017
Date Data Arrived at EDR: 02/09/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3
Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 08/08/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/01/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 126
Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/13/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 10/11/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016
Date Data Arrived at EDR: 09/08/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 43
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 10/03/2017
Next Scheduled EDR Contact: 12/18/2017
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 09/08/2017
Next Scheduled EDR Contact: 12/18/2017
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 07/28/2017
Next Scheduled EDR Contact: 11/08/2017
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 10/02/2017
Date Data Arrived at EDR: 10/05/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 8
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 10/05/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 08/01/2017
Next Scheduled EDR Contact: 11/13/2017
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2017
Date Data Arrived at EDR: 08/03/2017
Date Made Active in Reports: 10/20/2017
Number of Days to Update: 78

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 09/25/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 09/21/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/11/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 12/23/2016
Date Data Arrived at EDR: 12/27/2016
Date Made Active in Reports: 02/17/2017
Number of Days to Update: 52

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 08/03/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 10/10/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 05/30/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 98

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 10/05/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 07/31/2017
Date Data Arrived at EDR: 08/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 44

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 08/30/2017
Next Scheduled EDR Contact: 12/11/2017
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 09/01/2017
Next Scheduled EDR Contact: 12/11/2017
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 09/01/2017
Next Scheduled EDR Contact: 12/11/2017
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/25/2017
Date Data Arrived at EDR: 09/26/2017
Date Made Active in Reports: 10/20/2017
Number of Days to Update: 24

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 09/25/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/23/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 9

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 09/06/2017
Next Scheduled EDR Contact: 12/18/2017
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 06/02/2016
Date Data Arrived at EDR: 06/03/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 91

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 09/21/2017
Next Scheduled EDR Contact: 12/11/2017
Data Release Frequency: Varies

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 10/25/2016
Date Data Arrived at EDR: 06/02/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 133

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 09/02/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 10/20/2017
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 09/06/2017
Next Scheduled EDR Contact: 12/18/2017
Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/17/2017
Date Data Arrived at EDR: 08/17/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 29

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 08/17/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 09/21/2017
Date Data Arrived at EDR: 09/21/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 22

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 09/21/2017
Next Scheduled EDR Contact: 01/01/2018
Data Release Frequency: Quarterly

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 08/02/2017
Date Data Arrived at EDR: 08/08/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 69

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 08/08/2017
Next Scheduled EDR Contact: 12/18/2017
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 03/21/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 147

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 09/22/2017
Next Scheduled EDR Contact: 01/01/2018
Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 05/01/2017
Date Data Arrived at EDR: 05/03/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 104

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 07/21/2017
Date Data Arrived at EDR: 07/25/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 84

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 05/16/2017
Date Data Arrived at EDR: 05/19/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 88

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 08/10/2017
Next Scheduled EDR Contact: 11/27/2017
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 07/12/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 97

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 10/10/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 05/22/2017
Date Data Arrived at EDR: 05/24/2017
Date Made Active in Reports: 08/18/2017
Number of Days to Update: 86

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 08/22/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 05/22/2017
Date Data Arrived at EDR: 05/24/2017
Date Made Active in Reports: 08/18/2017
Number of Days to Update: 86
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/22/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database
A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 10/10/2017
Date Data Arrived at EDR: 10/10/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 7
Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 10/10/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing
A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 09/12/2016
Date Data Arrived at EDR: 09/14/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 30
Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 09/12/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Varies

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 05/25/2017
Date Data Arrived at EDR: 06/06/2017
Date Made Active in Reports: 08/23/2017
Number of Days to Update: 78
Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 09/06/2017
Next Scheduled EDR Contact: 12/18/2017
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 08/14/2017
Date Data Arrived at EDR: 08/17/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 61
Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 08/17/2017
Next Scheduled EDR Contact: 11/27/2017
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing
A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 06/05/2017
Date Data Arrived at EDR: 06/07/2017
Date Made Active in Reports: 08/25/2017
Number of Days to Update: 79
Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 09/06/2017
Next Scheduled EDR Contact: 12/18/2017
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 09/11/2017
Date Data Arrived at EDR: 09/12/2017
Date Made Active in Reports: 10/18/2017
Number of Days to Update: 36
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/12/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 06/16/2017
Date Data Arrived at EDR: 06/20/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 119
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 09/18/2017
Next Scheduled EDR Contact: 01/01/2018
Data Release Frequency: No Update Planned

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 01/20/2017
Date Data Arrived at EDR: 03/14/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 50
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 09/12/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water board?s review found that more than one-third of the region?s active disposal pits are operating without permission.

Date of Government Version: 04/15/2015
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/23/2015
Number of Days to Update: 67
Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 10/13/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9
Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13
Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 09/25/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historic Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 09/22/2017
Date Data Arrived at EDR: 09/22/2017
Date Made Active in Reports: 10/10/2017
Number of Days to Update: 18

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 09/21/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 07/07/2017
Date Data Arrived at EDR: 07/11/2017
Date Made Active in Reports: 08/23/2017
Number of Days to Update: 43

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/10/2017
Next Scheduled EDR Contact: 04/24/2047
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List

Cupa Facility List

Date of Government Version: 06/20/2017
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 49

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 08/31/2017
Next Scheduled EDR Contact: 12/18/2017
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing

Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 09/18/2017
Next Scheduled EDR Contact: 10/23/2017
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 04/25/2017
Date Data Arrived at EDR: 04/27/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 104

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 09/05/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 08/07/2017
Date Data Arrived at EDR: 08/08/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 69

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 08/03/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 05/26/2017
Date Data Arrived at EDR: 05/30/2017
Date Made Active in Reports: 07/27/2017
Number of Days to Update: 58

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 07/31/2017
Next Scheduled EDR Contact: 11/13/2017
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 08/02/2017
Date Data Arrived at EDR: 08/08/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 66

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/13/2017
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 06/19/2017
Date Data Arrived at EDR: 06/20/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 50

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 07/31/2017
Next Scheduled EDR Contact: 11/13/2017
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 06/30/2017
Date Data Arrived at EDR: 07/05/2017
Date Made Active in Reports: 08/04/2017
Number of Days to Update: 30

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 09/27/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 07/26/2017
Date Data Arrived at EDR: 07/28/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 77

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

HUMBOLDT COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 08/03/2017
Date Data Arrived at EDR: 08/08/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 69

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 08/03/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 07/21/2017
Date Data Arrived at EDR: 07/25/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 83

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 06/08/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 08/04/2017
Number of Days to Update: 56

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 08/31/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 08/07/2017
Date Data Arrived at EDR: 08/08/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 44

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 08/03/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 09/22/2017
Date Data Arrived at EDR: 09/22/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 24

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 09/22/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 08/03/2017
Date Data Arrived at EDR: 08/03/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 74

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 07/24/2017
Date Data Arrived at EDR: 07/26/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 82

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206
Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 09/18/2017
Next Scheduled EDR Contact: 01/01/2018
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 10/11/2017
Date Data Arrived at EDR: 10/12/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 5
Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 10/10/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 07/17/2017
Date Data Arrived at EDR: 07/18/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 65
Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 10/17/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Varies

City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 04/21/2017
Date Made Active in Reports: 10/09/2017
Number of Days to Update: 171
Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Varies

Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 03/29/2016
Date Data Arrived at EDR: 04/06/2016
Date Made Active in Reports: 06/13/2016
Number of Days to Update: 68
Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 10/17/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21
Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/09/2017
Date Data Arrived at EDR: 03/10/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 54
Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 07/11/2017
Date Data Arrived at EDR: 07/14/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 69

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 10/10/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 06/01/2017
Date Data Arrived at EDR: 06/02/2017
Date Made Active in Reports: 08/04/2017
Number of Days to Update: 63

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 08/21/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 07/03/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 15

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 09/27/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 10/02/2017
Date Data Arrived at EDR: 10/03/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 14

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 09/27/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List
CUPA Facility List

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 40

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 08/08/2017
Next Scheduled EDR Contact: 12/11/2017
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 06/22/2017
Date Data Arrived at EDR: 06/23/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 47
Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 08/21/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50
Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 08/24/2017
Next Scheduled EDR Contact: 12/11/2017
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 05/31/2017
Date Data Arrived at EDR: 06/01/2017
Date Made Active in Reports: 08/25/2017
Number of Days to Update: 85
Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 08/24/2017
Next Scheduled EDR Contact: 12/11/2017
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 08/04/2017
Date Data Arrived at EDR: 08/08/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 69
Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/13/2017
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 08/07/2017
Date Data Arrived at EDR: 08/11/2017
Date Made Active in Reports: 10/11/2017
Number of Days to Update: 61
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/07/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 08/07/2017
Date Data Arrived at EDR: 08/11/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 41
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/07/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 08/07/2017
Date Data Arrived at EDR: 08/09/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 43
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/09/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 06/02/2017
Date Data Arrived at EDR: 06/06/2017
Date Made Active in Reports: 08/22/2017
Number of Days to Update: 77
Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 08/31/2017
Next Scheduled EDR Contact: 12/18/2017
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 06/19/2017
Date Data Arrived at EDR: 07/05/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 35
Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 07/11/2017
Date Data Arrived at EDR: 07/14/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 69
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/18/2017
Next Scheduled EDR Contact: 01/01/2018
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 07/11/2017
Date Data Arrived at EDR: 07/14/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 69
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/18/2017
Next Scheduled EDR Contact: 01/01/2018
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 08/02/2017
Date Data Arrived at EDR: 10/03/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 3

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/03/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 05/03/2017
Date Data Arrived at EDR: 07/06/2017
Date Made Active in Reports: 08/22/2017
Number of Days to Update: 47

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/03/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 08/11/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 66

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 08/03/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 05/30/2017
Date Data Arrived at EDR: 06/01/2017
Date Made Active in Reports: 08/25/2017
Number of Days to Update: 85

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 08/07/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 06/05/2017
Date Data Arrived at EDR: 06/07/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 69

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 09/06/2017
Next Scheduled EDR Contact: 12/18/2017
Data Release Frequency: Quarterly

Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58
Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24
Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 08/31/2017
Next Scheduled EDR Contact: 12/18/2017
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10
Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 08/07/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Quarterly

Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 05/03/2017
Date Data Arrived at EDR: 05/08/2017
Date Made Active in Reports: 08/25/2017
Number of Days to Update: 109
Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 08/21/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 10/03/2017
Date Data Arrived at EDR: 10/06/2017
Date Made Active in Reports: 10/10/2017
Number of Days to Update: 4
Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 08/28/2017
Next Scheduled EDR Contact: 01/01/2018
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/05/2017
Date Data Arrived at EDR: 06/16/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 54
Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 09/15/2017
Date Data Arrived at EDR: 09/19/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 28
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/07/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/22/2017
Number of Days to Update: 64
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/07/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28
Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List
Cupa facility list

Date of Government Version: 08/07/2017
Date Data Arrived at EDR: 08/10/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 67
Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 08/07/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22
Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13
Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 08/24/2017
Next Scheduled EDR Contact: 12/11/2017
Data Release Frequency: Annually

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 05/04/2017
Date Data Arrived at EDR: 05/08/2017
Date Made Active in Reports: 07/27/2017
Number of Days to Update: 80

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 08/03/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 08/21/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/20/2017
Date Made Active in Reports: 08/22/2017
Number of Days to Update: 63

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/25/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 08/29/2017
Number of Days to Update: 69

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/25/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 06/23/2017
Date Data Arrived at EDR: 06/27/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 43

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 09/25/2017
Next Scheduled EDR Contact: 01/01/2018
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites

A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 07/05/2017
Date Data Arrived at EDR: 07/06/2017
Date Made Active in Reports: 08/22/2017
Number of Days to Update: 47

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 09/25/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 05/10/2017
Date Data Arrived at EDR: 05/16/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 85

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Varies

SUTTER COUNTY:

Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 06/02/2017
Date Data Arrived at EDR: 06/06/2017
Date Made Active in Reports: 08/25/2017
Number of Days to Update: 80

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 08/31/2017
Next Scheduled EDR Contact: 12/18/2017
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA Facility List

Cupa facilities

Date of Government Version: 07/19/2017
Date Data Arrived at EDR: 08/11/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 66

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 08/03/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 07/21/2017
Date Data Arrived at EDR: 07/25/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 83

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

TULARE COUNTY:

CUPA Facility List
Cupa program facilities

Date of Government Version: 09/27/2017
Date Data Arrived at EDR: 09/28/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 18

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 09/22/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 04/27/2017
Date Data Arrived at EDR: 04/27/2017
Date Made Active in Reports: 08/10/2017
Number of Days to Update: 105

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 06/26/2017
Date Data Arrived at EDR: 08/03/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 74

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/27/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 08/10/2017
Next Scheduled EDR Contact: 11/27/2017
Data Release Frequency: Quarterly

Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 06/26/2017
Date Data Arrived at EDR: 08/03/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 75

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Quarterly

Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 08/28/2017
Date Data Arrived at EDR: 09/12/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 9
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/12/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 06/29/2017
Date Data Arrived at EDR: 07/05/2017
Date Made Active in Reports: 08/25/2017
Number of Days to Update: 51
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 09/27/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 07/31/2017
Date Data Arrived at EDR: 08/03/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 74
Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 07/27/2017
Next Scheduled EDR Contact: 11/13/2017
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45
Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 11/27/2017
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 04/11/2017
Date Made Active in Reports: 07/27/2017
Number of Days to Update: 107
Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 10/05/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 07/31/2017
Date Data Arrived at EDR: 08/03/2017
Date Made Active in Reports: 10/12/2017
Number of Days to Update: 70

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/03/2017
Next Scheduled EDR Contact: 11/13/2017
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 07/25/2017
Date Made Active in Reports: 09/25/2017
Number of Days to Update: 62

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/19/2015
Date Made Active in Reports: 07/15/2015
Number of Days to Update: 26

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 08/21/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 04/13/2017
Date Made Active in Reports: 07/14/2017
Number of Days to Update: 92

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 09/11/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Annually

Oil/Gas Pipelines

Source: PennWell Corporation

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data

Source: PennWell Corporation

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.
Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.
Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.
Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish & Game
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

REDHAWK VALLEY PROJECTS
APNS 966-380-006, -007, -008, AND -009
TEMECULA, CA 92592

TARGET PROPERTY COORDINATES

Latitude (North):	33.468047 - 33° 28' 4.97''
Longitude (West):	117.053998 - 117° 3' 14.39''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	494982.4
UTM Y (Meters):	3702985.2
Elevation:	1451 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5636481 PECHANGA, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

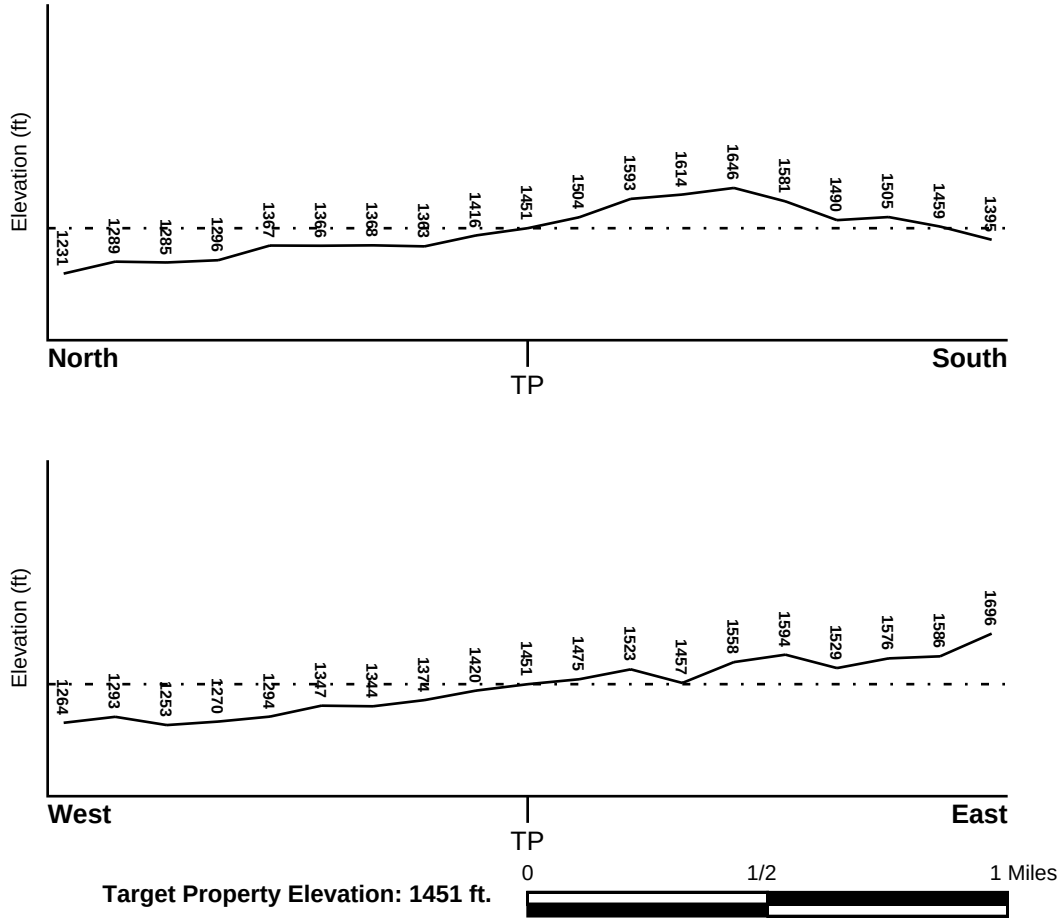
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General NW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Target Property Elevation: 1451 ft.

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06065C3310G	FEMA FIRM Flood data
Additional Panels in search area:	**FEMA Source Type**
06065C3305G	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
PECHANGA	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

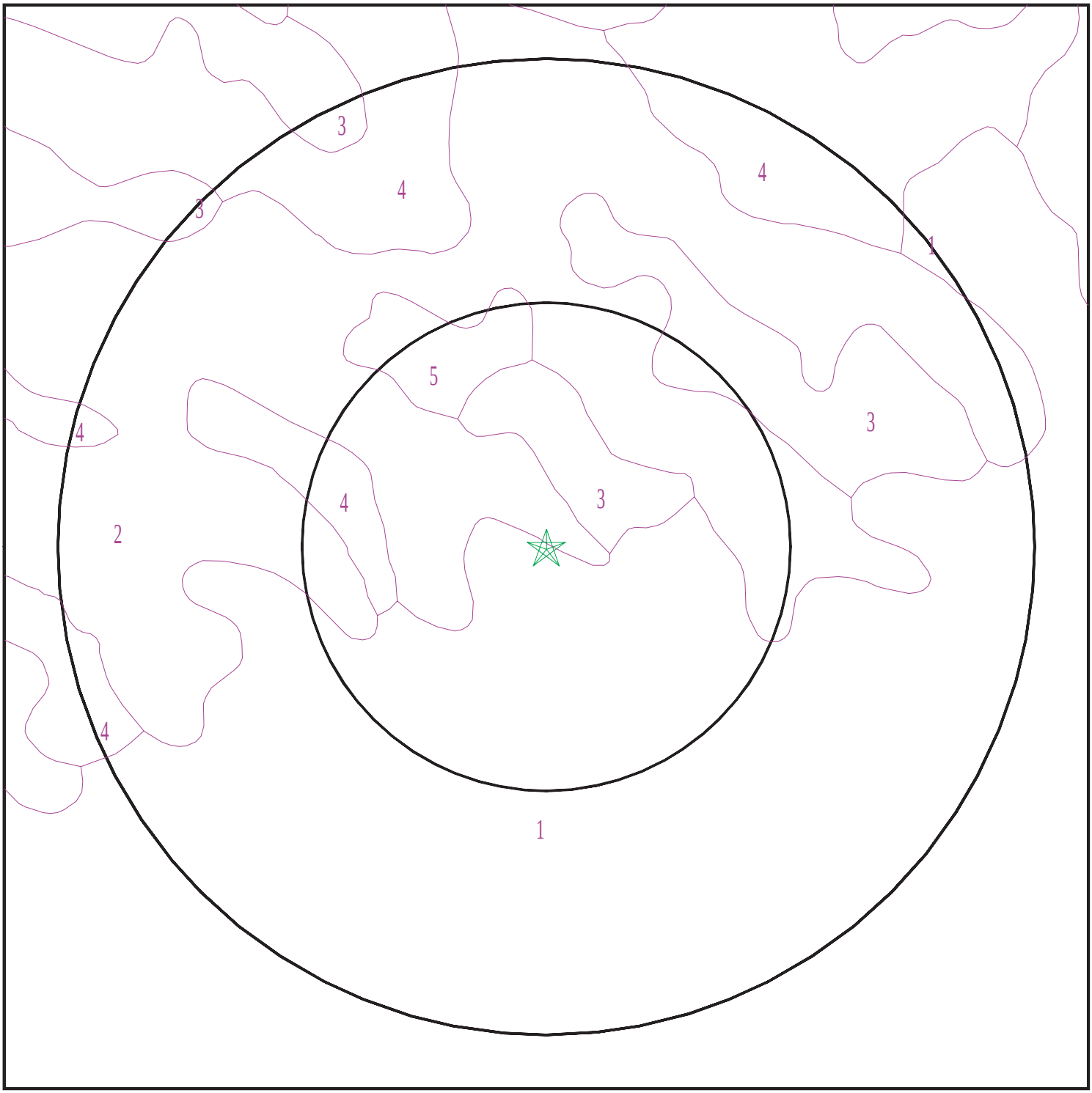
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 5085929.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Redhawk Valley Projects	CLIENT:	Geocon Geotechnical & Env
ADDRESS:	APNs 966-380-006, -007, -008, and -009 Temecula CA 92592	CONTACT:	Ann Laudermilk
LAT/LONG:	33.468047 / 117.053998	INQUIRY #:	5085929.2s
		DATE:	October 24, 2017 3:09 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: GULLIED LAND

Soil Surface Texture: variable

Hydrologic Group: Not reported

Soil Drainage Class:
Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	59 inches	variable	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 2

Soil Component Name: HANFORD

Soil Surface Texture: coarse sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	coarse sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.8 Min: 5.6
2	7 inches	40 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.8 Min: 5.6
3	40 inches	59 inches	stratified loamy sand to coarse sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 5.6

Soil Map ID: 3

Soil Component Name: RAMONA

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 7.3 Min: 5.6
2	7 inches	16 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 7.3 Min: 6.1
3	16 inches	68 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 4 Min: 1.4	Max: 7.3 Min: 6.1
4	68 inches	74 inches	gravelly sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6

Soil Map ID: 4

Soil Component Name: ARLINGTON

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	fine sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.8 Min: 6.1
2	11 inches	24 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 7.8 Min: 6.1
3	24 inches	35 inches	cemented	Not reported	Not reported	Max: 1.4 Min: 0.42	Max: Min:
4	35 inches	46 inches	coarse sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6

Soil Map ID: 5

Soil Component Name: ARLINGTON

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	fine sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.8 Min: 6.1
2	11 inches	24 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 7.8 Min: 6.1
3	24 inches	35 inches	cemented	Not reported	Not reported	Max: 1.4 Min: 0.42	Max: Min:
4	35 inches	46 inches	coarse sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 0.001 miles
State Database	1.000

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A2	USGS40000133905	1/2 - 1 Mile NE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

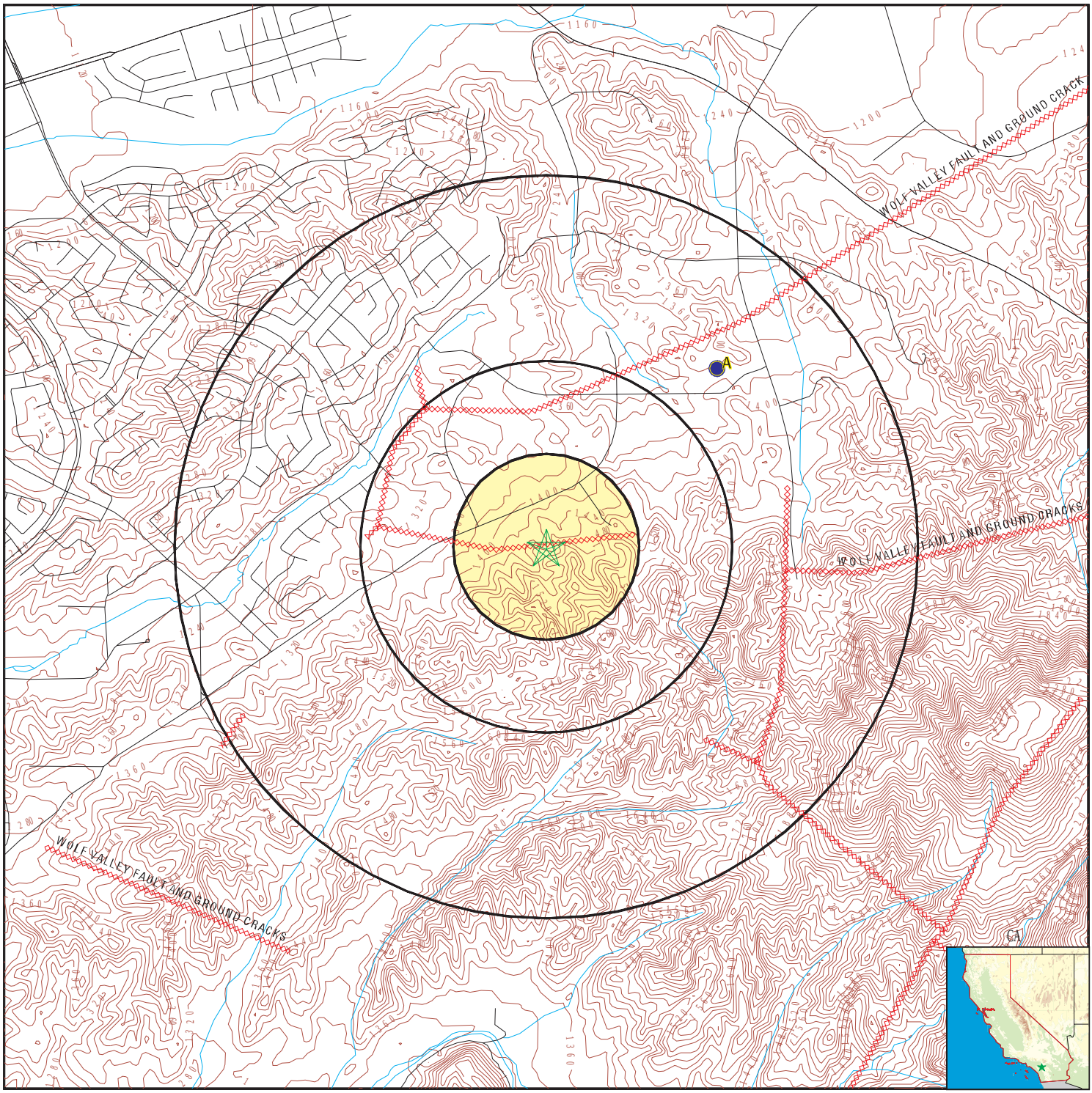
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	CADW60000021368	1/2 - 1 Mile NE

PHYSICAL SETTING SOURCE MAP - 5085929.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

0 1/4 1/2 1 Miles

- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Redhawk Valley Projects	CLIENT:	Geocon Geotechnical & Env
ADDRESS:	APNs 966-380-006, -007, -008, and -009 Temecula CA 92592	CONTACT:	Ann Laudermilk
LAT/LONG:	33.468047 / 117.053998	INQUIRY #:	5085929.2s
		DATE:	October 24, 2017 3:09 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A1
NE
1/2 - 1 Mile
Lower

CA WELLS **CADW60000021368**

Objectid:	21368
Latitude:	33.475
Longitude:	-117.0465
Site code:	334750N1170465W001
State well numbe:	08S02W13N001S
Local well name:	’’
Well use id:	6
Well use descrip:	Unknown
County id:	33
County name:	Riverside
Basin code:	’9-5’
Basin desc:	Temecula Valley
Dwr region id:	80238
Dwr region:	Southern Region Office
Site id:	CADW60000021368

A2
NE
1/2 - 1 Mile
Lower

FED USGS **USGS40000133905**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-332830117024101		
Monloc name:	008S002W13N001S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070302	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	33.4750298
Longitude:	-117.0455833	Sourcemap scale:	Not Reported
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	1360.00
Vert measure units:	feet	Vertacc measure val:	20
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	245
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1967-11-01	243.00	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
92592	14	0

Federal EPA Radon Zone for RIVERSIDE County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for RIVERSIDE COUNTY, CA

Number of sites tested: 12

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.117 pCi/L	100%	0%	0%
Living Area - 2nd Floor	0.450 pCi/L	100%	0%	0%
Basement	1.700 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish & Game
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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APPENDIX C

Redhawk Valley Projects

APNs 966-380-006, -007, -008, and -009

Temecula, CA 92592

Inquiry Number: 5085929.9

October 25, 2017

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

10/25/17

Site Name:

Redhawk Valley Projects
APNs 966-380-006, -007, -008
Temecula, CA 92592
EDR Inquiry # 5085929.9

Client Name:

Geocon Geotechnical & Env
3303 North San Fernando Blvd.
Burbank, CA 91504
Contact: Ann Laudermilk

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	Scale	Details	Source
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2010	1"=500'	Flight Year: 2010	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2006	1"=500'	Flight Year: 2006	USDA/NAIP
2005	1"=500'	Flight Year: 2005	USDA/NAIP
1996	1"=500'	Flight Date: September 30, 1996	USGS
1995	1"=500'	Acquisition Date: October 02, 1995	USGS/DOQQ
1989	1"=500'	Flight Date: August 14, 1989	USDA
1985	1"=500'	Flight Date: February 24, 1985	USDA
1978	1"=500'	Flight Date: September 20, 1978	USDA
1967	1"=500'	Flight Date: May 09, 1967	USDA
1961	1"=500'	Flight Date: July 08, 1961	USDA
1953	1"=500'	Flight Date: April 14, 1953	USDA
1949	1"=500'	Flight Date: May 25, 1949	USDA
1946	1"=500'	Flight Date: December 19, 1946	USGS
1939	1"=500'	Flight Date: April 16, 1939	USDA

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

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INQUIRY #: 5085929.9
YEAR: 2012
= 500'
N
EDR

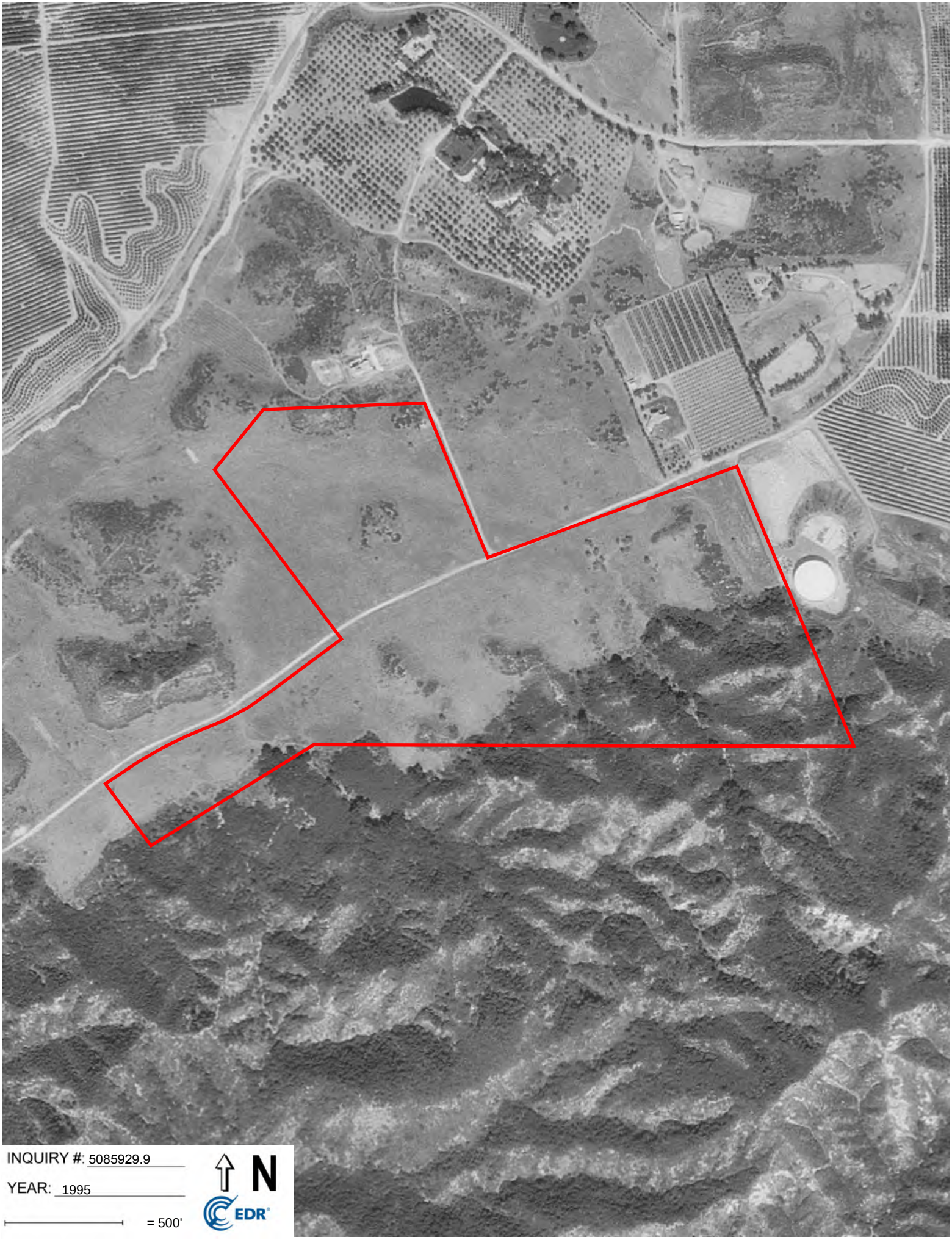

INQUIRY #: 5085929.9
YEAR: 2010
= 500'
N
EDR


INQUIRY #: 5085929.9
YEAR: 2009
= 500'
N
EDR

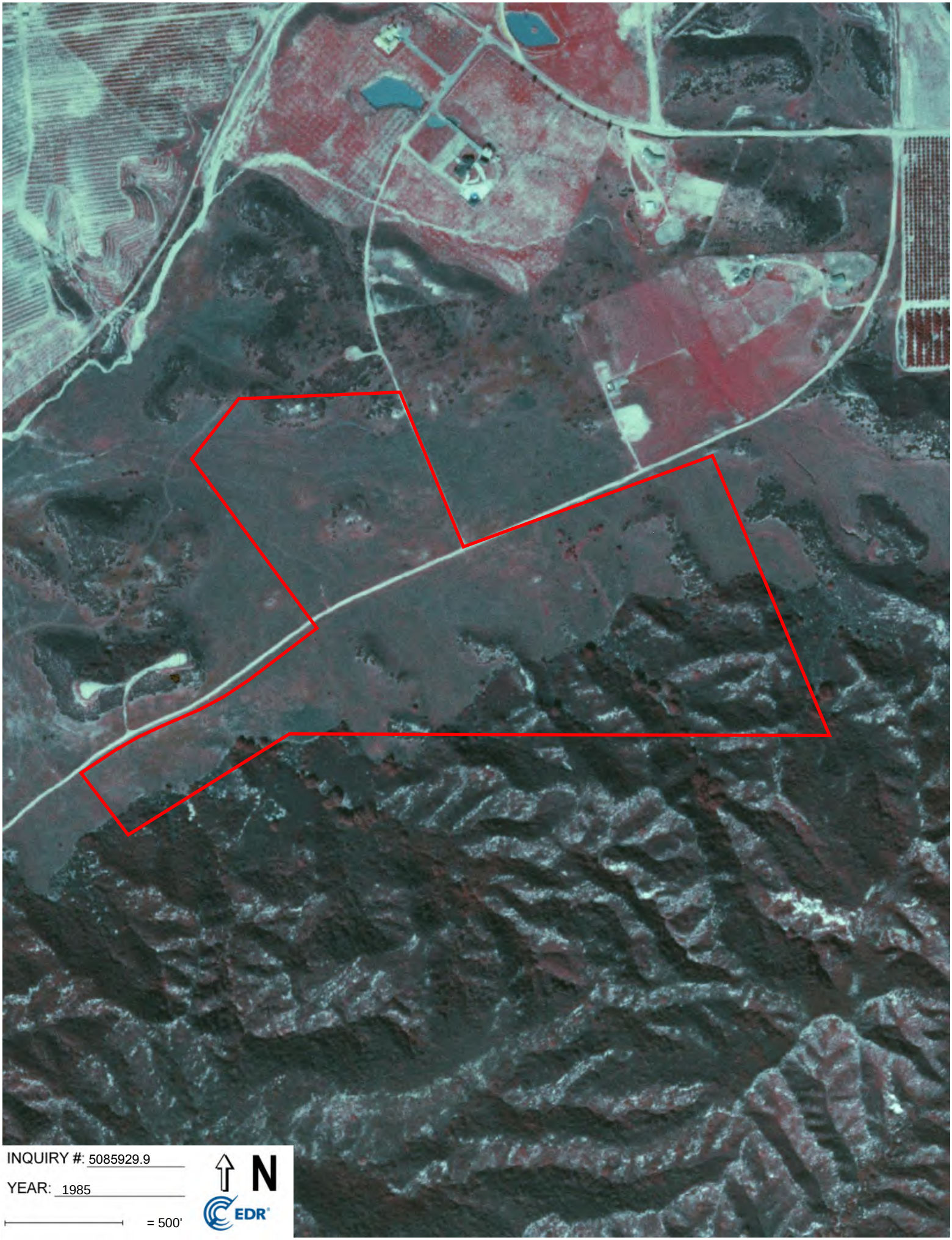

INQUIRY #: 5085929.9
YEAR: 2006
= 500'
N
EDR


INQUIRY #: 5085929.9
YEAR: 2005
= 500'
N
EDR


INQUIRY #: 5085929.9
YEAR: 1996
= 500'
N
EDR


INQUIRY #: 5085929.9
YEAR: 1995
= 500'
N
EDR


INQUIRY #: 5085929.9
YEAR: 1989
= 500'
N
EDR


INQUIRY #: 5085929.9
YEAR: 1985
= 500'
N
EDR


INQUIRY #: 5085929.9
YEAR: 1978
= 500'
N
EDR



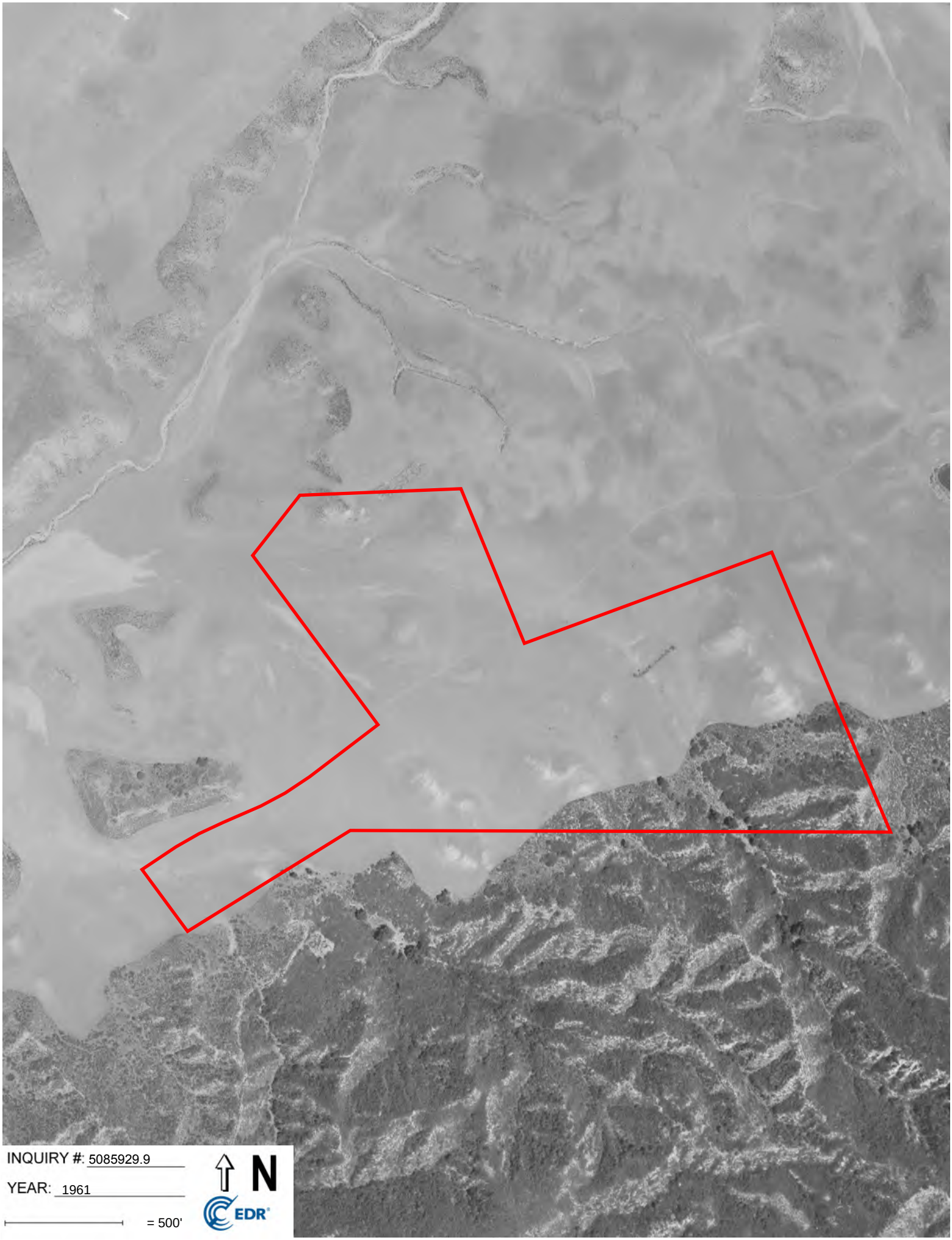
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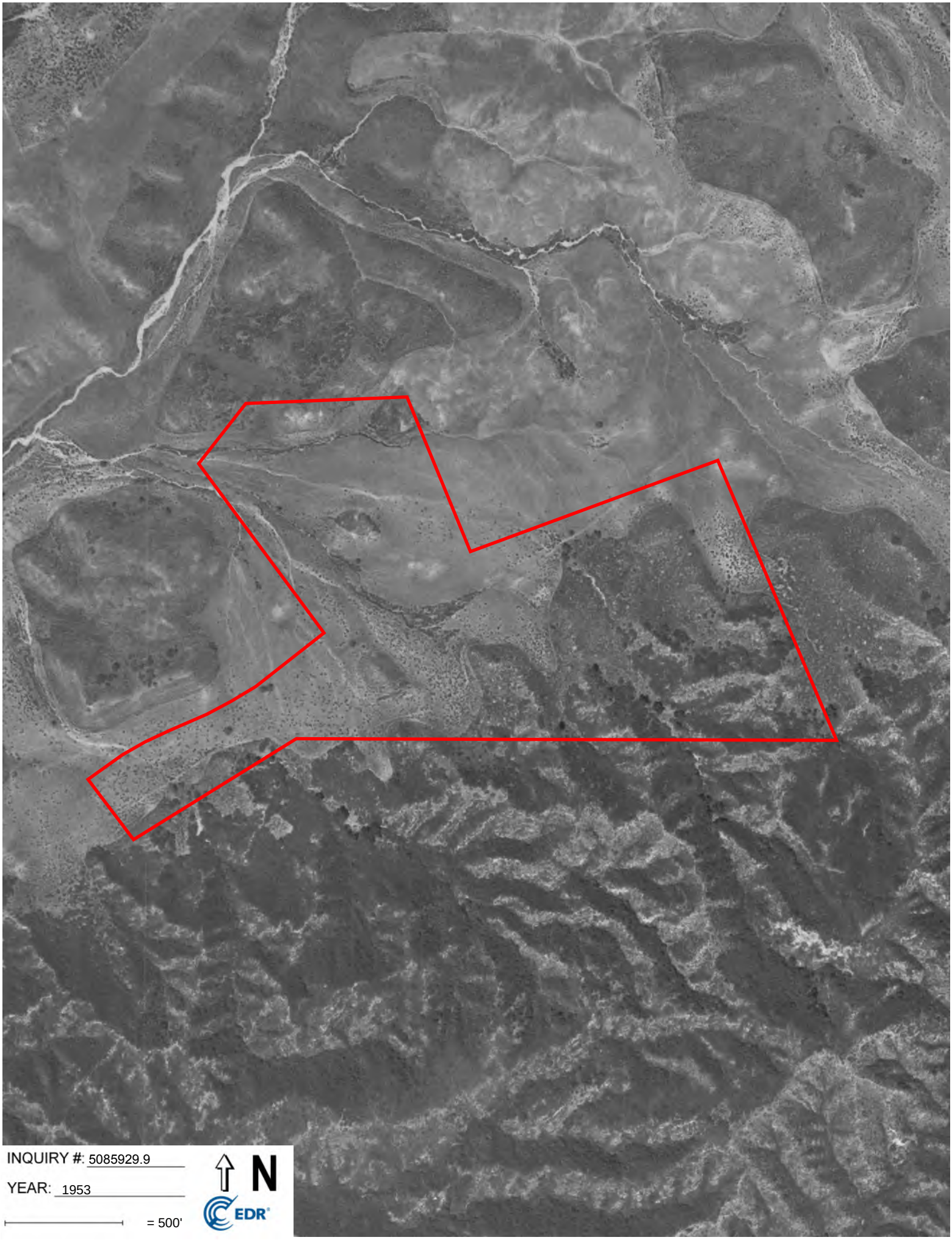
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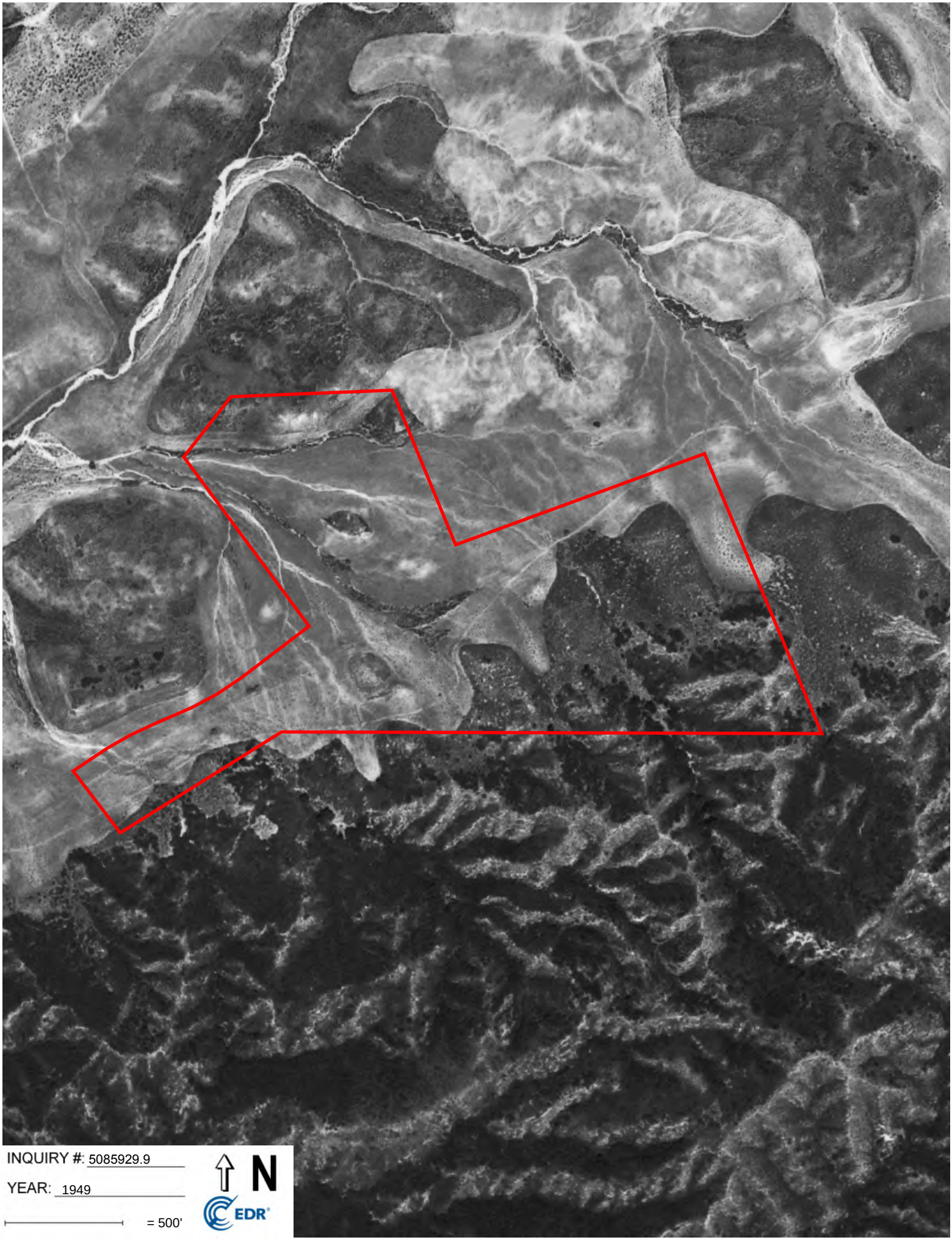
= 500'

N

EDR


INQUIRY #: 5085929.9
YEAR: 1961
= 500'
N
EDR


INQUIRY #: 5085929.9
YEAR: 1953
= 500'
N
EDR



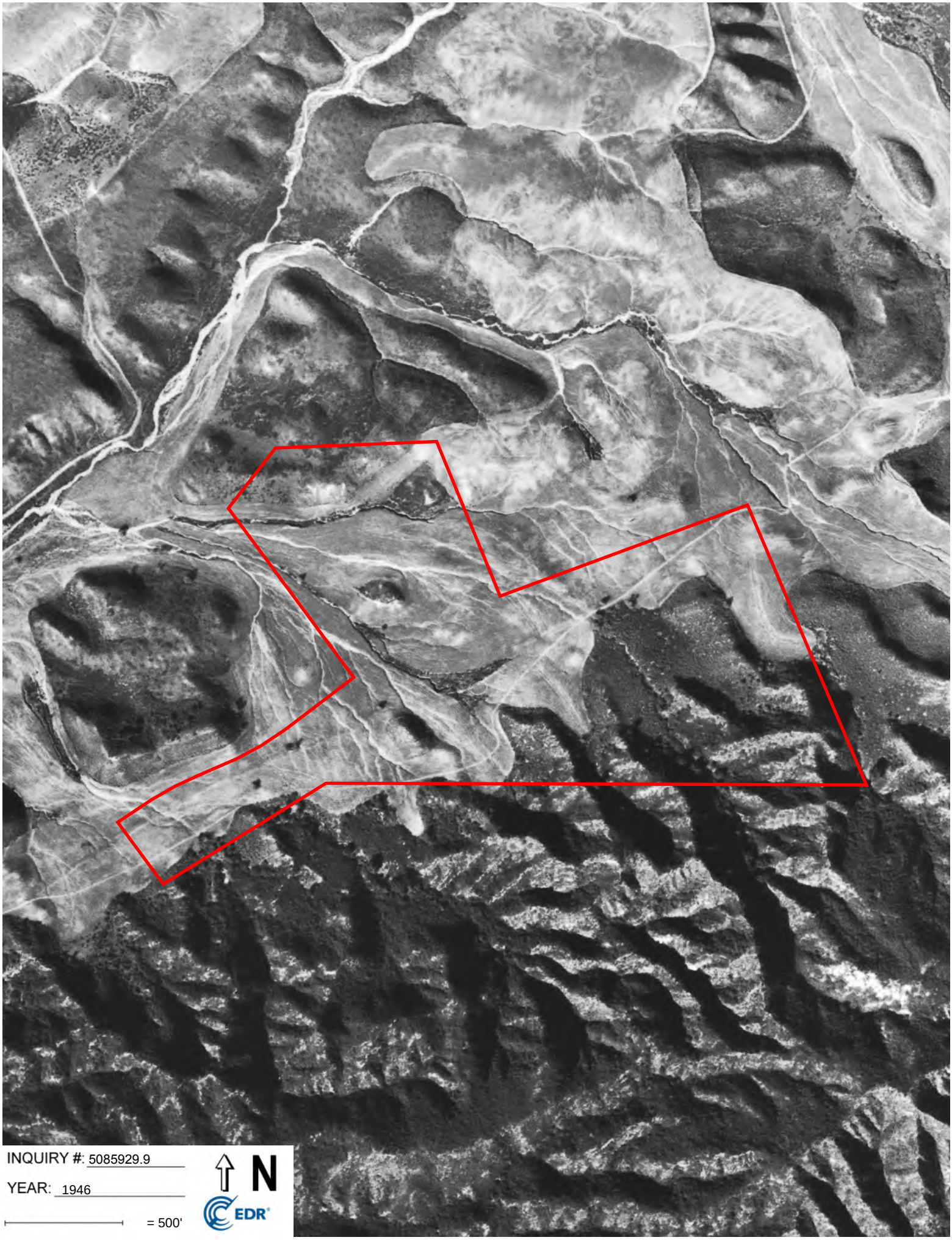
INQUIRY #: 5085929.9

YEAR: 1949

= 500'

N

EDR


INQUIRY #: 5085929.9
YEAR: 1946
= 500'
N
EDR



INQUIRY #: 5085929.9

YEAR: 1939

= 500'

N

EDR

APPENDIX D

Redhawk Valley Projects

APNs 966-380-006, -007, -008, and -009

Temecula, CA 92592

Inquiry Number: 5085929.4

October 24, 2017

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

10/24/17

Site Name:	Client Name:
Redhawk Valley Projects	Geocon Geotechnical & Env
APNs 966-380-006, -007, -008	3303 North San Fernando Blvd.
Temecula, CA 92592	Burbank, CA 91504
EDR Inquiry # 5085929.4	Contact: Ann Laudermilk

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Geocon Geotechnical & Env were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:		*Coordinates:*	
P.O.#	NA	**Latitude:**	33.468047 33° 28' 5" North
Project:	Kearny Real Estate Company	**Longitude:**	-117.053998 -117° 3' 14" West
		UTM Zone:	Zone 11 North
		UTM X Meters:	494982.53
		UTM Y Meters:	3703177.94
		Elevation:	1448.59' above sea level

Maps Provided:

2012	1901
1997	
1988	
1982	
1968	
1950	
1949	
1947	

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets



Pechanga
2012
7.5-minute, 24000

1997 Source Sheets



Pechanga
1997
7.5-minute, 24000
Aerial Photo Revised 1994

1988 Source Sheets



Pechanga
1988
7.5-minute, 24000
Aerial Photo Revised 1985

1982 Source Sheets



Pechanga
1982
7.5-minute, 24000
Aerial Photo Revised 1980

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1968 Source Sheets



Pechanga
1968
7.5-minute, 24000
Aerial Photo Revised 1967

1950 Source Sheets



Pechanga
1950
7.5-minute, 24000
Aerial Photo Revised 1947

1949 Source Sheets



Pechanga
1949
7.5-minute, 24000
Aerial Photo Revised 1947

1947 Source Sheets



TEMECULA
1947
15-minute, 50000

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

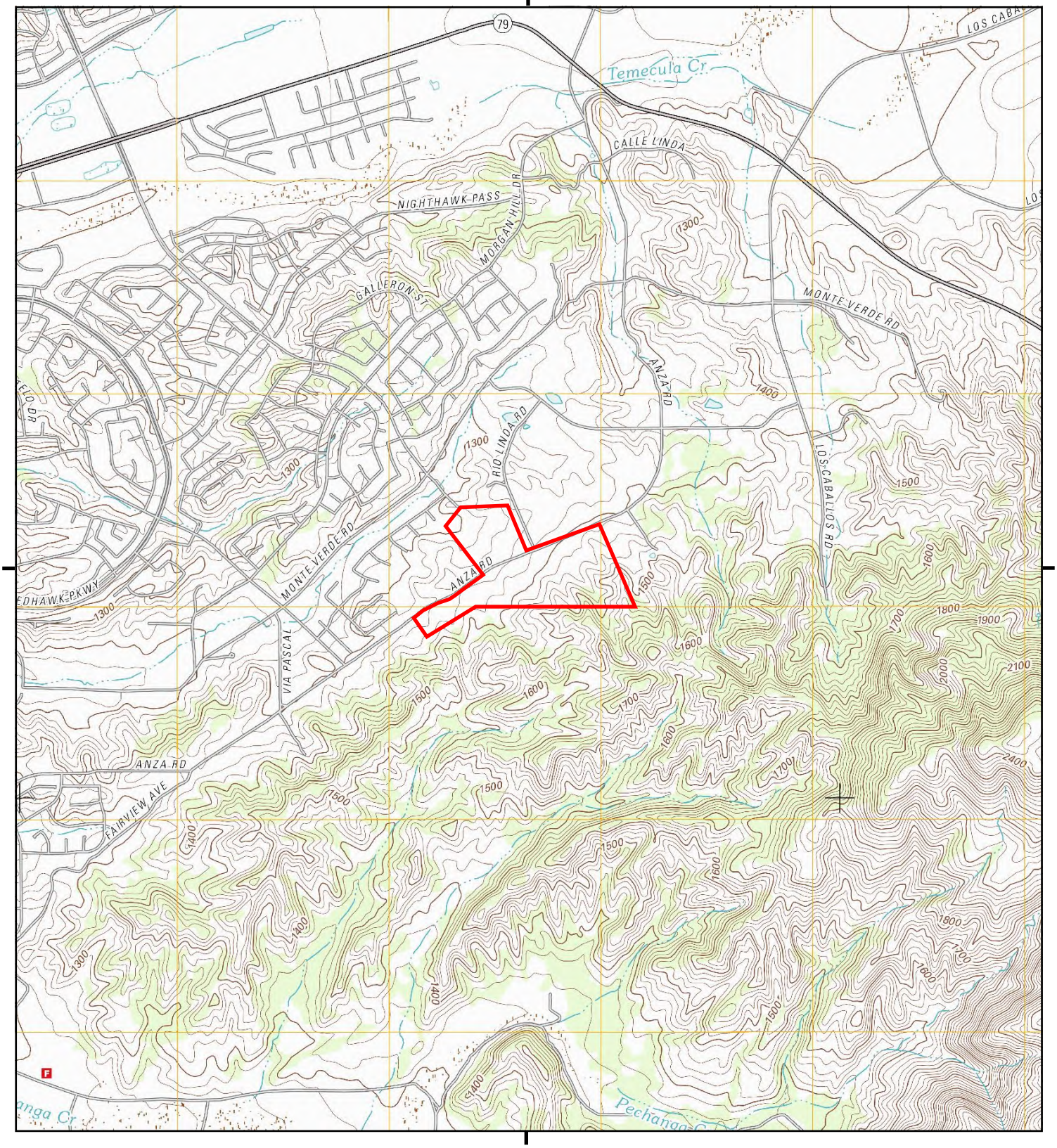
1901 Source Sheets



San Luis Rey
1901
30-minute, 125000

Historical Topo Map

2012



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

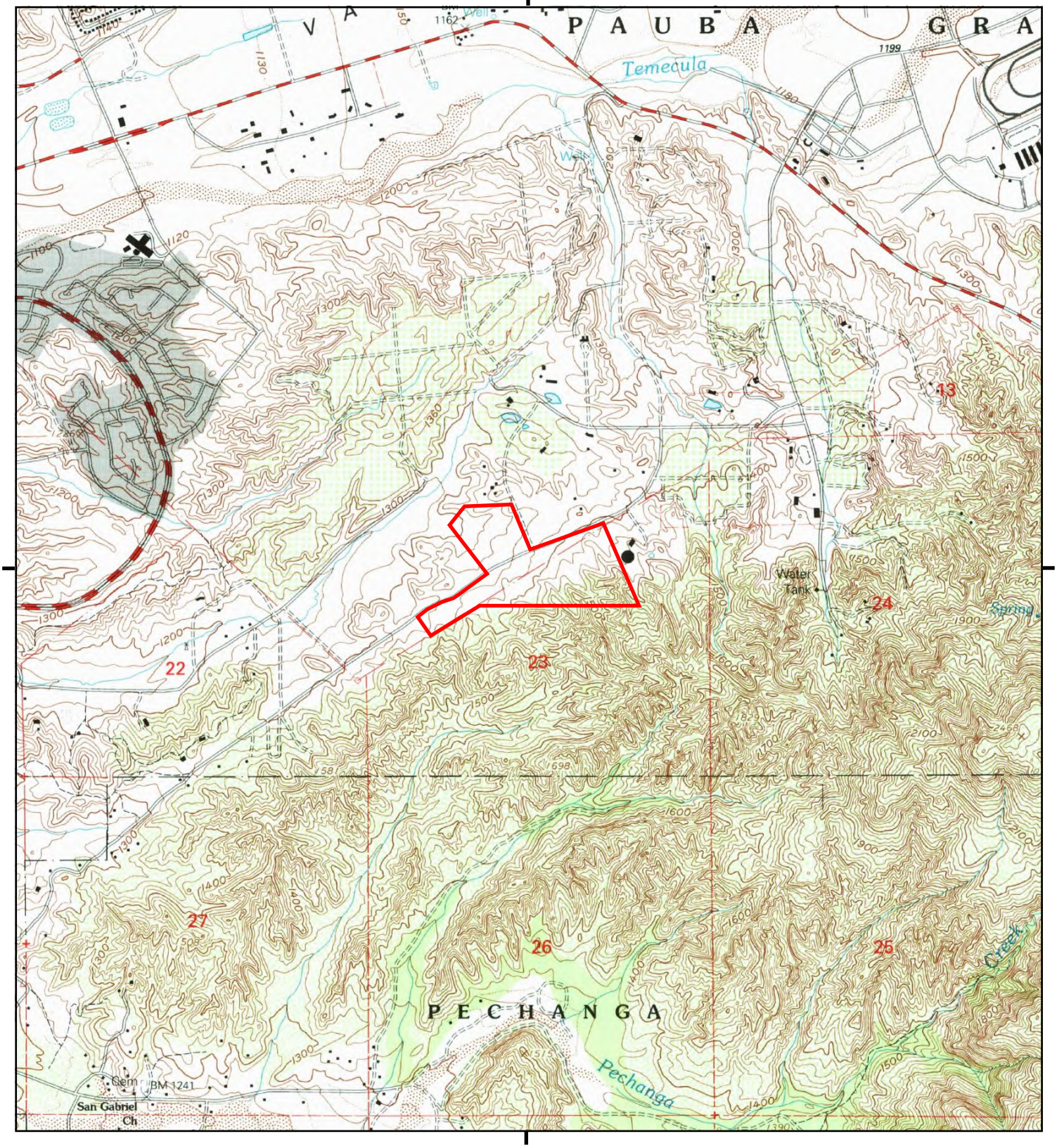
TP, Pechanga, 2012, 7.5-minute

SITE NAME: Redhawk Valley Projects
ADDRESS: APNs 966-380-006, -007, -008, and -009
Temecula, CA 92592
CLIENT: Geocon Geotechnical & Env

N

Historical Topo Map

1997



This report includes information from the following map sheet(s).

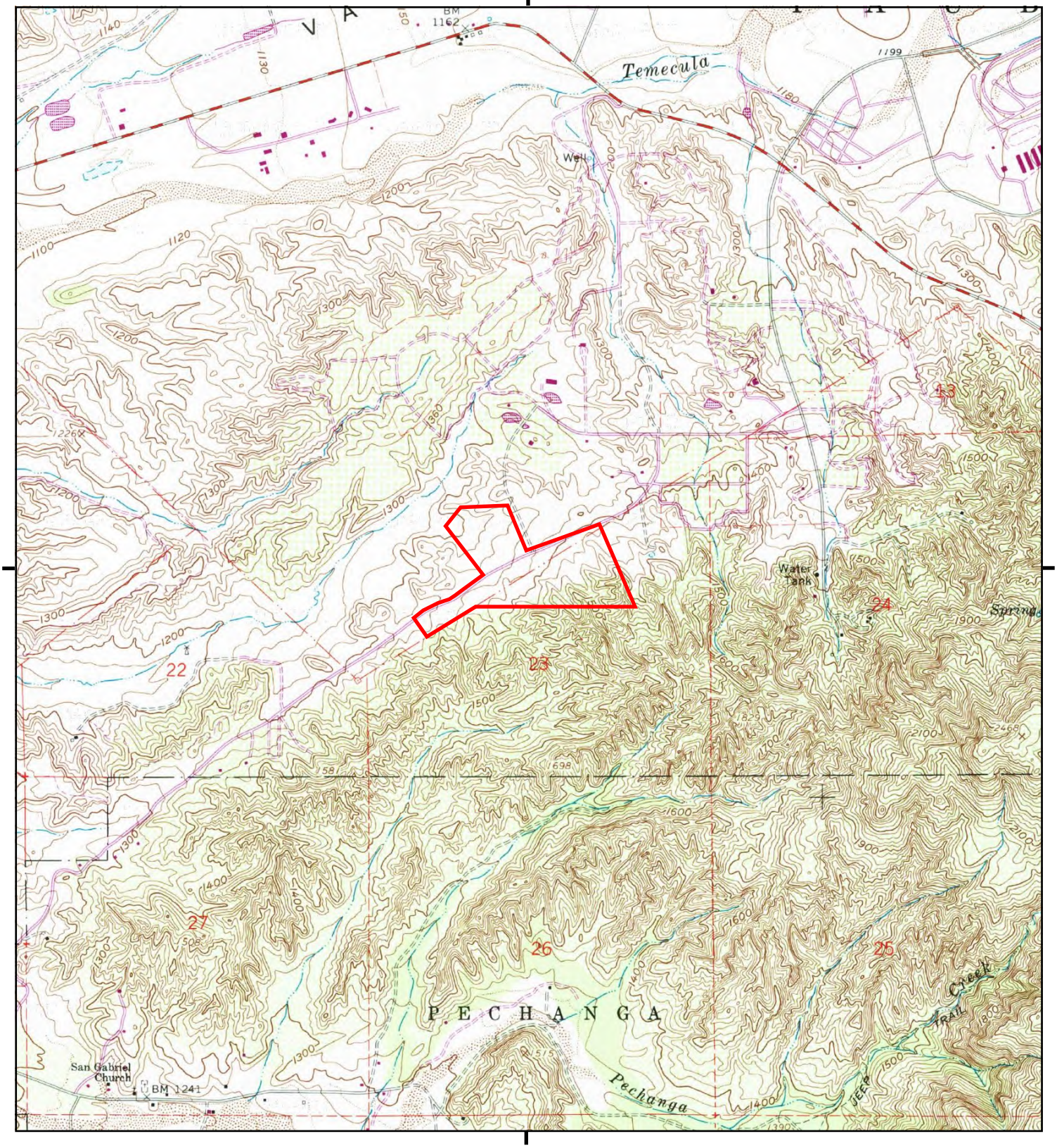
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Pechanga, 1997, 7.5-minute

SITE NAME: Redhawk Valley Projects
ADDRESS: APNs 966-380-006, -007, -008, and -009
Temecula, CA 92592
CLIENT: Geocon Geotechnical & Env

N



This report includes information from the following map sheet(s).

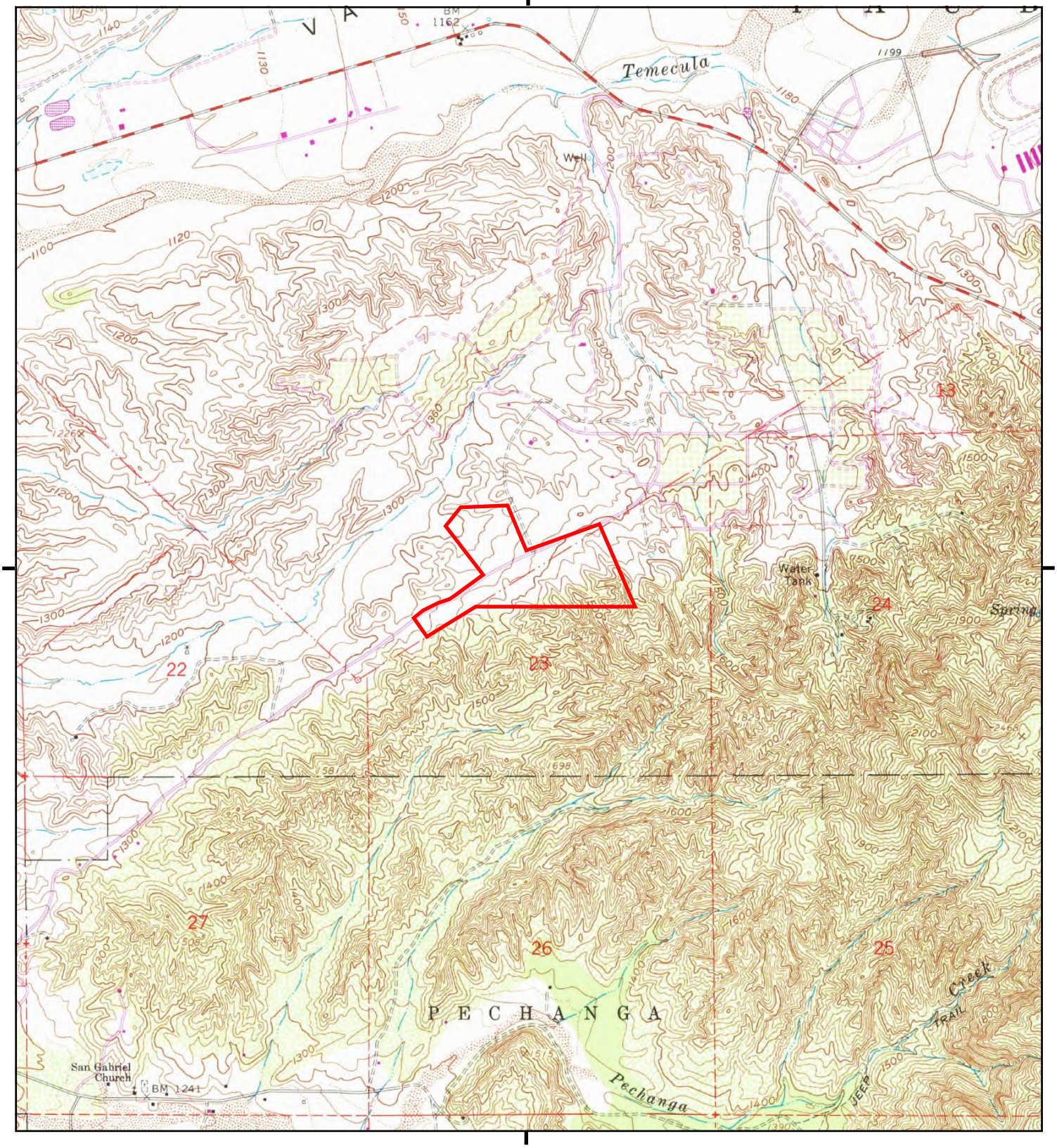
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Pechanga, 1988, 7.5-minute

SITE NAME: Redhawk Valley Projects
ADDRESS: APNs 966-380-006, -007, -008, and -009
Temecula, CA 92592
CLIENT: Geocon Geotechnical & Env

N



This report includes information from the following map sheet(s).

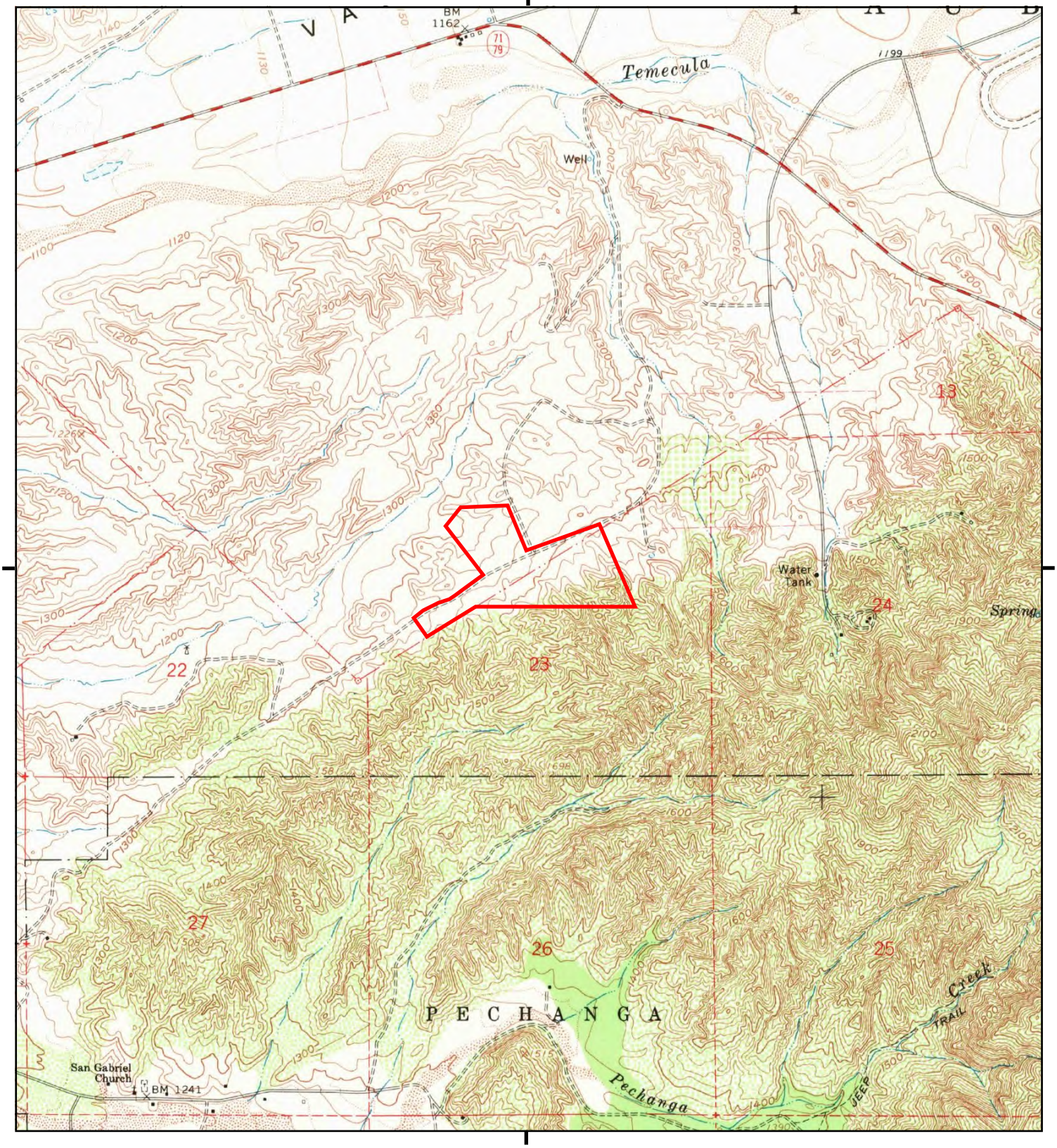
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Pechanga, 1982, 7.5-minute

SITE NAME: Redhawk Valley Projects
ADDRESS: APNs 966-380-006, -007, -008, and -009
Temecula, CA 92592
CLIENT: Geocon Geotechnical & Env

N



This report includes information from the following map sheet(s).

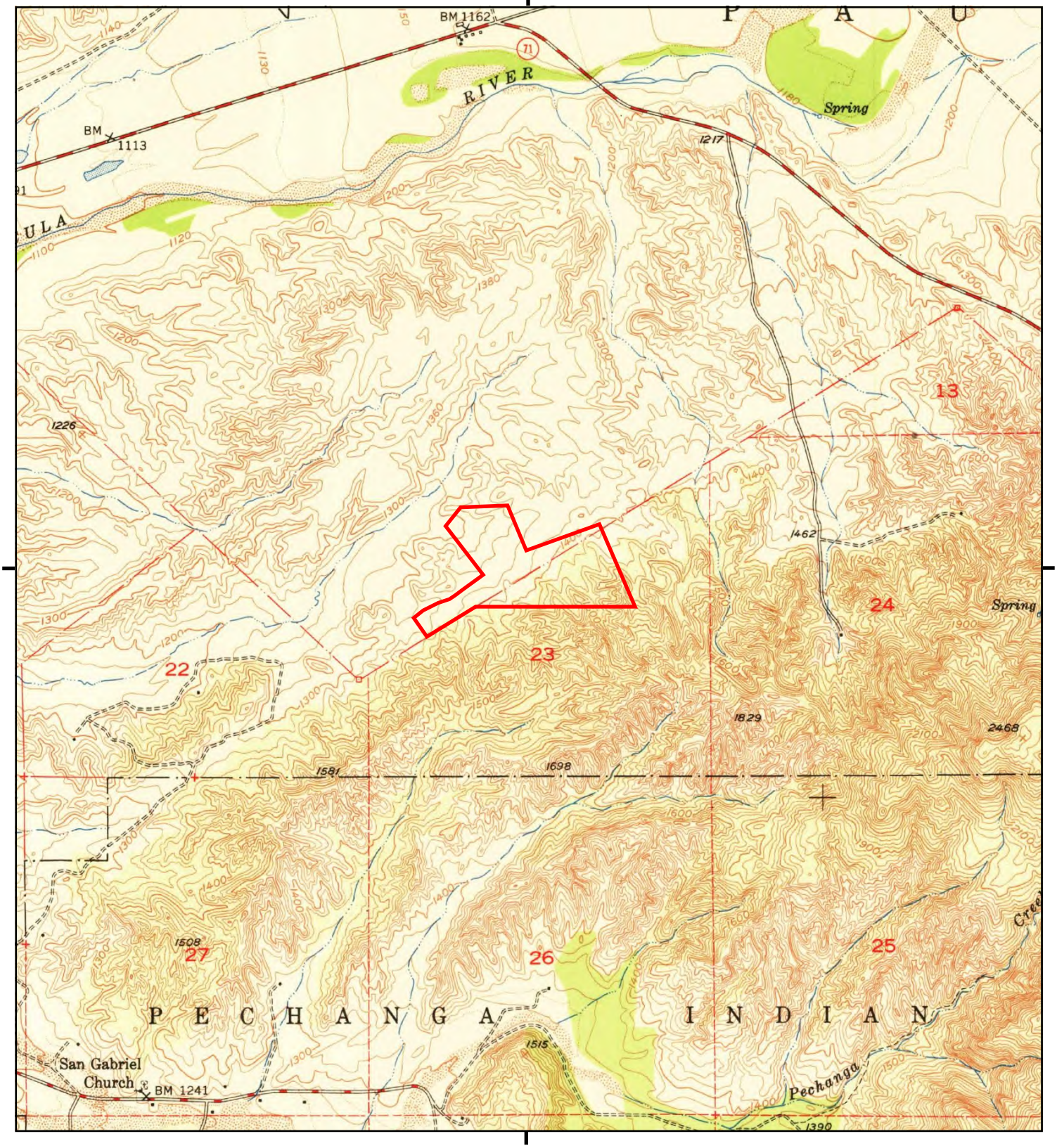
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Pechanga, 1968, 7.5-minute

SITE NAME: Redhawk Valley Projects
ADDRESS: APNs 966-380-006, -007, -008, and -009
Temecula, CA 92592
CLIENT: Geocon Geotechnical & Env

N



This report includes information from the following map sheet(s).

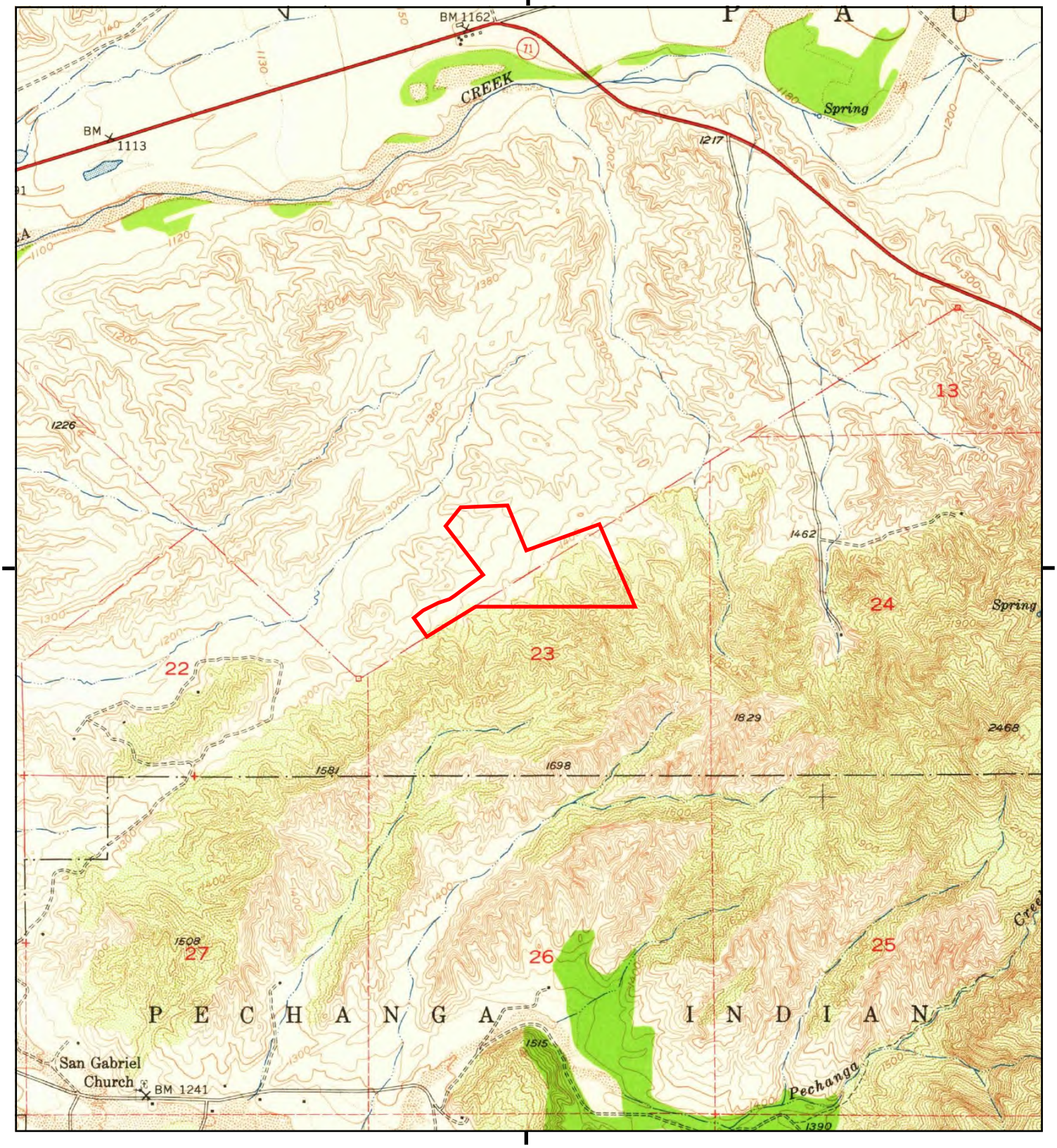
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Pechanga, 1950, 7.5-minute

SITE NAME: Redhawk Valley Projects
ADDRESS: APNs 966-380-006, -007, -008, and -009
Temecula, CA 92592
CLIENT: Geocon Geotechnical & Env

N



This report includes information from the following map sheet(s).

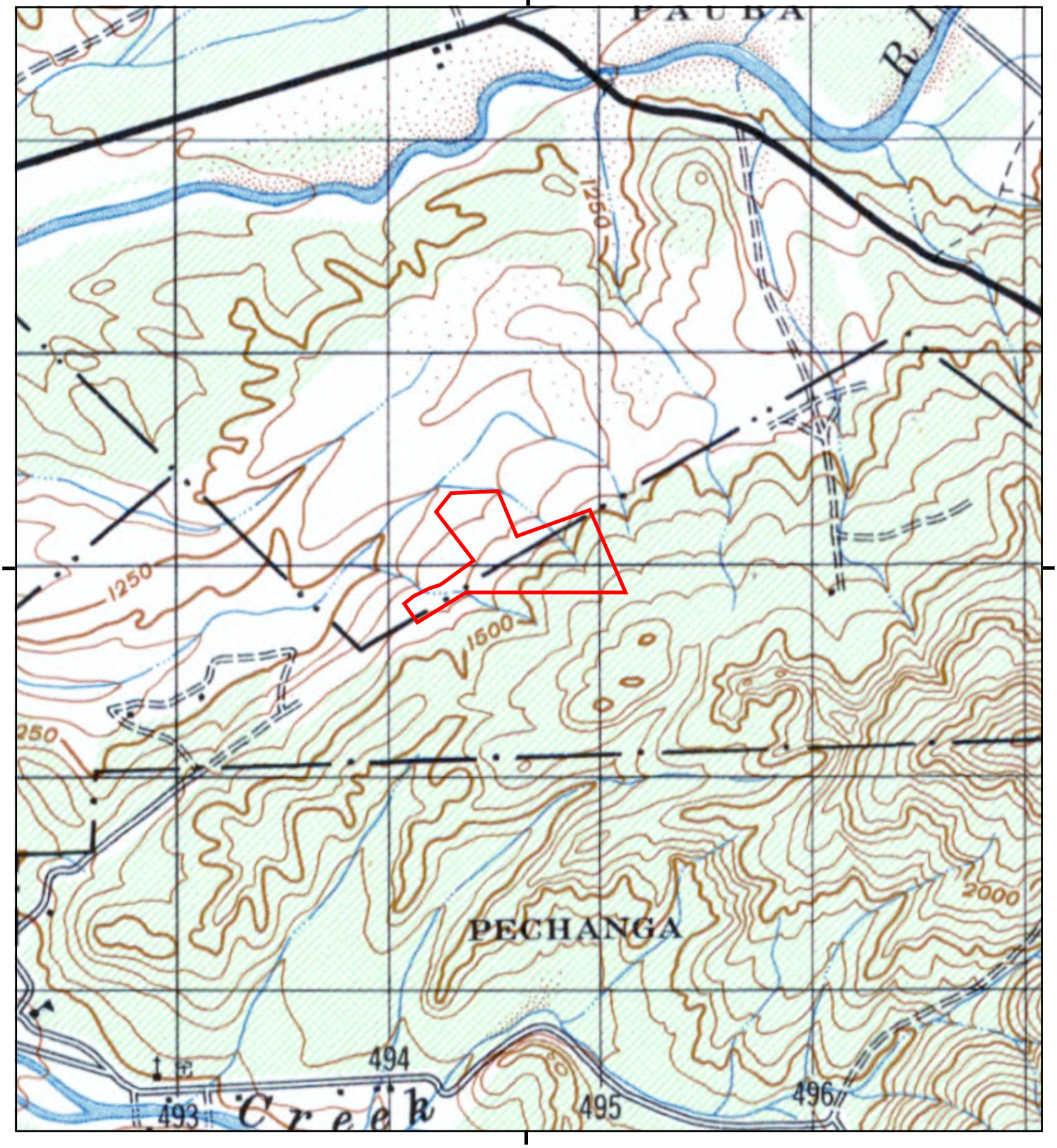
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Pechanga, 1949, 7.5-minute

SITE NAME: Redhawk Valley Projects
ADDRESS: APNs 966-380-006, -007, -008, and -009
Temecula, CA 92592
CLIENT: Geocon Geotechnical & Env

N



This report includes information from the following map sheet(s).

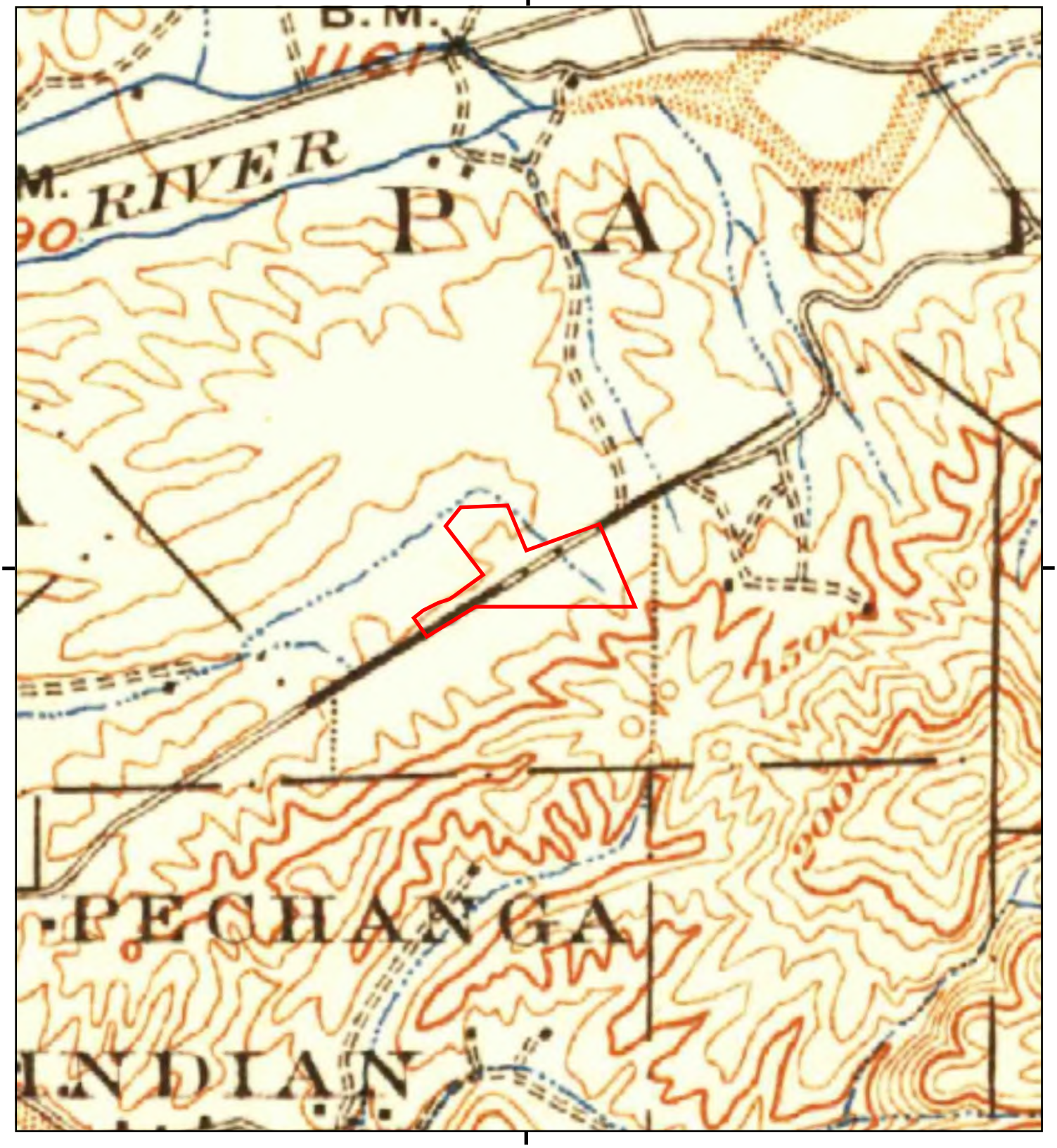
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, TEMECULA, 1947, 15-minute

SITE NAME: Redhawk Valley Projects
ADDRESS: APNs 966-380-006, -007, -008, and -009
Temecula, CA 92592
CLIENT: Geocon Geotechnical & Env

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, San Luis Rey, 1901, 30-minute

SITE NAME: Redhawk Valley Projects
ADDRESS: APNs 966-380-006, -007, -008, and -009
Temecula, CA 92592
CLIENT: Geocon Geotechnical & Env

N

APPENDIX E

Redhawk Valley Projects
APNs 966-380-006, -007, -008, and -009
Temecula, CA 92592

Inquiry Number: 5085929.5
October 25, 2017

The EDR-City Directory Image Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

City Directory Images

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Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

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RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	Target Street	Cross Street	Source
2014	☐	☑	EDR Digital Archive
2010	☐	☑	EDR Digital Archive
2005	☐	☑	EDR Digital Archive
2000	☐	☐	Haines Criss-Cross Directory
1995	☐	☐	Haines Criss-Cross Directory
1990	☐	☐	Haines Criss-Cross Directory
1985	☐	☐	Haines Criss-Cross Directory
1980	☐	☐	Haines Criss-Cross Directory
1975	☐	☐	Haines Criss-Cross Directory

FINDINGS

TARGET PROPERTY STREET

APNs 966-380-006, -007, -008, and -009
Temecula, CA 92592

No Addresses Found

FINDINGS

CROSS STREETS

Year	*CD Image*	*Source*	
ANZA RD			
2014	pg. A1	EDR Digital Archive	
2010	pg. A3	EDR Digital Archive	
2005	pg. A5	EDR Digital Archive	
2000	-	Haines Criss-Cross Directory	Street not listed in Source
1995	-	Haines Criss-Cross Directory	Street not listed in Source
1990	-	Haines Criss-Cross Directory	Street not listed in Source
1985	-	Haines Criss-Cross Directory	Street not listed in Source
1980	-	Haines Criss-Cross Directory	Street not listed in Source
1975	-	Haines Criss-Cross Directory	Street not listed in Source
EL MIRADOR CORTE			
2014	pg. A2	EDR Digital Archive	
2010	pg. A4	EDR Digital Archive	
2005	-	EDR Digital Archive	Target and Adjoining not listed in Source
2000	-	Haines Criss-Cross Directory	Street not listed in Source
1995	-	Haines Criss-Cross Directory	Street not listed in Source
1990	-	Haines Criss-Cross Directory	Street not listed in Source
1985	-	Haines Criss-Cross Directory	Street not listed in Source
1980	-	Haines Criss-Cross Directory	Street not listed in Source
1975	-	Haines Criss-Cross Directory	Street not listed in Source

City Directory Images

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

ANZA RD 2014

45031	OCCUPANT UNKNOWN,
45201	VIETS, ELIZABETH A
	WALLEN ROBBY
45560	ROYAL MONA A
	ROYAL, GREGORY J
45570	DEXTER, DOMINIQUE C
45580	HADDAD, MICHAEL S
45590	BELLOVICH, B
45600	JACKSON, DUANE
45610	OCCUPANT UNKNOWN,
	PACIFIC ACHIEVEMENT INC
45620	LANDE, TED A

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

EL MIRADOR CORTE 2014

34721 HOPKINS IMAGING SYSTEMS

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

ANZA RD 2010

45031 LITTEN, LESLIE H
45201 WALLEN ROBBY
WALLEN, ROBB L
45551 OCCUPANT UNKNOWN,
45560 MALOOF, CRAIG A
NETWORK DYNAMICS CORP
45570 OCCUPANT UNKNOWN,
45580 HADDAD, MICHAEL S
45590 SANCHEZ, DAVID
SPECIALTY DIESEL
45600 JACKSON, BRIAN K
45610 WILSON, RICHARD L
45620 LANDE, TED A

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

EL MIRADOR CORTE 2010

34721 HOPKINS IMAGING SYSTEMS

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

ANZA RD 2005

45031 LITTEN, LESLIE H
45201 VIETS, JOYCE R
WALLEN ROBBY
45551 OCCUPANT UNKNOWN,

APPENDIX F

Redhawk Valley Projects

APNs 966-380-006, -007, -008, and -009

Temecula, CA 92592

Inquiry Number: 5085929.3

October 24, 2017

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

10/24/17

Site Name:

Redhawk Valley Projects
APNs 966-380-006, -007, -008
Temecula, CA 92592
EDR Inquiry # 5085929.3

Client Name:

Geocon Geotechnical & Env
3303 North San Fernando Blvd.
Burbank, CA 91504
Contact: Ann Laudermilk

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Certification # E11B-4FBE-8B81

PO # NA

Project Kearny Real Estate Company

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Sanborn® Library search results

Certification #: E11B-4FBE-8B81

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- ☑ Library of Congress
- ☑ University Publications of America
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APPENDIX C

RANCHO WATER DISTRICT LETTER

Rancho Water

February 23, 2022

Lindsey Fletcher Dollman, Associate General Counsel
Pechanga Office of the General Counsel
Post Office Box 1477
Temecula, CA 92593

Board of Directors

Carol Lee Gonzales-Brady
President

John V. Rossi
Senior Vice President

Brian J. Brady

Angel Garcia

John E. Hoagland

William E. Plummer

Bill Wilson

Officers

Robert S. Grantham
General Manager

Eva Plajzer, P.E.
Assistant General Manager
Engineering and Operations

Jason A. Martin
Director of Administration

Eileen Dienzo
Director of Human Resources

Kelli E. Garcia
District Secretary

James B. Gilpin
Best Best & Krieger LLP
General Counsel

SUBJECT: **WATER AVAILABILITY**
ANZA ROAD
PARCEL NOS. 3, 4, 5, AND 7 OF PARCEL MAP NO. 5136
APNS 966-380-006, 966-380-007, 966-380-008, AND 966-380-009
[PECHANGA BAND OF LUISENO MISSION INDIANS]

Dear Ms. Dollman:

Please be advised that the above-referenced project/property is located within the service boundaries of Rancho California Water District (Rancho Water/District). The subject project/property fronts an existing 36-inch diameter water pipeline (1485 Pressure Zone) within Anza Road and an existing 18-inch diameter reclaimed water pipeline (1441 Pressure Zone) within Anza Road. Please refer to the enclosed exhibit map.

Water service to the subject project/property does not exist. Additions or modifications to water service arrangements are subject to the Rules and Regulations (governing) Water System Facilities and Service, as well as the completion of financial arrangements between Rancho Water and the property owner.

Water service to individual lots will require the extension of water facilities within dedicated public and/or private right-of-ways. Individual water meters will be required for each lot and/or project unit, including separate water services/meters for domestic service, fire service, and landscape irrigation service, as applicable. Beginning in 2018, newly constructed multi-unit residential structures are required to measure the quantity of water supplied to each individual residential dwelling unit.

Where private on-site water facilities (for water service, fire service, irrigation, or other purpose) will cross or will be shared amongst multiple lots/project units **(only by special variance of the Rules and Regulations)**, and/or where such 'common' facilities will be owned and maintained by a Property Owners' Association, Rancho Water requires execution and recordation of a *Reciprocal Easement and Maintenance Agreement* or equivalent document of covenants, codes, and restrictions.

22\CS:rm002\F450\FEG

Water availability is contingent upon the property owner(s) destroying all on-site wells and signing an Agency Agreement that assigns water management rights, if any, to Rancho Water. **In addition, water availability is subject to water supply shortage contingency measures in effect (pursuant to Rancho Water's Water Shortage Contingency Plan or other applicable ordinances and policy), and/or the adoption of a required Water Supply Assessment for the development, as determined by the Lead Agency.**

In accordance with Resolution 2007-10-5 and subject to a Notice of Determination by Rancho Water, the project/property may be required to use recycled water for all landscape irrigation, which should be noted as a condition for any subsequent development plans. Recycled water service, therefore, would be available upon construction of any required on-site and/or off-site recycled water facilities and the completion of financial arrangements between Rancho Water and the property owner. Requirements for the use of recycled water are available from Rancho Water.

As soon as feasible, and prior to the preparation of California Environmental Quality Act (CEQA) documents, the project proponent should contact Rancho Water for a determination of existing water system capability, based upon project-specific demands and/or fire flow requirements, as well as a determination of proposed water facilities configuration. If new facilities are required for service, fire protection, or other purposes, the project proponent should contact Rancho Water for an assessment of project-specific fees and requirements. As a result of anticipated low water service pressure to the subject project/property, property owner(s) may be required to sign an acknowledgment of low water service pressure when service arrangements are made or modified.

Sewer service to the subject project/property, if available, would be provided by Eastern Municipal Water District. If no sewer service is currently available to the subject project/property, all proposed waste discharge systems must comply with the State Water Resources Control Board, health department, and/or other requirements as they relate to the protection of groundwater quality, pursuant to Rancho Water's Groundwater Protection Policy.

If you should have any questions or need additional information, please contact an Engineering Technician at the District office at (951) 296-6900.

Sincerely,

RANCHO CALIFORNIA WATER DISTRICT

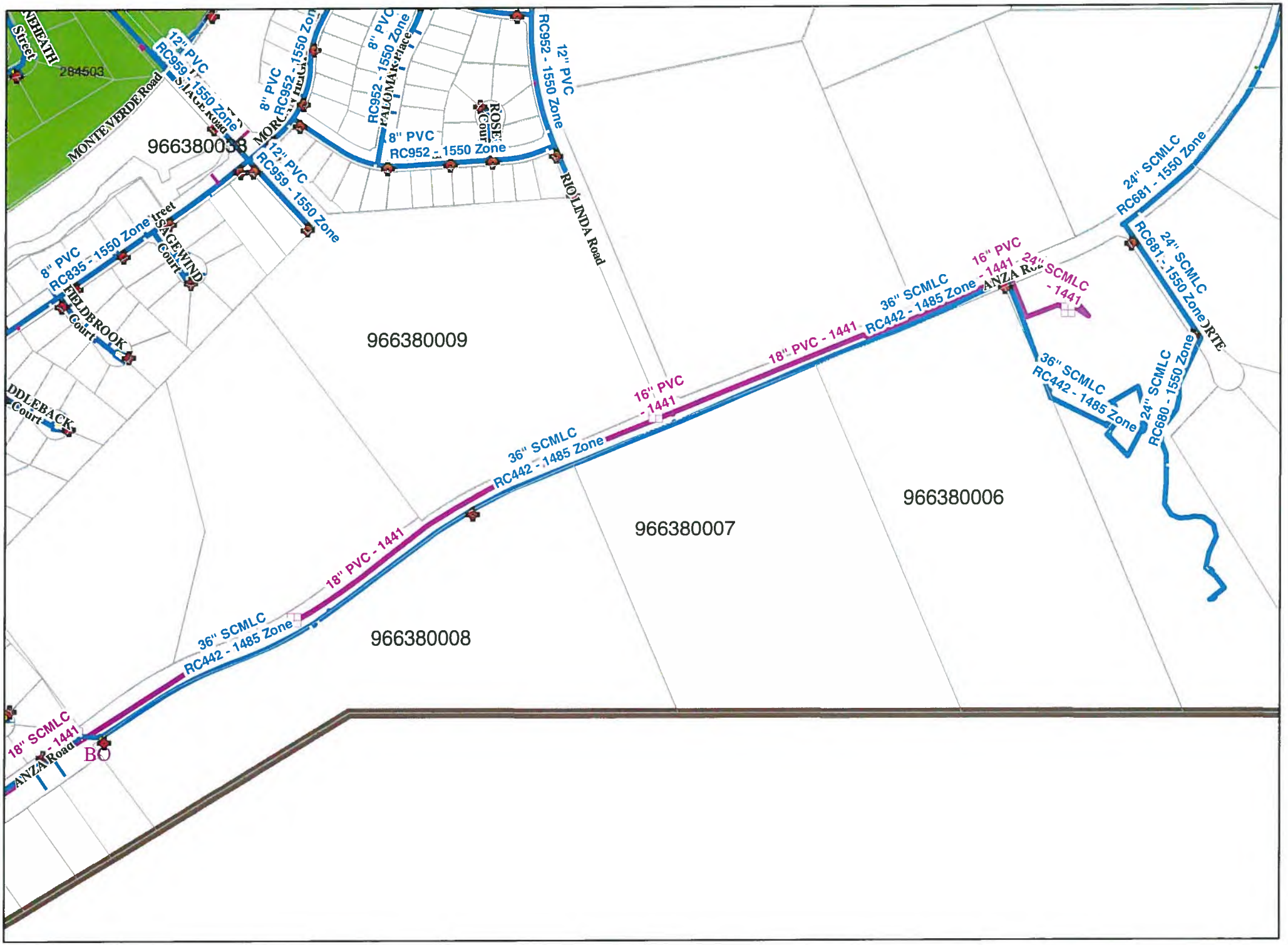
Corry Smith

Corry Smith
Engineering Services Supervisor

Enclosure: Exhibit Map

cc: Jeff Kirshberg, Water Resources Manager
Jacob Wiley, Engineering Manager-CIP & Development

22\CS:rm002\F450\FEG


284503
MONTEVERDE Road
12" PVC
RC959 - 1550 Zone
8" PVC
RC952 - 1550 Zone
FALOMAR Place
ROSE Court
12" PVC
RC952 - 1550 Zone
RIOLINDA Road
966380038
12" PVC
RC959 - 1550 Zone
8" PVC
RC835 - 1550 Zone
SAGEWIND Court
FIELDBROOK Court
DDLEBACK Court
966380009
966380007
966380008
966380006
36" SCMLC
RC442 - 1485 Zone
18" PVC - 1441
16" PVC - 1441
36" SCMLC
RC442 - 1485 Zone
18" SCMLC - 1441
ANZA Road
24" SCMLC
RC681 - 1550 Zone
24" SCMLC
RC680 - 1550 Zone
36" SCMLC
RC442 - 1485 Zone

APPENDIX D

BIOLOGICAL TECHNICAL MEMO

DUDEK
27372 CALLE ARROYO
SAN JUAN CAPISTRANO, CALIFORNIA 92675
T 949.450.2525 F 949.450.2626

MEMORANDUM

To:	Lindsey Fletcher Dollman, Pechanga Indian Reservation
From:	Kimberly Narel, Dudek Biologist
Subject:	Pechanga BIA Northern Boundary Property Fee to Trust Project - Biological Resources Memorandum
Date:	May 27, 2022
cc:	Jonathan Riggs, Dudek Project Manager Tommy Molioo, Dudek Senior Biologist
Attachment(s):	A: Figures 1 and 2 B: Species Compendium C: USFWS IPaC Species List D: Photo Log

This Biological Resources Technical Memorandum (memo) documents the results of Dudek's biological reconnaissance and desktop research conducted for the Pechanga Band of Luiseño Mission Indians (Pechanga) to identify potential federal biological resources constraints for the proposed Northern Boundary Property Fee-to-Trust and Residential Development Project (project). The project site is located at the intersection of Anza Road and Rio Linda Road, in the City of Temecula, Riverside County, California. The project requires the preparation of an Environmental Assessment (EA) that meets Bureau of Indian Affairs (BIA) National Environmental Policy Act (NEPA) implementing requirements. As such, the project must be reviewed for potential impacts to federal species and designated critical habitats protected by the Federal Endangered Species Act (FESA). This memo documents the existing conditions within the project site and immediately adjacent areas, as well as evaluates the potential for federally protected biological resources to occur on or immediately adjacent to the project site, including any federally listed species, federally protected waters and wetlands, and applicable federal laws and policies (e.g., NEPA and Migratory Bird Treaty Act) that could be affected by implementing the proposed project.

Project Location

The approximately 81-acre project site is located on Assessor's Parcel Numbers (APNs) 966-380-006, -007, 008, -009, on partially unincorporated lands along the southeastern border of the City of Temecula (City), which is located immediately north of the Pechanga Reservation in the southwestern region of Riverside County (Attachment A, Figure 1: Project Location). The study area is located east of Interstate 15, north of Pechanga Reservation, and south and west of Highway 79, on undeveloped land adjacent to residential and agricultural development. The southwestern portions of the study area are located within Section 23, Township 8 South, Range 2 West, as depicted on the northern portion of the Pechanga U.S. Geological Survey 7.5-minute topographic quadrangle map (USGS 2022).

The project site totals approximately 79.6 acres. The project site, plus a 100-foot buffer (study area) totals approximately 104.3-acres, is zoned as R1: single-unit residential dwellings, as well as R5: open area combining zone-residential developments (RCIT 2022). The study area also occurs within the boundaries of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) that guides local protection of biological resources. As a NEPA project, the MSHCP does not apply and project consistency with the MSHCP is not required.

Project Description

Pechanga is proposing a fee-to-trust transfer of an 81-acre parcel of land located outside of the existing Pechanga trust lands. Transferring the parcel from public lands to tribal lands requires approval from the BIA, a discretionary action that is subject to NEPA. Pechanga currently does not have design plans to develop the parcel but anticipates developing a residential project on the subject parcel at some point in the future. The proposed residential development will consist of constructing approximately 80 single-family homes on four undeveloped parcels.

Federal Regulatory Setting

Federal Endangered Species Act

The federal Endangered Species Act (FESA) of 1973 (16 USC 1531 et seq.), as amended, is administered by the USFWS for most plant and animal species, and by the National Oceanic and Atmospheric Administration National Marine Fisheries Service for certain marine species. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend and provide programs for the conservation of those species, thus preventing the extinction of plants and wildlife. The FESA defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Candidate species are plants and animals for which the U.S. Fish and Wildlife Service (USFWS) has sufficient information on their biological status and threats to propose them as endangered or threatened under the FESA, but for which development of a proposed listing regulation is precluded by other higher priority listing activities. Under FESA, it is unlawful to "take" any listed species; "take" is defined as, "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

Clean Water Act

The Clean Water Act (CWA) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. Section 401 requires a project operator for a federal license or permit that allows activities resulting in a discharge to waters of the U.S. to obtain state certification, thereby ensuring that the discharge will comply with provisions of the CWA. The RWQCB administers the certification program in California. Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the United States. Section 404 establishes a permit program administered by USACE that regulates the discharge of dredged or fill material into waters of the United States, including wetlands. USACE implementing regulations are found at 33 CFR 320 and 330. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines, which were developed by the United States Environmental Protection Agency in conjunction with USACE (40 CFR 230). The guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

Wetlands and Other Waters of the United States

Aquatic resources, including riparian areas, wetlands, and certain aquatic vegetation communities, are considered sensitive biological resources and can fall under the jurisdiction of several regulatory agencies. USACE exerts jurisdiction over waters of the United States, including all waters that are subject to the ebb and flow of the tide; wetlands and other waters such as lakes, rivers, streams (including intermittent or ephemeral streams), mudflats, sandflats, sloughs, prairie potholes, vernal pools, wet meadows, playa lakes, or natural ponds; and tributaries of the above features. The extent of waters of the United States is generally defined as that portion that falls within the limits of the OHWM. Typically, the OHWM corresponds to the two-year flood event.

Wetlands, including swamps, bogs, seasonal wetlands, seeps, marshes, and similar areas, are defined by USACE as "those areas that are inundated or saturated by surface or groundwater 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 CFR 328.3[b]; 40 CFR 230.3[t]). Indicators of three wetland parameters (i.e., hydric soils, hydrophytic vegetation, and wetlands hydrology), as determined by field investigation, must be present for a site to be classified as a wetland by USACE (USACE, 1987).

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) was originally passed in 1918 as four bilateral treaties, or conventions, for the protection of a shared migratory bird resource. The primary motivation for the international negotiations was to stop the "indiscriminate slaughter" of migratory birds by market hunters and others. The MBTA protects over 800 species of birds (including their parts, eggs, and nests) from killing, hunting, pursuing, capturing, selling, and shipping unless expressly authorized or permitted.

Additionally, Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, requires that any project with federal involvement address impacts of federal actions on migratory birds with the purpose of promoting conservation of migratory bird populations (66 FR 3853–3856). The Executive Order requires federal agencies to work with USFWS to develop a memorandum of understanding. USFWS reviews actions that might affect these species.

Methods

Prior to conducting a biological reconnaissance of the study area, Dudek reviewed U.S. Fish and Wildlife Services (USFWS) species occurrence data from the USFWS Information for Planning and Consultation (IPaC) (USFWS 2022a) and California Natural Diversity Database (CNDDB) (CDFW 2022), as well as USFWS designated critical habitat data (USFWS 2022b) and National Wetlands Inventory (NWI) data (USFWS 2022c) to identify any special-status species and resources that are known to occur or may potentially occur in the vicinity of the study area. Potential and/or historic drainages and aquatic features were investigated based on a review of U.S. Geological Survey topographic maps (1:24,000-scale), aerial photographs, and the Natural Resource Conservation Service's Web Soil Survey (USDA 2022). Any observable special-status species including flowering annual plants, shrubs and trees, and conspicuous wildlife (i.e., birds and some reptiles) considered sensitive by USFWS were also mapped.

Data regarding biological resources present within the approximately 104.3-acre study area (Figure 2: Biological Resources) was obtained through a review of pertinent literature and field reconnaissance data which are described

in detail in this section. For purposes of this report, special-status plant and wildlife species are those designated as either rare, threatened, or endangered by USFWS and are protected under the FESA (16 USC 1531 et seq.), as well as species that are candidate species being considered or proposed for listing under FESA. Sensitive vegetation communities and designated critical habitats are those that provide habitat essential to support recovery of special-status listed species.

Field Reconnaissance and Land Cover Mapping

Dudek biologists Tommy Molioo and Kimberly Narel conducted a reconnaissance-level field survey of the study area to document existing biological resources and vegetation communities on April 14th, 2022, from 0915 hours to 1200 hours. The biological reconnaissance was conducted during the daytime to maximize the detection of most wildlife. Limitations of the survey include a diurnal bias, as many species of reptiles, amphibians, and small mammals are secretive in their habitats or are nocturnal and are difficult to observe during the day.

Dudek used CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2018) and California Natural Communities List (CDFW 2020), also referred to as the Natural Communities List, based on the *Manual of California Vegetation*, second edition (Sawyer et al. 2009) to map the study area. These classification systems focus on a quantified, hierarchical approach that includes both floristic (plant species) and physiognomic (community structure and form) factors as currently observed. Vegetation communities and land covers were delineated to the vegetation alliance level and, where appropriate, the association level. Some modifications, such as the Preliminary Descriptions of the Terrestrial natural Communities of California (Holland 1986; Oberbauer et al. 2008), as well as the vegetation communities outlined within Section 6.3.2 of the Riverside County Multi-Species Habitat Conservation Plan (RCA 2006) were incorporated to accommodate the lack of conformity of the observed communities to those included in these references.

Vegetation mapping was conducted on foot to visually cover 100% of the project site. Vegetation communities were classified based on site factors, descriptions, distribution, and characteristic species present within an area. Information was recorded, including dominant species and associated cover classes, aspect, canopy height, and visible disturbance factors. Minimum mapping units were established at 0.25 acres. Following completion of the fieldwork, Dudek GIS analysts digitized the vegetation boundaries as delineated by the field biologists and created a GIS coverage for vegetation communities.

Flora

Latin and common names for plant species follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2020) and common names follow the U.S. Department of Agriculture's Natural Resources Conservation Service Plant Database (USDA 2020). Plant species observed within the study area are provided in Attachment B: Species Compendium.

Fauna

All wildlife species detected during the biological reconnaissance by site, vocalizations, burrows, tracks, scat, and other signs were recorded. Latin and common names of animals follow the American Ornithological Society's (AOS) (2018) for birds, and Wilson and Reeder (2005) for mammals. Wildlife species expected to occur within the study area include common avian and mammalian species typically observed in agricultural and undeveloped

environments such as American crow (*Corvus brachyrhynchos*), turkey vulture (*Cathartes aura*) and California ground squirrel (*Otospermophilus beecheyi*). Wildlife species observed within the study area are provided in Attachment B: Species Compendium.

Results

Existing Site Conditions

The study area is entirely undeveloped except for dirt access paths and barrier fencing along Anza Road. It is surrounded by residential development to the north and west, agricultural land to the east, and undeveloped land within the Pechanga Reservation boundaries to the south (Attachment A: Figure 1, Project Location). The study area is relatively flat to the north and transitions to rolling foothills to the south, ranging in elevation between 1,290 and 1,690 feet above mean sea level (AMSL). Fallow agricultural land in the northern portion of the study area transitions to non-native grassland in the center of the study area, with upland coastal sage scrub and mixed chaparral to the south on rolling hills. The study area is located immediately north of the Pechanga Reservation and partially incorporated in the southeastern border of the city of Temecula. Attachment A: Figure 2, Biological Resources depicts wetlands, soils, and mapped vegetation communities/land covers within the study area.

Soils

According to the U.S. Department of Agriculture's Natural Resource Conservation Service (NRCS) Web Soil Survey (USDA 2022), six soil types are mapped within the study area: Arlington and Greenfield fine sandy loams (2-8% slopes and 8-15% slopes, eroded), Gorgonio loamy sand (8-15% slopes), gullied land, Hanford coarse sandy loam (2-8% slopes), and Ramona and Buren sandy loams (15-25%, severely eroded). These soils are not listed as hydric by the NRCS. The six soil types within the study area are described in further detail herein and included in Attachment A, Figure 2: Biological Resources.

Arlington and Greenfield series. The Arlington series are nearly level to strongly sloping and are on alluvial fans and terraces at elevations from 400 to 2,000 feet. These soils are well drained with slow to medium runoff and slow permeability, found along the coastal and intermediate valleys of southern California. The Greenfield series consists of deep, well-drained soils that formed in moderately coarse and coarse textured alluvium derived from granitic and mixed rock sources. They are on alluvial fans and terraces and have slopes of 0-30%. Greenfield soils are extensive and found in the interior and coastal valleys of central and southern California.

Gorgonio series. The Gorgonio series are on alluvial fans at elevations of 20 to 3,000 feet, found in coarse textured alluvium derived from granite, granodiorite, schist, and related rocks. Found near the mountains in southern and central coast areas of California, these soils are excessively drained with rapid permeability and slow to medium runoff.

Gullied land. Gullied land is a land type rather than a soil series. Gullied land describes areas where gullies occupy nearly all of the surface area. Gullies are permanent erosional landforms created by running water, mass movement, or commonly a combination of both, usually on a hillside or in river floodplains or terraces, creates narrow runoff paths and channels and cuts into the soil to depths that cannot no longer be smoothed over by tillage. Networks of gullies can range from a few feet to many feet in width. Most of the original surface layer has been washed away, and the exposed soil material is silt loam or silty clay loam.

Hanford series. The Hanford series consist of very deep, well drained soils that formed in moderately coarse textured alluvium dominantly from granite and other quartz bearing rocks of similar texture. Hanford soils are on stream bottoms, floodplains and alluvial fans and have slopes of 0-15% at elevations from 150 to 3,500 feet. These well drained soils have moderately rapid permeability and negligible to low runoff.

Ramona and Buren series. The Ramona series are on terraces and fans at elevations ranging between 250 and 3,500 feet, from nearly level to moderately steep slopes. Ramona soils formed in alluvium derived mostly from granitic and related rock sources. These are well-drained soils with moderately slow permeability and slow to rapid runoff. Ramona soils are extensive, found in the interior valleys of central and the western part of southern California. The Buren series consists of well drained, slow to moderately slow permeable soils on gently to strongly sloping alluvial fans and terraces at elevations of about 700 to 3,000 feet. They formed in alluvium derived mostly from basic igneous rocks and partly from other crystalline rocks. Buren soils are limited to the intermediate valleys of southern California.

Vegetation Communities and Land Covers

Eight (8) vegetation communities and/or land covers were mapped within the study area during the biological reconnaissance. Three native vegetation communities and six non-native vegetation communities and/or land cover types were observed. Attachment A: Figure 2, Biological Resources, depicts the vegetation communities, soils, and wetlands within the study area. The complete list of plant species observed in the study area is included in Attachment B: Species Compendium.

The survey area mainly consists of a mixture of fallow fields, non-native grassland, and native vegetation communities. The center of the study area consists of relatively flat, undeveloped vacant land dominated by non-native ruderal (weedy) species and annual grasses, with patches of native shrubs consisting of California buckwheat (*Eriogonum fasciculatum*) at the base of rolling hills. The southern portion of the study area borders the Pechanga Reservation and consists of undeveloped rolling hills dominated by mixed native upland chaparral. Fallow agricultural land occurs along the northern portion of the study area, with evidence of recent tilling on exposed ground that is scattered with shortpod mustard (*Hirschfeldia incana*). The northern and western extent of the study area terminates at residential development, while the eastern extent of the study area terminates at municipal and rural residential development (Attachment D: Site Photographs).

Vegetation communities and land cover types mapped on the survey area include: *Eriogonum fasciculatum* Association (Erifas), *Keckiella antirrhinoides* Association (Kecant), *Keckiella antirrhinoides-Eriogonum fasciculatum* Association (Kecant-Erifas), Non-Native Grassland (NNG), Row Crops (RC), Fallow Agricultural (FAL), Parks and Ornamental Plantings (ORN), and Urban/Developed (DEV). These eight vegetation communities and land cover types are described in further detail below and are summarized in Table 1.

Table 1. Vegetation Communities and Land Cover Types

Vegetation Communities and Land Cover Types	Project Site (acres)	100-Foot Buffer (acres)	Total Survey Area (acres)
Native Vegetation Communities			
Eriogonum fasciculatum Association (Erifas)	4.5	0	4.5
Keckiella antirrhinoides Alliance (Kecant)	1.2	0	1.2

Keckiella antirrhinoides- Eriogonum fasciculatum Association (Kecant-Erifas)	21	9.5	30.5
Subtotal	*26.7*	*9.5*	*36.2*
Non-Native Vegetation Communities and Land Covers			
Non-Native Grassland (NNG)	33.2	6.2	39.4
Fallow Agricultural (FAL)	19.7	0.3	20
Row Crops (RC)	0	0.6	0.6
Parks and Ornamental Plantings (ORN)	0	0.5	0.5
Urban/Developed (DEV)	0	7.6	7.6
Subtotal	*52.9*	*15.2*	*68.1*
***Total**	**79.6**	**24.7**	**104.3**

***** Acreage totals may not exactly sum due to rounding.

***Eriogonum fasciculatum* Association (Erifas).** The Erifas vegetation community occurs on elevated mounds within the non-native grassland in the center of the study area as well as the fallow agricultural land within the northern portion of the study area. This scrub vegetation community is relatively undisturbed except for existing dirt trails. Characteristic species of this community include California buckwheat (*Eriogonum fasciculataum*), California sagebrush (*Artemisia californica*), brittlebush (*Encelia farinosa*), coyote bush (*Baccharis pilularis*), chaparral yucca (*Hesperoyucca whipplei),* white and black sage *(Salvia apiana, S. mellifera),* deerweed (*Acmispon glaber*), and dodder (*Alectoria sarmentosa)*. The herb stratum in this vegetation community consists of mixed non-native ruderal grasses and forbs, primarily brome (*Bromus diandrus* and *B. madritensis*), fiddleneck (*Amsinckia intermedia*), and shortpod mustard (*Hirschfeldia incana*). Approximately 4.5 acres of the Erifas Association occurs throughout the study area (Table 1).

***Keckiella antirrhinoides* Alliance (Kecant).** The Kecant vegetation community occurs in the central portion of the study area at the base of the foothills. This chaparral community is relatively undisturbed except for existing dirt trails. Characteristic species of this community include bush penstemon (*Keckiella antirrhinoides*), chamise (*Adenostoma fasciculatum*), California sagebrush, California buckwheat, white and black sage, chaparral yucca, scrub oak (*Quercus berbidifolia*), and sugar bush (*Rhus ovata*). Bush penstemon is co-dominant with chamise on the north—facing hills, interspersed with scattered chaparral yucca, white and black sage, and emergent trees at low cover, including scrub oak and sugar bush. Approximately 1.2 acres of the Kecant Alliance occurs within the study area.

***Keckiella antirrhinoides-Eriogonoum fasciculatum* Association (Kecant-Erifas).** The Kecant-Erifas vegetation community occurs on the north-facing hills adjacent to the Pechanga Reservation on the southern portion of the study area. This scrub-chaparral community is an association of the Kecant vegetation community, with bush penstemon and California buckwheat co-dominant in the shrub layer. This vegetation community occurs at the interface between coastal sage scrub and chaparral vegetation types. A variety of other shrubs intermixed at low cover, specifically yellow yarrow (*Eriophyllum confertiflorum*), chamise, sugar bush, chaparral yucca, and scrub oak. The herb stratum within this vegetation community consists of mixed non-native ruderal grasses and forbs, primarily bromes, fiddleneck, wild cucumber (*marah macrocarpus*) and shortpod mustard. Approximately 30.5 acres of Kecant-Erifas Association occurs on the study area.

Non-Native Grassland (NNG). The Non-Native Grassland (NNG) mapping unit is not recognized by the Natural Communities List (CDFW 2020) but is described by Oberbauer et al. (2008). Non-native grassland refers to a dense

or sparse cover of annual grasses with flowering annual forbs (wildflowers) intermixed with ruderal vegetation. Characteristic species of this community include wild oats (*Avena fatua*), red brome and ripgut brome (*Bromus rubens and B. diandrus*), filaree (*Erodium cicutarium*), and shortpod mustard. Multiple small mammal burrows were observed throughout the non-native grassland community. Approximately 39.4 acres of non-native grassland occurs within the study area, dominating the flat topography in the northwestern, center, and northeastern portions.

Parks and Ornamental Plantings (ORN). The Ornamental (ORN) mapping unit is not recognized by the Natural Communities List (CDFW 2020) but is described by Gray and Bramlet (1992) as a subunit of Urban/Developed areas. The ORN mapping unit refers to areas that are consistently managed and planted with introduced decorative tree, shrub, and herbaceous species. Ornamental is mapped along the eastern portion of the study area surrounding the municipal water tank towers as well as throughout the residential community and rural residential homes to the north, west, and east of the study area. ORN is closely associated with these Urban/Developed (DEV) features. Approximately 0.5 acres of ORN occurs on the study area.

Fallow Agricultural (FAL). The Fallow Agricultural (FAL) mapping unit is not recognized by the Natural Communities List (CDFW 2020) but is described within Gray and Bramlet (1992) as a subunit of Other Agriculture. Fallow agricultural land refers to arable (ploughed or tilled) land not under crop rotation that is set aside for a period of 1-5 years before it is cultivated again. This mapping unit occurs on the northern portion of the study area. It is dominated by exposed, historically tilled ground with a scattered herb understory consisting of a mixture of native and non-native grasses including common stork's bill, common barley (*Hordeum vulgare*), and bromes. Approximately 20 acres of FAL occurs on the study area.

Row Crops (RC). The Row Crops (RC) mapping unit is not recognized by the Natural Communities List (CDFW 2020) but is described by Oberbauer et al. (2008). This disturbed land cover type is comprised of annual and perennial crops grown in rows, with open space between the rows. Species composition frequently changing by season and year. Row crops are nearly always artificially irrigated. Row crops are associated with the rural residential property that lies immediately north of the eastern project site boundary. Approximately 0.6 acres of row crops occur on the study area.

Urban/Developed (DEV). The Urban/Developed (DEV) mapping unit is not recognized by the Natural Communities List (CDFW 2020) but is described by Oberbauer et al. (2008). Urban/developed land refers to areas that have been constructed upon or disturbed so severely that native vegetation is no longer supported (Holland 1986). Developed land includes areas with permanent or semi-permanent structures, pavement or hardscape, landscaped areas, and areas with a large amount of debris or other materials. Developed areas are generally graded and compacted, sometimes covered with gravel road base or built, and have little to no vegetation present. Developed land within the study area are those areas supporting manufactured structures or features including paved/compacted roadways, driveways, parking lots, water tank towers, and buildings. These areas support limited natural ecological processes, native vegetation, or habitat for wildlife species and thus are not considered sensitive by federal agencies.

Anza Road, a developed asphalt-paved public right-of-way, bisects the study area. In addition, portions of the study area to the north, west, and east of the project site are developed by a mixture of municipal and residential development. Limited ornamental vegetation associated with the residential community and municipal water tanks was observed within portions of the Urban/Developed (DEV) mapped areas. Approximately 7.6 acres of Urban/Developed land occurs outside of the project site boundary, but within the study area.

Floral Diversity

A total of 48 vascular plants, consisting of 36 native species (75%) and 12 non-native species (25%) were observed during the biological reconnaissance. The cumulative list of plant species observed is provided in Attachment B: Species Compendium.

Wildlife Diversity

A total of 12 wildlife species, consisting of 11 native species (92%) and 1 introduced species (8%) were observed during the biological reconnaissance, consisting of avian, mammal, and invertebrate species. Multiple small mammal burrows were observed throughout the non-native grassland on the study area. One potentially active Anna's hummingbird (*Calypte anna*) nest was observed within the *Eriogonum fasciculatum* Association at the base of the foothills on the southwestern portion of the study area. One female was observed exhibiting territorial behavior around a nest within a patch of California buckwheat; however, no eggs or hatchlings were observed. Attachment B: Species Compendium, lists all observed wildlife species within the study area.

Special-Status Species

According to USFWS's IPAC (Attachment C: USFWS IPAC Species List), seven federally-listed threatened or endangered wildlife species and one federal Candidate wildlife species are known to occur at or within the immediate vicinity of the study area: Stephen's kangaroo rat (*Dipodomys stephensi (*incl. *D. cascus*)), coastal California gnatcatcher (*Polioptila californica californica*), least Bell's Vireo (*vireo bellii pusillus),* southwestern willow flycatcher (*Empidonax traillii extimus*), arroyo toad (*Anaxyrus californicus*), Quino checkerspot butterfly (*Euphydryas Editha quino*), Riverside fairy shrimp (*Streptocephalus woottoni*), and monarch butterfly (*Danaus plexippus*). In addition, six federally-listed threatened or endangered plant species are known to occur at or within the immediate vicinity of the study area: Munz's onion (*Allium munzii*), Nevin's barberry (*Berberis nevinii*), San Diego ambrosia (*Ambrosia pumila*), slender-horned spineflower (*Dodecahema leptoceras*), spreading navarretia (*Navarretia fossalis*), and vail lake ceanothus (*Ceanothus ophiochilus*). These species are described in further detail below.

Special-Status Plants

No special-status plant species were observed during the biological reconnaissance. However, according to USFWS IPaC, six special-status plants are known to occur at or within the immediate vicinity of the study rea (Attachment C: USFWS IPaC Species List). Based on a review of the potential species to occur within the region, the habitat conditions identified in the study area, and CNDDB species occurrence records, none of the six special-status plant species have a moderate or high potential to occur on the study area. Special-status plant species with low potential or are not expected to occur in the study area are not further analyzed in this report because no direct, indirect, or cumulative impacts are expected based on the evaluation that these species do not have a moderate or high potential to occur in the study area.

Special-Status Wildlife

No special-status wildlife species were observed on the study area during the biological reconnaissance. However, based on a review of the USFWS iPaC list eight wildlife species have been documented in the vicinity of the study area. Based on a review of the potential species to occur within the region, the habitat conditions identified in the study area, and CNDDB species occurrence records, two of the eight special-status wildlife species have a moderate or high potential to occur on the study area. These species are described in further detail below. Special-status wildlife species with low potential or are not expected to occur in the study area are not further analyzed in this report.

Stephen's kangaroo rat. This federally endangered and state threatened rodent occurs primarily in annual and perennial grassland habitats, but may occur in coastal scrub or sagebrush with sparse canopy cover or in disturbed areas. Preferred perennials are buckwheat and chamise, while preferred annual are brome grass and filaree (*Erodium*). Individuals occupy abandoned pocket gopher burrows or may excavate burrows in firm soil that is neither extremely hard nor sandy. They are nocturnal and granivorous, breeding from April to June (CWHR 2022).

Multiple small mammal burrows capable of supporting Stephen's kangaroo rat were observed onsite within the non-native grassland in the center of the study area. In addition, suitable coastal sage scrub and grasslands with sandy soils occur throughout the study area. California Natural Diversity Database (CNDDB) occurrence records from 2002 record Stephen's kangaroo rat immediately west of the study area. As such, this species was determined to have a moderate potential to occur within the study area and a focused trapping effort was conducted by a permitted biologist in 2022 to determine the presence/absence of Stephen's kangaroo rat. The results of the trapping effort determined this species is absent from the study area.

Quino checkerspot butterfly. This federally endangered and CDFW Candidate for listing as endangered invertebrate inhabits chaparral, open coastal sage scrub, annual forbs and grasslands with host plants including native plantain (*Plantago)* species and Coulter's snapdragon (*Antirrhinum coulterianum*).

Suitable chaparral, coastal sage scrub, and non-native grassland habitats capable of supporting this species occur throughout the study area. In addition, Coulter's snapdragon was observed scattered throughout the chaparral and coastal sage scrub communities during the biological reconnaissance. CNDDB occurrences from 2003 record this species approximately 2 miles north of the study area. However, there are not enough hill-topping opportunities with exposed granitic outcrops present on the study area, and no *Plantago* species were observed. Additionally, Coulter's snapdragon was at less than 1% absolute cover within the chaparral and coastal sage scrub communities., and no other suitable host plants were observed. As such, Quino checkerspot butterfly has no potential to occur on the study area, and not expected to occur.

Designated Critical Habitat

According to the USFWS online Critical Habitat Mapper (USFWS 2022b), the study area is not located at or within the immediate vicinity of designated critical habitat for any federally listed species. Designated critical habitat is defined as specific areas within the geographical area occupied by the species at the time of listing that contain physical or biological features essential to conservation of the species and that may require special management considerations or protection (USFWS 2022b).

National Wetlands Inventory

According to the NWI, the study area does not contain any mapped wetlands (USFWS 2022c). However, an unmapped upland drainage feature with hydrologic indicators (bed and bank) was observed on the southeastern portion of the study area, within the Keckiella-Mixed Chaparral habitat. However, this drainage feature lacks the presence of an Ordinary High Water Mark (OHWM) and does not show any sign of connectivity to a jurisdictional feature downstream, and thus would not be considered jurisdictional by the U.S. Army Corps of Engineers (ACOE).

While the project site does not contain any mapped wetlands, an unnamed mapped riverine intermittent streambed that flows east-west occurs immediately north of the residential community bordering the northern portion of the study area. This drainage feature is approximately 500 feet north from the project site boundary and is separated from the study area by residential development. No project activities are proposed to encroach into this riverine feature.

Direct and Indirect Effects

The study area consists of undeveloped land with a mixture of non-native and native vegetation communities on flat topography that transitions to rolling hills. Construction of proposed residential development on the study area would encroach into native chaparral and coastal sage scrub habitats, that are both state ranked as vulnerable. There are no vegetation communities on the study area that would be considered sensitive by FESA.

No special-status plant species will be directly or indirectly impacted by proposed development as none were observed on the study area during the biological reconnaissance and are determined to have no or low potential to occur at or within the immediate vicinity of the study area.

No special-status wildlife species have a moderate or high potential to occur on the study area, nor were any special-status species observed during general and focused surveys, particularly trapping for Stephen's kangaroo rat. Therefore, the project will not result in a direct or indirect effect to special-status wildlife species.

However, development of the study area may likely affect migratory bird species protected by the MBTA that may nest within the chaparral, coastal sage scrub, and ornamental vegetation on the study area, particularly if vegetation removal occurs during the avian nesting season of February through August.

No designated critical habitat or federally protected waters and wetlands occur on the study area, and as such, the proposed development will have no effect.

Recommendations

The following recommendations are to prevent significant adverse effects to biological resources on the study area from construction of the potential residential development. Nesting Bird Avoidance and Minimization Measures are recommended for project compliance with NEPA regulations.

Nesting Bird Avoidance and Minimization Measures. To avoid potential indirect impacts to nesting birds protected by the MBTA, project activities should avoid the avian nesting season of February through August. If this season cannot be avoided, then a pre-construction clearance survey should be conducted within three days prior to

vegetation removal to determine the presence/absence of any nesting bird species within 500 feet of the project site. If a nesting bird is found, an avoidance buffer will be established around the nest, based on the species' sensitivity to disturbance and proximity to impact areas. The buffer will remain in place as long as the nest is considered active, as determined by a qualified onsite biologist. No encroachment into the buffer may occur without the consent of the monitoring biologist.

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Attachment A
Figures 1 and 2

Pechanga Tribal Government

Pechanga Indian Reservation

Northern Boundary Parcels

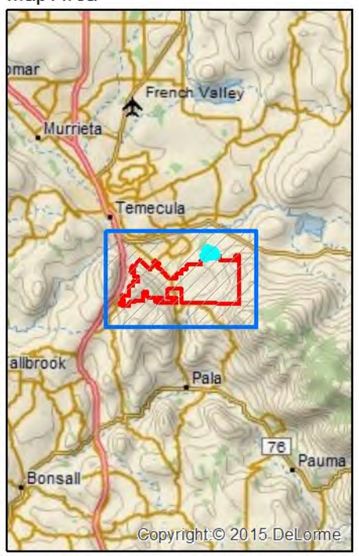
- APN - 966-380-006
- APN - 966-380-007
- APN - 966-380-008
- APN - 966-380-009
- Pechanga Reservation

N

0 1,300 2,600 Feet

1 inch = 1,300 feet

Map Area



Printed: 2/1/2018 07:29 AM

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\2018\LGL 0201 NB Reservation

LANDSCAPE/SLOPE

44'

20'

128'

93'

160'

50'

120'

100'

150'

135'

OPEN SPACE

OPEN SPACE

OPEN SPACE

LANDSCAPE/SLOPE

50'

20'

44'

115'

133'

165'

OPEN SPACE

POTENTIAL CUSTOM LOTS

EXISTING RESERVATION

ANDERSON CONSULTING ENGINEERS, INC.

SHEET OF

NORTHERN BOUNDARY

CONCEPTUAL LAYOUT 4
112 UNITS – 10,000 & 20,000 SF

Attachment B
Species Compendium

Plant Species

Angiosperms (Dicots)

ANACARDIACEAE – CASHEW / SUMAC FAMILY

Rhus ovata – sugar sumac, sugar bush

Toxicodendron diversilobum – Pacific poison oak, western poison oak

ADOXACEAE - MOSCHATEL FAMILY

Sambucus cerulea– blue elderberry

APOCYNACEAE – DOGBANE FAMILY

Asclepias californica – California milkweed

ASPERAGACEAE – ASPARAGUS FAMILY

Dichelostemma capitatum – blue dicks

Hesperoyucca whipplei – chaparral yucca, our Lord's candle, foothill yucca

ASTERACEAE – SUNFLOWER FAMILY

Acourtia microsephala – sacapellote

Artemisia californica – California sagebrush

* *Artemisia vulgaris* – common mugwort

* *Centaurea melitensis* – Maltese star-thistle, tocalote

Corethrogyne filaginifolia– California aster

* *Dimorphotheca sp.* – cape marigold species

Erigeron canadensis – horseweed

Eriophyllum confertiflorum – golden yarrow, yellow yarrow

* *Hedypnois cretica* – Crete weed

Pseudognaphalium californicum – California cudweed, California rabbit tobacco, ladies' tobacco

BORAGINACEAE – BORAGE FAMILY

Amsinckia intermedia – common fiddleneck

Cryptantha intermedia – common cryptantha, clearwater cryptantha, nievitas

Eucrypta chrysanthemifolia – common eucrypta, spotted hideseed

Lappula occidentalis – western stickseed

Phacelia distans – distant phacelia

BRASSICACEAE – MUSTARD FAMILY

* *Hirschfeldia incana* – short-pod mustard

CAPRIFOLIACEAE – HONEYSUCKLE FAMILY

* Lonicera subspicata – southern honeysuckle

CUCURBITACEAE – GOURD FAMILY

Marah macrocarpa – wild cucumber, chilicothe, Cucamonga Manroot, bigroot

EUPHORBIACEAE – SPURGE FAMILY

Croton californicus – California croton

FABACEAE – LEGUME FAMILY

Acmispon glaber - deerweed

Lupinus bicolor – miniature lupine

* *Melilotus officinalis* – yellow sweet clover

* *Vicia villosa* – hairy vetch, winter vetch

FAGACEAE – BEECH FAMILY

Quercus berberidifolia – California scrub oak

GERANIACEAE – GERANIUM FAMILY

* *Erodium cicutareum* – common stork's-bill

LAMIACEAE - MINT FAMILY

Salvia apiana – white sage

Salvia mellifera – black sage

LILIACEAE – LILY FAMILY

Calochortus spendens – splendid mariposa lily

PAEONIACEAE – PEONY FAMILY

Paeonia californica – California peony

PHRYMACEAE – LOPSEED FAMILY

Diplacus aurantiacus – sticky monkeyflower

Diplacus brevipes – widethroat yellow monkeyflower

PLANTAGANACEAE – PLANTAIN FAMILY

Antirrhinum coulterianum – Coulter's snapdragon

PLATANACEAE – PLANE TREE FAMILY

Keckiella antirrhinoides – chaparral beard tongue, snapdragon penstemon

POLYGONACEAE – BUCKWHEAT FAMILY

Eriogonum facsiculatum – California buckwheat

RANUNCULACEAE – BUTTERCUP FAMILY

Clematis pauciflora – ropevine

Delphinium sp. – larkspur species

ROSACEAE – ROSE FAMILY

Adenostoma fasciculatum– chamise

SOLANACEAE – NIGHTSHADE FAMILY

Solanum parishii – Parish's nightshade

Gymnosperms (Monocots)

POACEAE - GRASS FAMILY

* *Bromus diandrus* – great brome

* *Bromus hordeaceus* – soft brome, bull grass

* *Bromus madritensis* – red brome

Hordeum vulgare – common barley

Wildlife Species

Vertebrates

Aves (Birds)

CATHARTIDAE – NEW WORLD VULTURES

Cathartes aura – turkey vulture, turkey buzzard

CORVIDAE – CORVIDS

Corvus brachyrhynchos – American crow

FRINGILLIDAE - FINCHES

Haemorhous mexicanus – house finch

MIMIDAE – MIMIDS

Mimus polyglottos – northern mockingbird

Toxostoma redivivum – California thrasher

PARADOXORNITHIDAE – BIRDS OF PARADOX

Chamaea fasciata - wrentit

PASSERELLIDAE – NEW WORLD SPARROWS

Melozone crissalis – California towhee

TYRANNIDAE – TYRANT FLYCATCHERS

Sayornis saya – Say's phoebe

Sayornis nigricans – black phoebe

Mammalia

SCIURIDAE – SQUIRRELS

Otospermophilus beecheyi – California ground squirrel

Invertebrates

Arthropoda

APIDAE – BEES

* *Apis mellifera* – western honey bee, European honey bee

Fungi

PARMELIACEAE – LECANOROMYCETES (LICHEN-FORMING FUNGI) FAMILY

Alectoria sarmentosa – witch's hair

* signifies introduced (non-native) species

Attachment C

1: Special-Status Plant Species Potential to Occur
2: Special-Status Wildlife Species Potential to Occur

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Blooming during survey?	Elevation appropriate?	Habitats Appropriate?	Potential to Occur
Allium munzii	Munz's onion	FE/ST/1B.1	Chaparral, Cismontane woodland, Coastal scrub, Pinyon and juniper woodland, Valley and foothill grassland; Clay, Mesic/perennial bulbiferous herb/Mar–May/975–3,510	Y	Y	Y	Low potential to occur. Suitable chaparral and coastal scrub present with non native grasslands. No CNDDB occurrence records within 5 miles of the site.
Ambrosia pumila	San Diego ambrosia	FE/None/1B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools; Alkaline (sometimes), Clay (sometimes), Disturbed areas (often), Sandy (sometimes)/perennial rhizomatous herb/Apr–Oct/65–1,360	Y	Y	Y	Low potential to occur. Suitable chaparral and coastal scrub present with sandy soils and disturbed areas. No CNDDB occurrence records within 5 miles of the site.
Berberis nevinii	Nevin's barberry	FE/SE/1B.1	Chaparral, Cismontane woodland, Coastal scrub, Riparian scrub; Gravelly (sometimes), Sandy (sometimes)/perennial evergreen shrub/(Feb)Mar–June/230–2,705	Y	Y	Y	Low potential to occur. Suitable chaparral and coastal scrub present with sandy soils. CNDDB occurrence records from 2008 approximately 2 mi west of the site are possibly extirpated and from a transplant outside of native habitat/range.
Ceanothus ophiochilus	Vail Lake ceanothus	FT/SE/1B.1	Chaparral/perennial evergreen shrub/Feb–Mar/1,900–3,490	Y	N	Y	Not expected to occur. The site is outside of the species' known elevation range. CNDDB occurrences 4 miles east of the site from 2009.
Dodecahema leptoceras	slender-horned spineflower	FE/SE/1B.1	Chaparral, Cismontane woodland, Coastal scrub; Sandy/annual herb/Apr–June/655–2,490	Y	Y	Y	Low potential to occur. Suitable chaparral and coastal scrub present with sandy soils. CNDDB occurrence records from 2010 approximately 3 mi west of the site.
Navarretia fossalis	spreading navarretia	FT/None/1B.1	Chenopod scrub, Marshes and swamps, Playas, Vernal pools/annual herb/Apr–June/100–2,145	Y	Y	N	Not expected to occur. No suitable vegetation present. CNDDB occurrence records from 1993 approximately 1 mi east of the site

Species	Common Name	Status (Federal/ State)	Habitat	Appropriate habitats?	Potential to Occur
Amphibians	**Amphibians**				
Anaxyrus californicus	arroyo toad	FE/SSC	Semi-arid areas near washes, sandy riverbanks, riparian areas, palm oasis, Joshua tree, mixed chaparral and sagebrush; stream channels for breeding (typically third order); adjacent stream terraces and uplands for foraging and wintering	N	Not expected to occur. No suitable squatic habitat present. Intervening land use (residential) would prevent his species from dispersing southward from a nearby freshwater riverine feature into upland chaparral onsite. No CNDDB occurrences within 5 milles of the site.
Birds	**Birds**				
	burrowing owl	**None/SSC**	**Open, dry grasslands, priarie, plains, and open disturbed areas such as vacant lots. Nests in abandoned burrows such as those dug by prairie dogs, ground squirrels, and foxes.**	**Y**	**Moderate potential to occur. Suitable dry grasslands and vacant undeveloped land with small mammal burrows (likely ground squirrel) capable of supporting this species. CNDDB occurrence records from 1990 approximately 1 mile northwest of the stie.**
Empidonax traillii extimus (nesting)	southwestern willow flycatcher	FE/SE	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration	Y	Low potential to occur. No suitable wetland vegetation present. Limited shrubland suitable for migratory stopover. No CNDDB occurrence records within 5 miles of the site.
Polioptila californica californica	coastal California gnatcatcher	FT/SSC	Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level	Y	Low potential to occur. Limited ARTCAL and ERIFAS onsite interspersed in non-native grassland. CNDDB occurrence records from 1990 approximately 1 mi west from the site.
Vireo bellii pusillus (nesting)	least Bell's vireo	FE/SE	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	N	Not expected to occur. No suitable vegetation present. No CNDDB occurrences within 5 miles of the site.
Invertebrates	**Invertebrates**				
Danaus plexippus pop. 1	monarch	FC/None	Wind-protected tree groves with nectar sources and nearby water sources	N	Low potential to occur. Suitable nectar sources present and riverine feature located within 1 mi of the site. No wind-protected tree groves.
Euphydryas editha quino	**quino checkerspot butterfly**	**FE/SCE**	**Annual forblands, grassland, open coastal scrub and chaparral; often soils with cryptogamic crusts and fine-textured clay; host plants include Plantago erecta, Antirrhinum coulterianum, and Plantago patagonica (Silverado Occurrence Complex)**	**Y**	**Moderate potential to occur. Suitable grasslands and open coastal scrub and chaparral onsite along with Antirrhinum coulterianum. CNDDB occurrence records from 2003 approximately 2 mi north of the site.**
Streptocephalus woottoni	Riverside fairy shrimp	FE/None	Vernal pools, non-vegetated ephemeral pools	N	Not expected to occur. No suitable wetlands or vernal pools onsite. Nearest CNDDB occurrence record is 1.5 mi northwest from 2010.
Mammals	**Mammals**				
Dipodomys stephensi	**Stephens' kangaroo rat**	**FE/ST**	**Annual and perennial grassland habitats, coastal scrub or sagebrush with sparse canopy cover, or in disturbed areas**	**Y**	**Moderate potential to occur. Suitable grasslands and coastal scrub/sagebrush, with disturbed areas onsite. Small mammal burrows onsite. CNDDB occurrence records from 2002 located immediately west of the project site.**

Attachment D
USFWS IPaC Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
Phone: (760) 431-9440 Fax: (760) 431-5901
http://www.fws.gov/carlsbad/

In Reply Refer To:
Project Code: 2022-0035624
Project Name: Pechanga BIA to Trust

April 25, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A biological assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a biological assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a biological assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found at the Fish and Wildlife Service's Endangered Species Consultation website at:

https://www.fws.gov/endangered/what-we-do/faq.html

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
(760) 431-9440

Project Summary

Project Code: 2022-0035624
Event Code: None
Project Name: Pechanga BIA to Trust
Project Type: Acquisition of Lands
Project Description: Bio Recon Fed species only
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@33.46712345,-117.05687193274377,14z



Counties: Riverside County, California

Endangered Species Act Species

There is a total of 14 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Stephens' Kangaroo Rat *Dipodomys stephensi (incl. D. cascus)* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3495	Threatened

Birds

NAME	STATUS
Coastal California Gnatcatcher *Polioptila californica californica* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8178	Threatened
Least Bell's Vireo *Vireo bellii pusillus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered

Amphibians

NAME	STATUS
Arroyo (=arroyo Southwestern) Toad *Anaxyrus californicus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3762	Endangered

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate
Quino Checkerspot Butterfly *Euphydryas editha quino (=E. e. wrighti)* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5900	Endangered

Crustaceans

NAME	STATUS
Riverside Fairy Shrimp *Streptocephalus woottoni* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8148	Endangered

Flowering Plants

NAME	STATUS
Munz's Onion *Allium munzii* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2951	Endangered
Nevin's Barberry *Berberis nevinii* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8025	Endangered
San Diego Ambrosia *Ambrosia pumila* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8287	Endangered
Slender-horned Spineflower *Dodecahema leptoceras* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4007	Endangered
Spreading Navarretia *Navarretia fossalis* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1334	Threatened
Vail Lake Ceanothus *Ceanothus ophiochilus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/4566	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC User Contact Information

Agency: Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation, California
Name: Kimberly Narel
Address: 27372 Calle Arroyo
City: San Juan Capistrano
State: CA
Zip: 92675
Email knarel@dudek.com
Phone: 9495085745

Lead Agency Contact Information

Lead Agency: Bureau of Indian Affairs

Attachment E
Photo Log



1. South-southwest overview of non-native grassland within the center of the Project Site



2. Northwest view of Riversidian Sage Scrub on the southern central portion of the Project Site



3. Northern portion of the Project Site, facing Northeast



4. Northeast portion of the Project Site, north view



5. Southern overview of the Project Site, facing southeast



6. Western portion of the Project Site, facing north-northwest

APPENDIX E

CULTURAL REPORT ON PECHANGA NORTHERN BOUNDARY PROPERTY

Pechanga Band of Indians

Cultural Resources and Historic Properties Survey Report

For the

Northern Boundary Property

U.S.G.S. 7.5 Minute Topographic Quadrangle Township 8 South, Range 2 West
Unnamed Section; APNs: 966-380-006, 966-380-007, 966-380-008, 966-380-009

Prepared for:

Pechanga Band of Indians

Prepared by:

Pechanga Tribal Historic Preservation Office through the
Pechanga Cultural Resources Department
Pechanga Indian Reservation
P.O. Box 2183
Temecula, CA 92593

May 2022

Contents

Project Summary 4
Introduction 6
Setting 10
Environmental Natural Setting 10
Cultural Setting 12
Pre-European Contact 12
Middle Archaic Period (circa 7000–4000 B.P.) 15
Late Archaic Period (circa 4000–1500 B.P.) 15
Saratoga Springs Period (circa 1500–750 B.P.) 16
Late Prehistoric Period (circa 750–410 B.P.) 17
Post European Contact 17
Research Design and Methods 20
Study Findings and Conclusions 21
Recommended Mitigation Measures 26
References 27
Appendix A - Personnel Qualifications (CVs) 35
Appendix B - Photos 41

List of Figures and Tables

Figure 1. Northern Boundary Property -USGS 1:24,000

Figure 2. Northern Boundary Property APE

Figure 3. Northern Boundary Property with the underlying geology

Figure 4. Cultural sites withinin 1 mile of Northern Boundary property

Figure 5. PCRD recorded cultural artifacts within 1 miles of Northern Boundary Property

Table 1. Cultural sites within a 1-mile radius of property

Table 2. PCRD recorded cultural resources

Figure 6. Survey Results

Figure 7. Parcel 966-380-006 Facing East (cell tower outside of property marked by fencing)

Figure 8. Parcel 966-380-006 Facing North (Anza Rd in background)

Figure 9. Parcel 966-380-006 Facing South

Figure 10. Parcel 966-380-007 Facing North (Anza Rd in background to the left)

Figure 11. Parcel 966-380-007 Facing South

Figure 12. Parcel 966-380-007 Facing West (Anza Road in background)

Figure 13. Parcel 966-380-009 Facing East (Anza Road at foreground, Rio Linda Rd to the left)

Figure 14. Parcel 966-380-009 Facing North (Rio Linda Rd in background)

Figure 15. Parcel 966-380-009 Facing South (Anza Rd in foreground)

Figure 16. Parcel 966-380-009 Facing West

Figure 17. Parcel 966-380-008 Facing Northeast (Anza Rd off to the left)

Figure 18. Parcel 966-380-008 Facing Southeast

Figure 19. Parcel 966-380-008 Facing Southwest (Anza Rd off to the right)

Project Summary

The Pechanga Band of Indians (Pechanga Band or Band) proposes to take the Northern Boundary properties into trust (Undertaking), and has submitted a fee to trust application for that purpose. At the request of the Pechanga Band, the Pechanga Cultural Resources Department (PCRD) conducted a cultural resource survey of the Northern Boundary property on February 25, 2020. This survey was conducted to identify any historic properties or cultural resources for the fee to trust application; there are no known immediate plans to development this property. The Pechanga Cultural Resources Department prepared this Cultural Resources and Historic Properties Report (Report) to document cultural resources and historic properties that might be affected by the proposed undertaking.

The undertaking sits within unincorporated Riverside California. The property contains four parcels, APNs 966-380-006, 966-380-007, 966-380-008, 966-380-009 measuring a total of 77.92 acres and is bounded by Butterfield Stage Rd to the north, Pechanga Reservation to the south bisected by Anza Rd from east to southwest, and less than 21 yards from the intersection of Anza and Rd Rio Linda to the northeast. Specifically, it is located in Township 8S, Range 2W, in an un-sectioned area as depicted on 7.5 USGS quadrangles (Figure 1). The Pechanga Cultural Resource Department has a contract with the Eastern Information Center (EIC), located at the University of California Riverside, and gets yearly updates of Cultural Resources reported to the EIC. As such, the PCRD performed an in-house search on April 1, 2022. Identified are six prehistoric sites and six Pechanga recorded cultural artifacts within a one-mile radius (Figure 3 and 4) and are listed below in table format (Table 1 and 2). No previous studies or sites have been recorded within the Undertaking's APE.

The Northern Boundary Property (Figure 2) was surveyed on February 25, 2020; lead by Myra Masiel-Zamora (Curator and registered archaeologist RPA 17002) and supported by Ebru Ozdil (Cultural Analyst) Tony Foussat (Monitor Supervisor), Molly Earp (Cultural Planning Specialist), and Paul Macarro (Cultural Coordinator). Early historical aerial photos show dirt trails bisecting the property from 1938 to 1947, with a change and addition of Anza Road and Rio Linda Rd in 1967[1]. Based on the field survey, archaeological records, and internal tribal records, the property does not contain any known sacred resources; however, during the survey, four cultural resources and 55 tribal traditional plant resources were identified. One hand stone, a core tool, two white clay resources, and 55 elderberry trees. The property is not part of a defined traditional cultural landscape or a known Traditional Cultural Property (TCP). Due to the history of earth disturbances of the property and with some visible surface indicators, there is a moderate potential for additional cultural resources to be adversely impacted during future project activities. As this Undertaking does not include any development this project has no adverse impacts to historical properties.

[1] https://www.historicaerials.com/viewer

Based on the results presented above, the THPO has concurred that there are no significant historic properties located on the project site and recommends a finding of No Historic Properties Affected. As such, there are no historic properties that will be adversely affected by the proposed Fee to Trust application process.

Introduction

At the request of the Pechanga Band of Indians, the Pechanga Cultural Resources Department (PCRD) conducted a cultural resources and historic properties study of the Northern Boundary property. The purpose of this study was to identify any unique cultural resources and or historic properties situated within or near the APE. PCRD prepared this cultural resource study in support of the Pechanga Band's Fee to Trust application for these parcels. If a future development project is proposed within this property, recommendations for mitigation will be made when necessary, as required by applicable tribal and federal laws and guidelines.

The purpose of this Report is to define the study area, identify all potentially significant cultural resources and historic properties situated within the study areas and the APE, and, if impacted by any proposed development, recommendations for mitigation. In January 2015, the Pechanga Band officially gained Tribal Historic Preservation Officer status and, with respect to historic properties located on tribal lands, has assumed certain duties of the State Historic Preservation Office per Section 101(b)(2) and 101(b)(3) of the National Historic Preservation Act (NHPA). Completion of this investigation fulfills the requirements of the NHPA and the National Environmental Policy Act (NEPA). The Pechanga Band, utilizing its full sovereign authority actively protects its natural and cultural resources through the THPO and PCRD. The Band has dedicated and qualified staff necessary to complete this Report and ensure it complies with all applicable reporting standards.

The Northern Boundary property is located north of the Riverside/San Diego County Boundary, south of State Route 79 (SR-79) south, and east of Interstate 15 (I-15). It can be found on the Pechanga, California, United States Geological Survey (USGS) 7.5-minute topographic quadrangle (Figure 1), in an un-sectioned area of Township 8 South, Range 2 West, north of Section 23. The property contains four parcels: APN 918-380-006 measuring 19.98 acres, APN 918-380-007 measuring 19.56 aces, APN 918-380-008 measuring 18.78 acres, and APN 918-380-009 measuring 19.60 acres; located less than 21 yards southwest of the intersection of Anza Rd and Rio Linda Rd (Figure 2). The parcel is bounded by Butterfield Stage Rd to the north, Pechanga Reservation to the south bisected by Anza Rd from east to southwest.

This Report documents the background research and cultural resources survey conducted for the proposed Undertaking. PCRD staff led by Myra Masiel-Zamora (Curator and registered archaeologist RPA 17002), and supported by Ebru Ozdil (Cultural Analyst), Tony Foussat (Monitor Supervisor) who has over 15 years as a trained cultural monitor, Molly Earp (Cultural Planning Specialist), and Paul Macarro (Cultural Coordinator), all conducted the archaeological survey and fieldwork. The property was surveyed using pedestrian transect intervals of 15 feet. The entire area was closely inspected for evidence of prehistoric and historic-age (i.e., 50 years old or older) archaeological sites and historic-age elements of the built environment. Four cultural resources were identified during the survey and include: one hand stone, one core tool, and two white clay resources. In addition, 55 tribal traditional plant resources were recorded to be on site. The report was prepared by PCRD staff members Myra Masiel-Zamora (Curator and registered archaeologist

RPA 17002) who meets the Secretary of Interior standards; and Lisa Woodward, Ph.D., (Archivist) with support from Juan Ochoa (Assistant THPO) and Molly Earp (Cultural Planning Specialist). PCRD Director and Tribal Historic Preservation Officer, Gary DuBois, J.D., MSW, supervised all work associated with this Report.

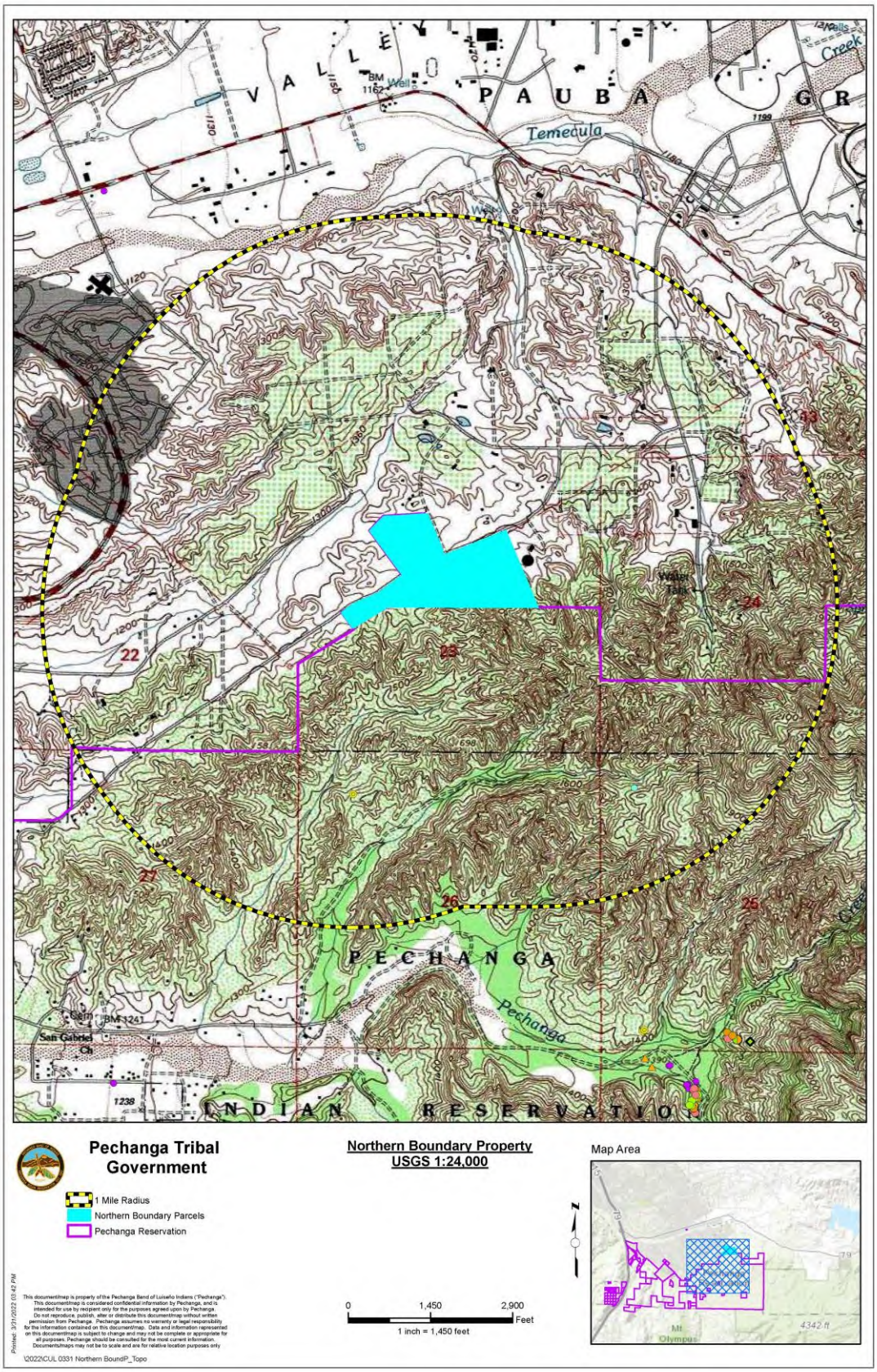


Figure 1. Northern Boundary Property - USGS 1:24,000



Figure 2. Northern Boundary Property APE

Setting

Environmental Natural Setting

The project area is located just east of the Santa Ana Mountains in the geologic province known as the Peninsular Ranges province. The Peninsular Ranges province encompasses an area that extends approximately 900 miles from the Transverse Ranges and the Los Angeles Basin south to the southern tip of Baja California. The province varies in width from approximately 30 to 100 miles. In general, the province consists of rugged mountains underlain by volcanic and sedimentary rocks, and igneous rocks of the Southern California Batholith (granitic rocks that constitute the core of many mountain ranges in western North America and underlie large portions of southern California). The Santa Ana Mountains consist primarily of these granitic or crystalline rocks that are overlain by younger sedimentary rocks. The entire Undertaking lies on Older Quaternary alluvium geologic deposit (Figure 3). To the north and south lies Quaternary alluvium and marine deposits (Q). [2]

The project area is located within the Elsinore Trough, which is a combination of the Glen Ivy section and the Temecula section of the Elsinore Fault Zone. The Elsinore Trough is made up of graben structures between the Santa Ana tectonic block and the Perris tectonic block. [3]The project area in its entirety is 77.92 acres of vacant and undeveloped land. The topography of the site varies from approximately level to slightly undulating. Elevations range from approximately 1,295 feet to 1,550 feet above mean sea level[4]. The project area is located approximately less than 21 yards southwest of the intersection of Anza Rd and Rio Linda Rd. The property was surveyed by walking east to west transects. Currently, the property contains vinyl fencing bisecting APNs 918-380-006, 918-380-007, 918-380-008 from APN 918-380-009, natural vegetation, and various off road vehicle trails. Ground visibility varied from good to poor due to low to high vegetation within the interior of the property and excellent within the trails, and dirt paths (Figure 6 through Figure 18). Historical aerial photos show dirt trails bisecting the property from 1938 to 1947, with a change and addition to dirt roads known as Anza Road and Rio Linda Rd in 1967[5].

[2]U.S. Geological Survey (USGS): State Geologic Compilation
[3]https://gotbooks.miracosta.edu/fieldtrips/Elsinore_Fault/index.html#:~:text=The%20Glen%20Ivy%20Fault%20section,northern%20San%20Diego%20County%20line).
[4] https://en-us.topographic-map.com/ :Temecula topographic map, elevation, relief.
[5] https://www.historicaerials.com/viewer

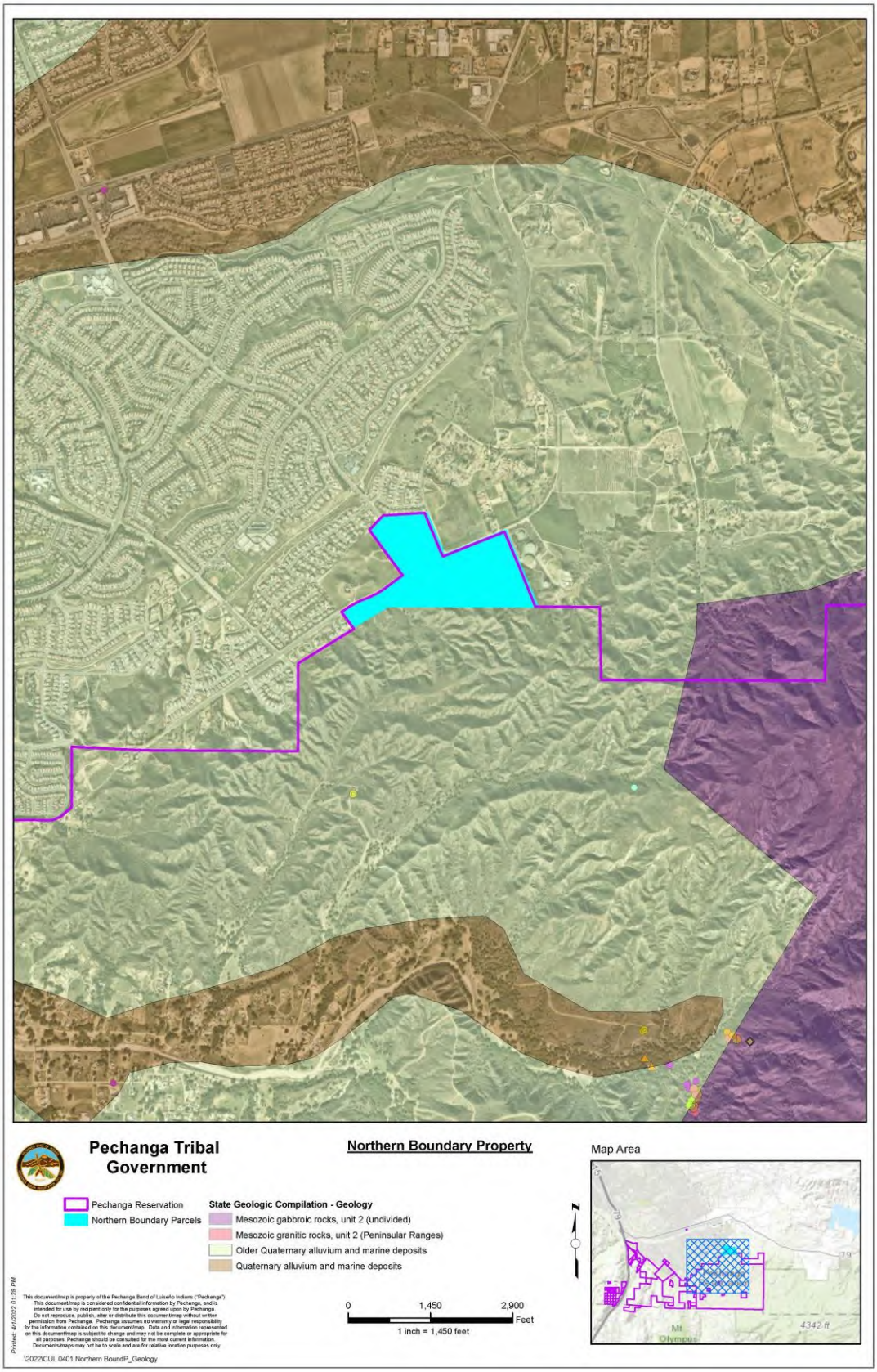


Figure 3. Northern Boundary Property with the underlying geology

Cultural Setting

Pre-European Contact

The Undertaking is situated within the traditional boundaries of the *'Atáaxum* (known in ethnographic sources as the Luiseño) as defined by the Tribal oral tradition and recorded in anthropological sources such as Kroeber (1925). The Ancestral territory of the *'Atáaxum* encompasses approximately 2,600 square miles, including all of Western Riverside County, northwestern San Diego County. The aboriginal territory is determined by our oral tradition (i.e., songs and historical accounts) and is defined by place names, rock art, pictographs, petroglyphs, and an extensive artifact record. The northern border of the territory follows the Santa Ana River and covers the western slopes of the San Jacinto Mountains to the east. At Idyllwild, the territory boundary turns to the south, includes Aguanga, and then extends east again to the middle of San Jose de Valle (Warner Valley). At Lake Henshaw it turns southwest, and incorporates portions of Escondido, all of San Marcos, and Batiquitos Lagoon. The Pacific Ocean is the western border and it encompasses the coastal areas of Carlsbad, Oceanside, and all of Camp Pendleton. The southern Channel Islands, San Clemente, Santa Catalina, San Nicolas, and Santa Barbara Islands are also included. At the northern border of Camp Pendleton, Luiseño territory curves east and skirts the ridgeline of the Santa Ana Mountains up to the northern boundary, the Santa Ana River.

Tribal history begins with the Creation of the World at *'Éxva Teméeku* and due to the length of the account an abbreviated version of the narrative is provided. The narrative is actually told in a series of songs which number in the hundreds.

In the beginning there was nothing, *Kíwvish 'atáxvish*, meaning 'empty', 'unpopulated.' Several periods of time passed during which things began to take shape whereas *Túukumit* (Father Night Sky) and *Tamáayawut* (Mother Day Earth) created the world. *Túukumit* gave *Tamáayawut* the sun, *Temét* as a gift which was cast into the sky at "a place near Temecula" with a special net that made for this purpose (Strong 1929:295). When *Túukumit* and *Tamáayawut* became one, their first offspring were earth and sand, which are *'éxla* and *'éxval*. Their children were known as the first people or *Káamalam* and were all things, including mammals, birds, trees, fog, and rocks.

The last of the *Káamalam* born was *Wuyóot*. He was innately gifted with knowledge and knew how to make the first food, *tóovish* (white clay), to feed the *Káamalam*. It is said *Wuyóot* gave the people ceremonial songs when he lived at *'Éxva Teméeku*, which are still sung today.

According to the Creation Narratives, *Wuyóot* was poisoned, and in an attempt to be cured, he visited several hot springs throughout the area that is now recognized as the traditional territory. The First People followed *Wuyóot* on his journey to be cured and as they traveled, he named several places. Along this *pómniv* (tracks or journey), the *Káamalam* came to regard *Wuyóot* as their leader. Several of the traditional songs relate this account of the people taking the dying *Wuyóot* to various hot springs, which included *Churúkunuknu Şákiwuna*, Murrieta Hot Springs, meaning 'sliding place where hot

water bubbles', and '*iténgvu Wumówmu*, the hot springs at Lake Elsinore, where he died at the end of his journey. As he traveled to these various springs, *Wuyóot* also named the increments of time that had passed, which became the months of the Luiseño calendar. During this time, he taught the First People all of his knowledge.

Upon *Wuyóot's* death, he was taken to '*Éxva Teméeku* and cremated. *Wuyóot's* passing was the first death of the *Káamalam*. Death did not exist before this time. The *Káamalam* were so overcome with grief that the quail, roadrunner, and woodpecker cut their hair. The Luiseño continue to practice this mourning custom upon the death of a relative. The trees and rocks cried. His death frightened the people, but he had told the *Káamalam*, he would be resurrected in three days. He returned as *Móyla* (moon). Before that event, night had only been known to be full of darkness. The *Káamalam* knew *Móyla-Wuyóot* would always be with them. It is said after *Wuyóot's* death, they called a Grand Council at *Káamalam Pomkí*, located in the hills above '*Éxva Teméeku*. During this Council the *Káamalam* discussed who would become food, since *tóovish* (white clay) would no longer be provided by *Wuyóot*. After several arguments as to why certain *Káamalam* should not become food, it was determined that *ʃ*úkat (deer) would be sacrificed. Once the new order of the world was decided, the First People dispersed out to all corners of Creation, naming places as they travelled and settled within the area which is now recognized as *'Atáaxum* territory.

Like other Native American groups in southern California, the *'Atáaxum* caught and collected seasonally available food resources, and led a semi-sedentary lifestyle. *'Atáaxum* villages generally were located in valley bottoms, along streams, or along coastal strands near mountain ranges sheltered in canyons, near a water source, and in a location that was easily defended. Individuals from these villages took advantage of the varied resources available. The *'Atáaxum* lived in communities consisting of clans, which were comprised of several families. *'Atáaxum* villages were politically independent, administered by a hereditary chief, and occupied by patrilineally linked extended families (Kroeber 1925; White 1963). The *'Atáaxum* recognized private property, which included items and land owned and cared for collectively by the village, family, or individual, i.e. *Kíicha* (houses), gathering areas, ritual equipment, *'áwvithot túuyqeshtal* (trade beads), eagle nests, and songs. owned by individuals. Trespass against any property was punished (Sparkman 1908).

'Atáaxum subsistence was based primarily on seeds like acorns, grass seed, Manzanita, sunflower, sage, chia, and pine nuts. Villages were located near water sources which was also needed for the leaching of acorns. As a staple, *wíiwish* (prepared acorn), could be fixed in various ways as gruel, cakes, or fried. It could be sweetened with honey or sugar-laden berries, and it could be made into a stew with greens and meat. Grass seeds were also an abundant plant food. Holly-leaf cherry or islay (Prunus ilicifolia - cháamish), is also regarded as a highly important harvested vegetable food. Other important seeds were manzanita, *paukla* (sunflower – Helianthus annuus), sage (Salvia spp.), páaʃal (chia – Salvia columbariae), qáanavat (black sage – S. mellifera), lemonade berry, wild rose, náavut (prickly pear cactus – Opuntia littoralis and O. basilaris), ket (lamb's-quarters – Chenopodium album), and tóovat (pinyon pine nuts – Pinus quadrifolia and P. monophylla). Seeds

were parched, ground, and cooked as mush in various combinations according to taste and availability, much in the manner as wíiwish. Greens such as thistle (Cardus spp.), lamb's quarters, miner's lettuce (Claytonia perfoliata – tówish popá'kwa), qáaʃil (white sage – Salvia apiana), and clover (Trifolium spp. – five separate species were used – mukálwut, ké'kesh, pehévi, shóo'kut and chókat) were eaten raw or cooked and sometimes dried for storage. Pávlash (Thimbleberries – Rubus parviflorus), kúuta (elderberries – Sambucus caerulea), píkwla yuváttaat (blackberry – Rubus ursinus) and mákwit (wild grapes – Vitis girdiana) were eaten raw or dried for later cooking. Cooked yucca buds, blossoms, pods, and stalks provided a sizable addition to the community's food resources, and the hard seeds were ground for cooking and eating. Bulbs, roots, and tubers were dug in the spring and summer and usually eaten fresh. Cactus pods and fruit were also used. Mushrooms and ʃaqáapish (tree fungus) provided a significant food supplement and were prized as delicacies. Various teas were made from flowers, fruits, stems, and roots for medicinal cures as well as beverages. Game animals such as deer, rabbit, jackrabbit, wood rat, mice, antelope, and many types of birds supplemented vegetal intake (Lightfoot and Parrish 2009:341-362). The *'Atáaxum* utilized fire for crop management and communal rabbit drives (ibid.; Bean and Shipek 1978:552).

The discussion of the archaeological horizon setting for this undertaking is drawn from the chronological sequence developed from results of the Eastside Reservoir Project (Goldberg et al. 2001). This chronology was based first on artifact cross dating, and then refined with radiocarbon and obsidian hydration dates (Onken and Horne 2001; Robinson 1998, 2001); however, it draws heavily on a cultural sequence defined by Warren (1984) for Southern California, which is based largely on archaeological work conducted in the Colorado and Mojave deserts. Because Warren's chronology used temporal period names that suggest links to the Mojave, these were replaced by value neutral terms (Eddy et al. 2014).

Inland Southern California is often defined as the area east of the Peninsular Mountains extending to Palm Springs or the western communities of Riverside and San Bernardino counties. However, archaeologically speaking, the Inland Valley is the area between the Peninsular Ranges and the San Jacinto and San Bernardino mountain ranges. The region to the east of this area is generally categorized as California deserts. The history of inland Southern California has been less thoroughly understood than that of the adjacent desert and coastal regions where for over 50 years various cultural chronologies based on time-sensitive artifact types have been proposed which were later refined using radiocarbon data (cf., Basgall and Hall 1993; Koerper and Drover 1983; True 1958; Wallace 1955, 1978; Warren 1968, 1980, 1984; Warren and Crabtree 1972). In the absence of absolute chronological indicators for inland sites, researchers generally employed typological cross-dating from either coastal or desert sequences, often as the sole means for assigning age to archaeological sites within the inland areas of southern California (Eddy et al. 2014; Goldberg and Arnold 1988).

Occupation of the inland valleys of Southern California are divided into seven cultural periods by archeologists: Paleoindian (circa 12,000–9500 years B.P.); Early Archaic (circa 9500–7000 B.P.); Middle Archaic (circa 7000–4000 B.P.); Late Archaic (circa 4000–1500 B.P.); Saratoga Springs (circa 1500–750 B.P.); Late Prehistoric (circa 750–410 B.P.); and Protohistoric (circa 410–180 B.P.), which

end in the ethnographic period (George and Abdo Hintzman 2019). This report starts with the middle archaic period as the most archeological evidence is available from this time period.

Middle Archaic Period (circa 7000–4000 B.P.)

At the onset of the Middle Archaic, the high temperatures and extreme aridity of the Early Holocene ameliorated, and the inland valleys of southern California became increasing cooler and wetter while conditions in the deserts deteriorated (Antevs 1952; Hall 1985; Haynes 1967; Mehringer and Warren 1976; Spaulding 1991, 1995). Spaulding (2001) proposes that a westerly air flow pattern returned to cismontane Southern California bringing maritime moisture to the inland valleys, whereas the interior deserts were in the rain-shadow of Transverse and Peninsular Ranges and became increasing arid during this period. Warmer environmental conditions in the inland valleys resulted in more available water and greater biodiversity, making it an attractive area for people to live and exploit resources; around 6000 B.P., there was an increase in the occupation and use of the interior valley (Goldberg et al. 2001). The more intensively used residential locations occur along alluvial fan margins (Douglas and Hanes 2021), while less intensively used areas tended to be situated on arroyo bottoms or upland benches (Goldberg et al. 2001).

This interval is often described as the "Milling Stone Horizon" because of the preponderance of milling tools and features, such as *máala* (manos) and *maláal* (metates), in the archaeological assemblages of sites dated to this era (Basgall and True 1985; Kowta 1969; Wallace 1955). In the coastal and inland regions of Southern California, this period of cultural development is marked by the technological advancements of grinding and more extensive use of marine resources, such as shellfish and marine mammals.

The artifact inventory commonly associated with Middle Archaic sites includes pecked stone artifacts (made by hammer stones), as well as flaked stone artifacts (most often made using antlers) and ground stone artifacts (made by grinding), including *teqét* (scrapers), *wóokilash* (knives), *ṣé'la;ash pomúchvo* (large projectile points), and *pikát* (expedient flake tools). Artifact assemblages of this period include non-utilitarian artifacts such as *'aáwvithot túuyqeshtal*, *qéshtal háng'axpish*, *háng'axpish*, *chílkut*, *qénxat*, *tóota purúprukish*, and many more (Goldberg 2001; Kowta 1969; True 1958; Warren et al. 1961).

Late Archaic Period (circa 4000–1500 B.P.)

The beginning of the Late Archaic coincides with the Little Pluvial, a period of increased moisture in the region from the already moist Middle Archaic Period. The cooler and wetter conditions supported greater biodiversity than exists in the interior valleys today, which in turn supported increasing sedentism, more intensive use of resources among groups living in the region. By approximately 2100 B.P., however, increasing aridity in the interior valleys resulted in a reduction in biodiversity, which may have driven a shift in subsistence practices. Archaeological site types

that typify this time period include residential bases with large, diverse artifact assemblages, abundant faunal remains, and cultural features, as well as seasonal homes, and task-specific activity areas. In general, sites showing evidence of the most intensive use tend to be on range-front benches adjacent to permanent water sources, such as perennial springs or larger streams, while less intensively used locales occur either on upland benches or on the margins of active alluvial fans (Goldberg 2001).

Data from Late Archaic component archaeological sites also suggest increased sedentism during this period, with a change to a semi-sedentary land-use and collection strategy. The profusion of features, and especially refuse deposits in Late Archaic components, suggests that seasonal encampments saw longer use and more frequent reuse than during the latter part of the preceding Middle Archaic period, with increasing moisture improving the conditions of Southern California after circa 3100 B.P. (Horne 2001; Spaulding 2001). Drying and warming after circa 2100 B.P. likely exacted a toll on expanding populations, influencing changes in resource procurement strategies, promoting economic diversification and resource intensification, and perhaps resulting in a permanent shift towards greater sedentism (Goldberg 2001). Most chronological sequences for Southern California recognize the introduction of the bow and arrow by 1500 B.P., marked by the appearance of small *húula* (projectile points) and *yóowlash* (arrow straighteners).

Technologically, the artifact assemblage of this period is similar to those of the Middle Archaic; new tools were added either as innovations or as "borrowed" cultural items. Diagnostic projectile points of this period are dart point in size, but also include more refined notched (Elko), concave base (Humboldt), and small stemmed (Gypsum) forms (Warren 1984).

Saratoga Springs Period (circa 1500–750 B.P.)

The Medieval Warm Period (MWP, 1100–575 cal. B.P) also known as the Medieval Climate Optimum, or Medieval Climatic Anomaly, was a time of persistent drought. Intense aridity was experienced throughout the western United States (Jones et al. 1999; Kennett and Kennett 2000), although the inland areas of cismontane Southern California may have been less affected than the desert interior (Spaulding 2001). Artifact assemblages are very similar to the preceding period. With the onset of the MWP, the sedentism and resource intensification that began around 2100 B.P. intensified (Goldberg 2001). Villages and resource procurement sites become increasingly focalized adjacent to permanent water sources (Goldberg 2001).

During the Saratoga Springs period, the frequency of artifact and tool-stone caches more than doubled from the preceding period and middens became established at many village sites due to the intensity of occupation and long-term use of villages over time (Horne 2001). Archaeological assemblages reflect an increased use of bedrock mortars and pestles, slicks and other ground stone artifacts, suggesting greater reliance on plant foods compared to earlier in prehistory (Klink 2001). Faunal assemblages indicate increased exploitation of lagomorphs and an introduction of medium-sized carnivores to the diet; these changes may represent intentional expansion of the diet as a

means of adapting to the arid conditions of the MWP (McKim 2001) or a likely increase in lagomorph populations. The most abundant evidence of trade also occurs during the MWP (Goldberg 2001), suggesting that exchange had become an established economy.

Late Prehistoric Period (circa 750–410 B.P.)

The MWP extended into the Late Prehistoric period, ending about 575 B.P. in which a period of cooler temperatures and greater precipitation ushered in the Little Ice Age (LIA), which spanned circa 500–170 cal. B.P. Ecosystem productivity greatly increased along with the availability and predictability of water resources (Spaulding 2001). The number and frequency of artifact and tool-stone caches decreased and hearth features became slightly more common. The decrease in the number of artifact and tool-stone caches during this time suggest that residential sites were occupied on a year-round basis (Horne 2001). A reduction in emphasis on plant foods—especially acorns, which require intensive preparation—is also visible in the archaeological record, and likely accounts for the reduction in refuse deposits, fire-altered rock weights, and midden development visible toward the end of the Late Prehistoric period. Percentages of projectile points also increased somewhat after the MWP, suggesting an increased focus on mid-sized mammals. The most striking change in material culture during this time is the local manufacture of ceramic vessels and ceramic smoking pipes. During this period, abundant amounts of lithic raw material from Obsidian Butte were imported into the region and is common in many Protohistoric sites. Cottonwood Triangular points and Desert Side-notched points are the most common points dating to this period

Post European Contact

Francisco Ulloa, exploring the Pacific coast under orders from Hernán Cortes, is reported to have stopped at the San Luis Rey River in 1540, marking the first documented contact between Europeans and the *'Atáaxum*, although the accuracy of his exploration is disputed (Garrahy and Weber 1971). Juan Rodriguez Cabrillo, who is widely considered the first European to explore Alta California, sailed the coast through *'Atáaxum* territory in 1542, but is not reported to have landed. Spanish colonial settlement was initiated in 1769 with the founding of the first mission in San Diego by Father Junípero Serra. Father Juan Mariner and Father-Presidente Fermín Lasuén explored what would become northern San Diego County and western Riverside County in 1795 and 1797, respectively, in search of a location for another mission (Brigandi 1998). In 1798, Lasuén founded Mission San Luis Rey de Francia in the San Luis Rey Valley, which would become one of the largest and most prosperous missions in California (Brigandi 1998).

The term "Luiseño" was assigned to the Tribal populations that were taken within the "ecclesiastical jurisdiction of Mission San Luis Rey… [and who shared] an ancestral relationship which is evident in their cosmogony, and oral tradition, common language, and reciprocal relationship in ceremonies" (Oxendine 1983:8). One of the first written ethnographic accounts of the *'Atáaxum* is attributed Pablo Tac, a neophyte born at San Luis Rey Mission. Learning to read and

write Spanish by the mission fathers, he documented his customs and traditions and created a dictionary of his language (Hass 2011).

Under Spanish control, the missions set out to convert local populations to Christianity, and to expand the influence of the Spanish empire through the enslavement of Native peoples. To support the growing mission, numerous asistencias, or sub-missions, and ranchos were established throughout the territory at or adjacent to *'Atáaxum* villages; at the village of Temecula, two adobe buildings were constructed, likely towards the end of the mission period (Brigandi 1998). Cattle, corn, wheat, and wine were the primary items produced at the Temecula rancho (Brigandi 1998).

Following Mexican independence from Spain in 1821, secularization of the missions began in 1833 in order to turn over the large land holding to private citizens. Mission San Luis Rey was divided into six ranchos in 1835: Santa Margarita, Las Flores, Guajome, Agua Hedionda, Buena Vista, and Monserrate. Four ranchos were created in the Temecula area from the mission holdings: Rancho Pauba, Rancho Temecula, Rancho Santa Rosa, and Rancho Little Temecula. Control of the Temecula ranchos changed hands repeatedly, as speculators came and went, rarely visiting their lands (Brigandi 1998), though enslavement and poor treatment of the Native population continued.

Pio Pico (who would become Governor of California) took interest in Temecula and was granted a claim in 1840 to Rancho Temecula, which covered the whole of Temecula Valley, extending north to Lake Elsinore. By 1841, Pico surrendered claim to Temecula in order to receive a grant to Rancho Santa Margarita. After trading hands a few times, Jean Louis Vignes, California's first commercial vintner, purchased Rancho Temecula in 1846, combined it with Rancho Pauba after purchasing that land in 1848) and held it through the end of the Rancho period.

Little Temecula Rancho was the smallest of the four and was deeded to Pablo Apis in 1845 by Governor Pio Pico, who had previously imprisoned Apis while administrator of Mission San Luis Rey (Brigandi 1998). Apis, baptized at Mission San Luis Rey as a child, was one of the few Indians to receive a land grant under Mexican rule (Brigandi 1998; Hudson and Hicks 1970). Apis built an adobe along Temecula Creek at the village of Temecula, where a large population of Temecula Indians already lived, which was located along the trails leading in and out of Temecula Valley, where he sold provisions to travelers (Barnett and Farnbach 2006), particularly to those along what later became known as the Southern Emigrant Trail. The rancho period did not last long though, as independence from Mexico and the discovery of gold in the mid-1800s led to California joining the United States in 1850 and an influx of white settlers into the regions.

In 1846, upwards of one hundred *'Atáaxum* people were killed in a massacre orchestrated by Californios and allied Cahuilla. This event was directly associated with the Mexican-American War battle at San Pasqual. In retaliation for killing 11 Californinos after the battle, the Cahuillas assisted in massacring 'Atáaxum people from the Temecula village. Five years later in 1852, the Treaty of Temecula (Treaty of Peace and Friendship) was signed, providing certain lands, horses, cattle, and other supplies to the 'Atáaxum, Cahuilla, and Serrano in exchange for government control of the

rest of their lands (Bibb 1991; Van Hom 1974). This treaty, and 17 others in California, was rejected by the U.S. Senate later that year.

In 1858, John Butterfield established the Butterfield Stage Route along the Southern Emigrant Trail, delivering mail from St. Louis to San Francisco, including a stop in Little Rancho Temecula (Miller 2012). The Butterfield route also provided an easier mode of transportation for settlers coming into Southern California (Van Horn 1974). Louis Wolf came to dominate Temecula around this time, running the post office, owing the general store, and serving multiple municipal posts in the Rancho Little Temecula area (Barnett and Farnbach 2006). The start of the Civil War shut down the Butterfield Stage Route after a short 3-year stint, as it passed through Confederate states, cutting off Temecula from eastern destinations. By the 1870s, ranching had become quite prosperous in Temecula, particularly at the hands of immigrants such as Juan Murrieta, Francisco Sanjurju, and José Mariá Gonzales, who came to own the Pauba and Big Temecula Ranchos (Van Horn 1974). As the ranchos became more prosperous and the population grew, disputes over the land led to the *ʾAtáaxum* being forced from the village of Temecula in 1875. The eviction spanned 6 days, where an armed posse forcefully, at gunpoint, removed the people and their belongings from their homes in the Temecula Village, which was not part of a privately-owned rancho. For six-years, the Temecula people were landless, forcing many to "squat" on other lands and many to move away from the valley. With assistance from Helen Hunt Jackson, lands were acquired for the landless and the Pechanga Reservation was established by executive order in 1882 (Barnett et al. 2012).

Research Design and Methods

This Report was prepared using the Office of Historic Preservation's (OHP) Archaeological Resources Management Reports (ARMR) recommended format and fulfills all protocols associated with CEQA, NHPA, and NEPA-level archaeological and cultural resources studies, and historic properties identification and evaluation under the sovereign authority of the Pechanga Band of Indians, a federally recognized Indian Tribe and sovereign Tribal Government.

In May 2022, a records check was conducted through PCRD's GIS database, which maintains all prehistoric cultural sites located within Pechanga's Traditional Territory. In addition, the following maps were checked for potential impacts to tribal cultural resources and historic properties: U.S.G.S. 7.5 Minute Topographic Quadrangle Township 8 South, Range 2 West in an un-named section, 1880 and 1886; no cultural resources noted.

On February 25, 2020, PCRD staff Myra Masiel-Zamora (Curator and registered archaeologist RPA 17002), and supported by Ebru Ozdil (Cultural Analyst), Tony Foussat (Monitor Supervisor) who has over 15 years as a trained cultural monitor, Molly Earp (Cultural Planning Specialist), and Paul Macarro (Cultural Coordinator), all conducted the archaeological survey and fieldwork. The property was surveyed using pedestrian transect intervals of 15 feet totaling 77.92 acres within the City of Temecula, Riverside County, California, at the request of the Pechanga Band of Indians.

The cultural resources survey began at the eastern part of the Northern Boundary property, APN 966-380-006. Photos taken the day of the surveyed areas include east, north, south, and west. The next parcel survey began at APN 966-380-007 photos include north, south, and west. Third parcel survey APN 966-380-009 photos include east, north, south, and west. The last parcel survey APN 966-380-008 photos include northeast, southeast, and southwest. All photos convey the conditions of the property with respect to their locations, ground visibility, and other observational indicators (Appendix B. – Photos, figures 6-18).

Study Findings and Conclusions

Records Results

The Pechanga Cultural Resource Department has a contract with the Eastern Information Center (EIC), located at the University of California Riverside, and receives yearly updates of Cultural Resources reported to the EIC. As such, we performed an in-house search on May 3, 2022. Identified are 6 prehistoric sites (Figure 4) as well as 2 Pechanga recorded cultural artifacts (Figure 5) within a one-mile radius. No previous studies or sites have been recorded within the undertakings APE. A table of Historic Properties and cultural artifacts is compiled in Table 1 and 2, respectively.

USGS 7.5 Minute Quadrangles	Site Number	Site Distinction
RivCo: T:8s, R:2w	33-9634	Prehistoric
RivCo: T:8s, R:2w	33-9635	Prehistoric
RivCo: T:8s, R:2w	33-4263	Prehistoric
RivCo: T:8s, R:2w	33-4262	Prehistoric
RivCo: T:8s, R:2w	33-74261	Prehistoric
RivCo: T:8s, R:2w	33-14748	Prehistoric

Table 1. Cultural sites within 1 mile of the Northern Boundary Property

Number recorded	Artifact Type
1	Pottery
1	Flake

Table 2. Pechanga recorded cultural artifacts within 1 mile of Northern Boundary Property

Field Survey Results

In February 2020 the property was surveyed by walking north to south transects spread out over a length of 15 feet apart between the surveyors. Land visibility ranged between 20% to 90% throughout the project boundary with the northern areas that have been previously plowed being more visible and walkable than the southern hillsides. A total of 59 resources were identified within the project boundary; two hand tools, two natural white clay sources, and 55 elderberry trees as seen in figure 6.

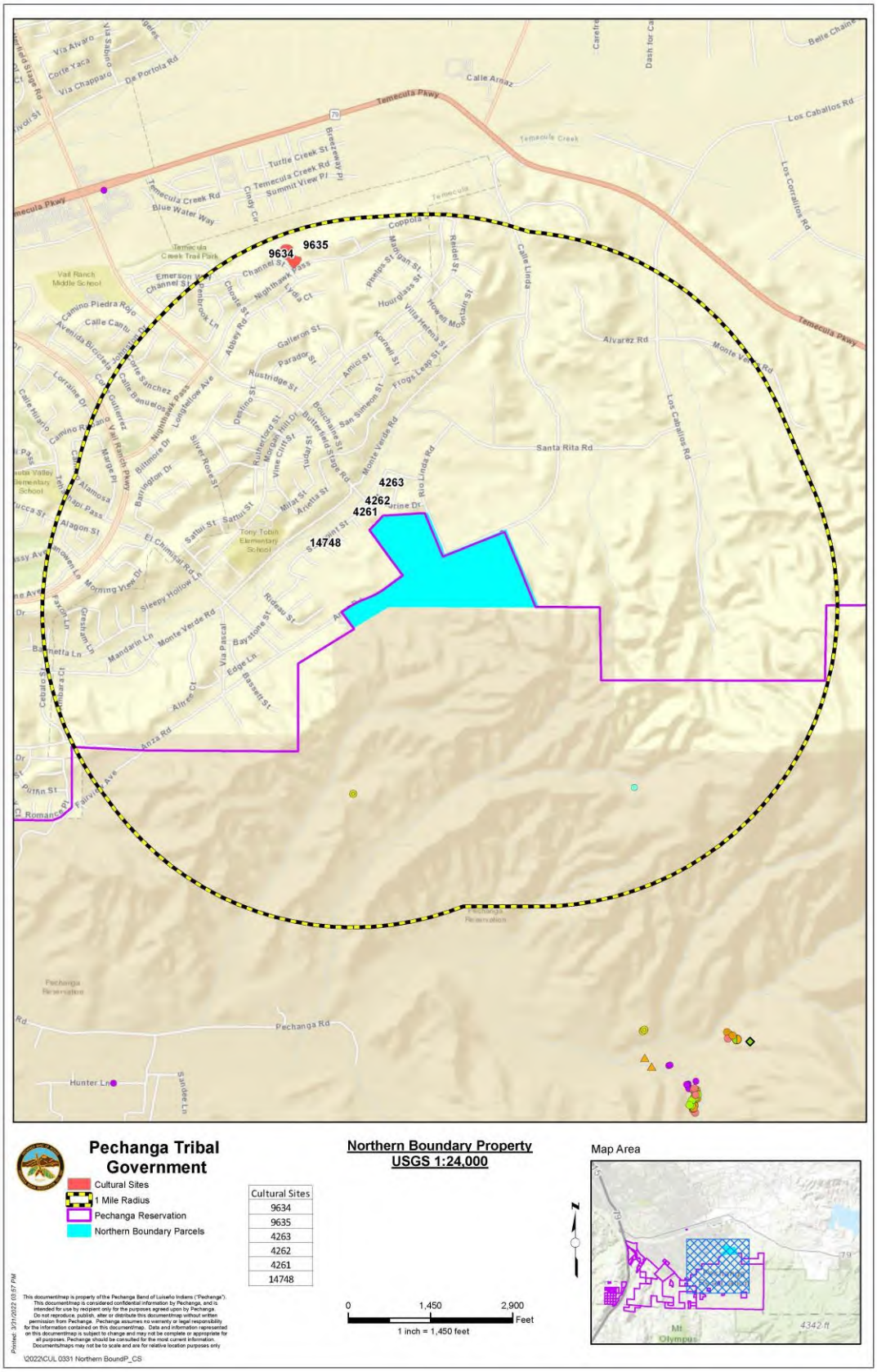


Figure 4. Cultural sites withinin 1 mile of Northern Boundary property

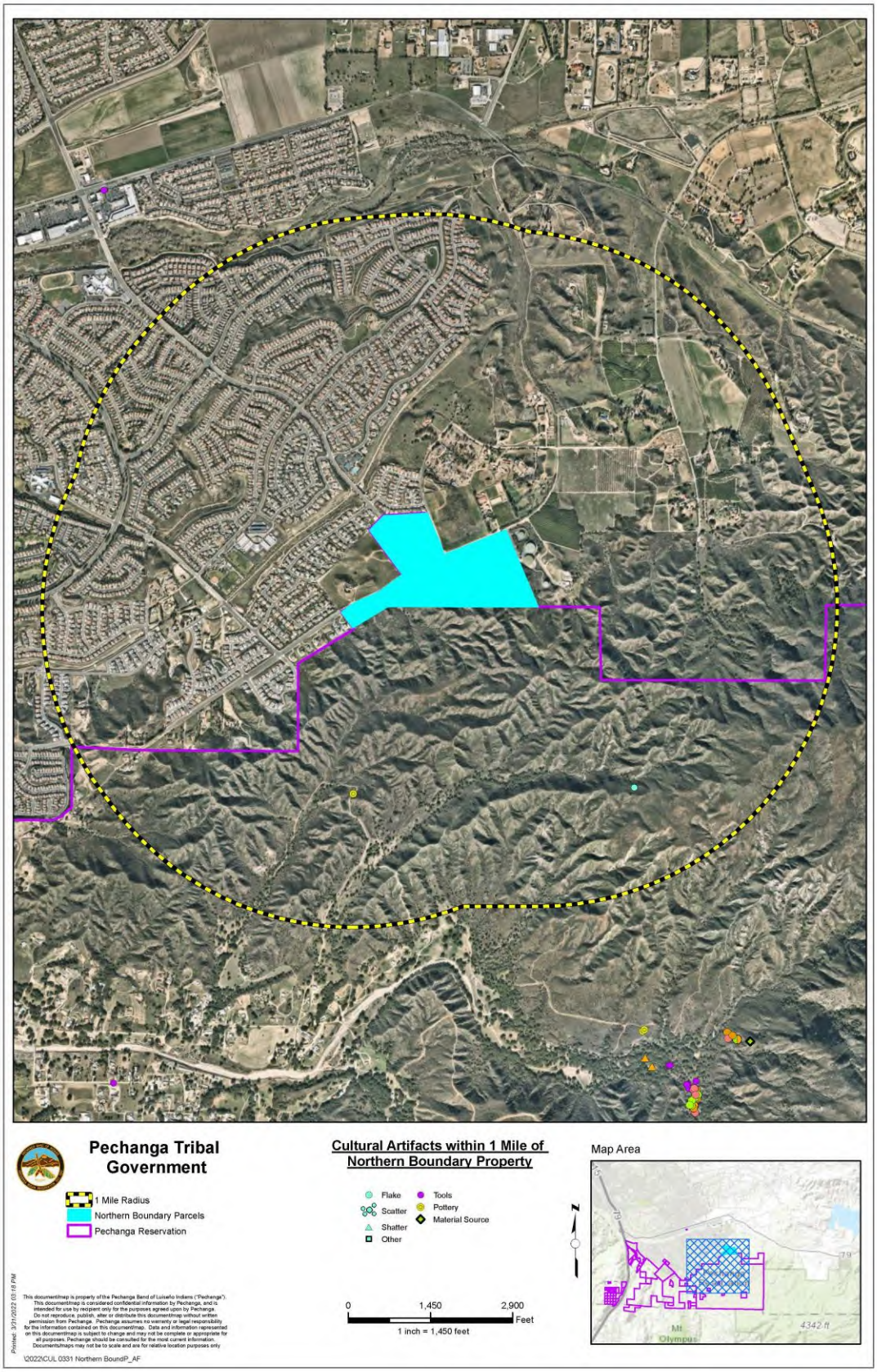


Figure 5. Pechanga recorded Cultural Artifacts within 1 mile of Northern Boundary property

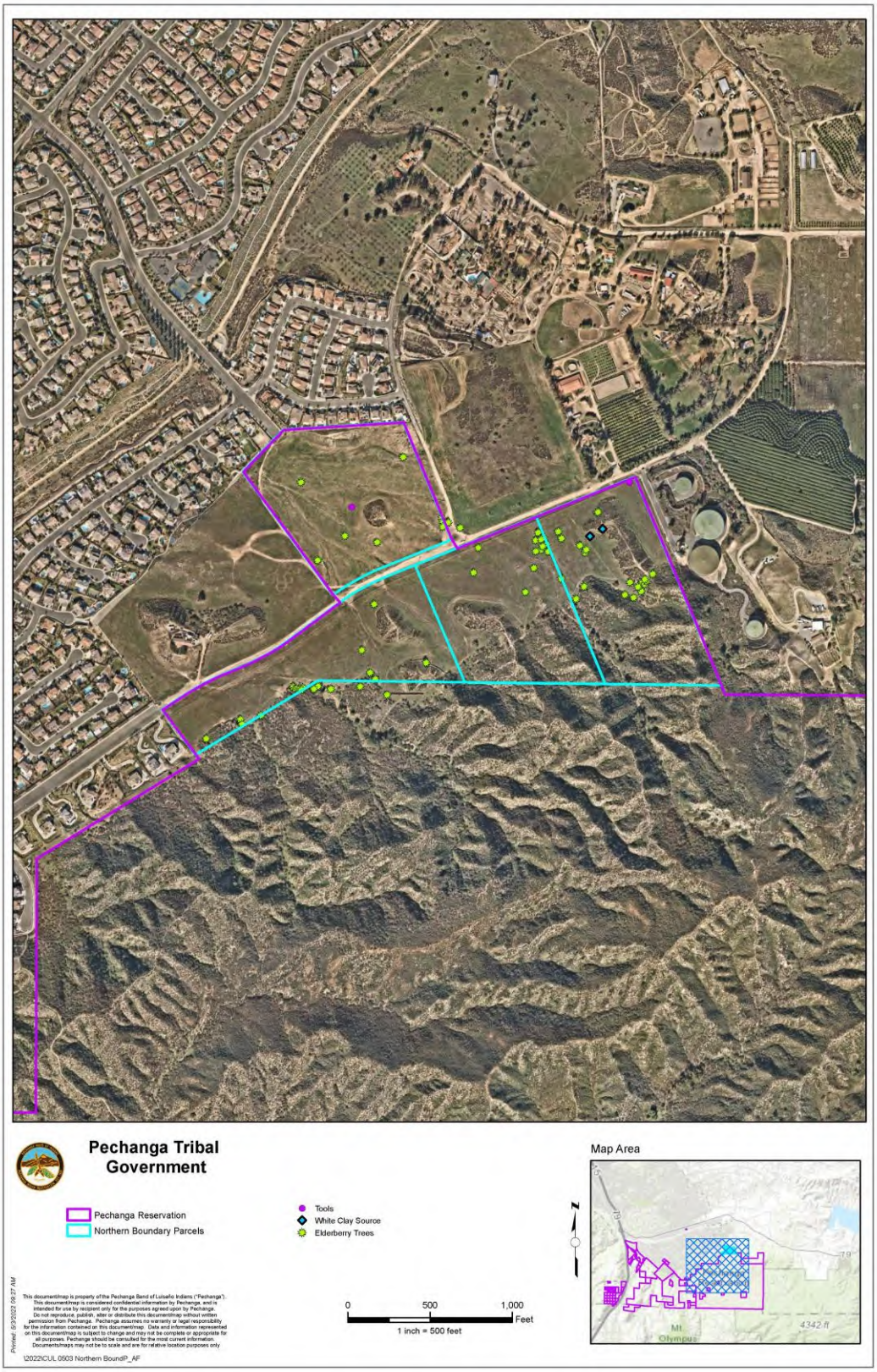


Figure 6. Northern Boundary Survey Results

Conclusion

Based on the field survey and internal tribal records, the property has a total of 59 tribal cultural resources. It is not part of a defined Traditional Cultural Landscape (TCL) or a known Traditional Cultural Property (TCP), and no other historic properties have been identified within or around the APE by the Band. Thus, based on the limited disturbances of the property and with some visible surface indicators, there is a moderate potential for cultural resources to be adversely impacted during ground disturbing activities. However, due to the projects scope the undertaking has no potential to adversely affect historic properties.

Given the results presented above, the THPO recommends a finding of No Historic Properties Affected. As such, there are no historic properties that will be adversely affected by the Fee to Trust application or a future project.

Recommended Mitigation Measures

Due to the *de minimis* nature of this project and existing disturbance on the site, no impacts are expected. Nonetheless, if any ground disturbing activities are proposed by the Band in the future, it is possible that such actions could unearth, expose, or disturb subsurface cultural resources that were not observable on the surface. As of the writing of this report, to mitigate any potential impacts a future project could have, the following mitigation measures shall be reviewed and potentially implemented for future projects occurring within the APE:

All project staff will be briefed about unanticipated discoveries of buried cultural materials or human remains and will adhere to the following:

- *A Pechanga Tribal Monitor(s) and an Archaeologist from the Pechanga THPO will monitor ground disturbing activities associated with any future development project(s). The Tribal monitor and archaeologist will have authority to stop and redirect grading in the immediate area of a find in order to evaluate the find and determine the appropriate next steps. The evaluation shall include culturally appropriate temporary and permanent treatment, which may include avoidance of cultural and archeological finds, in-place preservation, or re-burial on the Project property in an area not subject to future disturbance for preservation in perpetuity with agreement of the Landowner.*

- *In the event that Native American cultural resources are discovered during ground-disturbing activities, all work within 50 feet of the find(s) shall cease and the Tribal Historic Preservation Officer and a qualified archaeologist from the Pechanga Cultural Resources Department shall be immediately contacted to assess the find(s). Work outside the immediate vicinity of the find may continue during this assessment period.*

- *If human remains are encountered during ground-disturbing activities, the Native American Graves Protection and Repatriation Act will apply. All work within 50 feet of the find(s) shall cease and all reasonable efforts shall be made to protect the human remains and any other cultural items from further impact. The responsible Indian tribe official must be notified immediately and the applicable provisions of NAGPRA shall be followed as necessary.*
- *Per Tribal Custom and Tradition, oak trees and elderberry trees should not be cut down. If they cannot be avoided through project design, they shall be side-boxed, relocated, and preserved in an appropriate open space in perpetuity.*

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Appendix A - Personnel Qualifications (CVs)

Gary P. DuBois
Director
Pechanga Cultural Resources Department
P.O. Box 2183
Temecula, CA 92593

Education

1998 Master's Degree in Social Work. George Warren Brown School of Social Work at Washington University.

1995 Juris Doctor. Washington University Law School in 1995.

1982 B.A. Business Administration, California State University, San Bernardino.

Awards

1992-1998 Buder Scholarship from the Buder Foundation in both law school and the School of Social Work.

Professional Experience

1999-Present Director. Cultural Resources Department, Pechanga Band of Luiseño Indians, Temecula, Ca.

1998-1999 Community Relations Field Officer, Federal Emergency Management Agency (FEMA).

1998 Udall Fellow for the United States Senate Indian Affairs Committee.

1994 Clerk. The Cherokee Nation of Oklahoma Tribal Courts.

Military Service

2013-Present California State Military Reserve. California Center for Military History Unit.

1982-2006 (interrupted service) Veteran of the United States Armed Forces, served over 15 years in the Army National Guard with active duty from 2004 to 2006 in the infantry platoon.

Achievements

2007 Oversaw the construction of a state of the art cultural center in which the curation facility meets federal repository guidelines. The Cultural Center acts as repository materials and objects of cultural, historical and artistic significance to the Pechanga people.

1999 Formally established the Pechanga Cultural Resource Department and oversaw the Cultural Resources Department's development and organization from the ground up and instrumental in the preservation of the Tribe's cultural knowledge, language and traditions.

Lisa L. Woodward
Archivist, Pechanga Cultural Resources Department
Pechanga Band of Luiseño Mission Indians
P.O. Box 2183 Temecula, CA 92593
lwoodward@pechanga-nsn.gov

Education

Ph.D. Native American Studies, University of California, Davis, 2007.

M.A. Native American Studies, University of California, Davis, 2002.

B.A. Anthropology and **Native American Studies**, University of California, Davis, 1996.

Professional Experience

- 2008 – Present. Archivist, Pechanga Cultural Resources, Pechanga Band of Mission Indians, Temecula, California. Language revitalization projects, archiving tribal collections, manuscript and report preparation.
- 2006-present. Co-Project Investigator. J.P. Harrington Database Project.
- Fall 2011 and Spring 2013. Co-Instructor, California State University, San Marcos, Anthropology481, Native American Archaeological Monitoring.
- 2006 –2008. Independent consultant. Pechanga Cultural Resources, Pechanga Band of Mission Indians, Temecula, California. Language revitalization projects, archiving tribal collections, andcurriculum development for tribal school.
- December 2007. Independent consultant. Rincon Cultural Committee, Valley Center, California. Presentation of historical information as related to the Luiseño tribe for the Archaeological Sitemonitor training class.
- 2006. Independent consultant. Scientific Resource Surveys, Inc. Ethnographic report preparation.
- 2004. Teaching Assistant, Department of Native American Studies, UC Davis.
- 2005. Independent consultant. Payomkawichum Kaamalam, Irvine, California. Preparation of Federal Acknowledgement packet, report writing.
- 1995-2001. Staff Archaeologist, Ethnographic Researcher, Scientific Resource Surveys, Inc., Temecula, CA.

Research Experience

- Project Coordinator, J.P. Harrington Database Project. Native American LanguageCenter, UC Davis, 2001-2006.
- Executive Director, Native American Language Center. UC Davis, 2003-2006.
- Advisory Council, Payomkawichum Kaamalam, non-profit organization, 2000-2009.
- Editorial Associate, *Current Anthropology*, UC Davis, October 2000-June 2002.

Publications

Woodward, Lisa L.

2006 Samuel Cary Evans, John P. Harrington, and the Nature of Cogged Stones. In *Coyote Press Archives of California Prehistory: Contributions from Orange CountyPresented in Remembrance of John Peabody Harrington Number 53*, edited by Henry C. Koerper, pp. 81-84. Coyote Press, Salinas, Ca.

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Woodward, Lisa L. and Martha J. Macri

2006 J. P. Harrington Database Project: An Archival Resource for Anthropologists, Archaeologists, and Native Communities. *Journal of California and Great BasinAnthropology* 25(2):89-93.

Nancy H. Evans, Joyce Stanfield Perry, and Lisa L. Woodward

2007 Acjachemem/Juaneño Leader Celebrated. *News from Native California* 20(4):36- 37, 51.

Martha J. Macri, Victor K. Golla, Lisa L. Woodward

2009 J. P. Harrington Project: Academic and Community Participation. *Language is Life:The 11th Annual Stabilizing Indigenous Languages Conference, Conference Proceedings.*

Grant Awards

2018 The Temecula Massacre. American Battlefield Protection Grant, National Park Service.

2017 Pechanga Virtual Museum Exhibit: Creating Access to Tribal Archives. Institute of Museum and Library Services.

2015 J.P. Harrington Database Project: Improving Access to the California Field Notes at the Smithsonian Institution. Institute of Museum and Library Services.

2013 J.P. Harrington Database Project: Improving Access to the California Field Notes at the Smithsonian Institution, National Anthropological Archives. Edison International.

2011 The Teméku Collection from Curation to Installation: Pechanga's Partnership with California State University, San Bernardino. Institute of Museum and Library Services2011-2013.

2009 Pechanga Cultural Center Museum Studies Internship Program. Institute of Museum and Library Services.

Recent Conference Presentations

2014 Encounter with the John P. Harrington Collection: Digitization and Transcription.

International Conference of Indigenous Archives, Libraries, and Museums, Palm Springs.

2013 "The Process of Mapping Traditional Properties Using Ethnographic and Historic Resources." International Conference on Language Documentation, Honolulu, Hawaii.

2012 "Proactive Tribal Efforts to Address California Sacred Sites." California Indian Law Association Conference, Temecula, CA.

—"The Process of Mapping Traditional Properties Using Ethnographic and HistoricResources." ESRI Conference, San Diego, Ca.

2011 "The Process of Mapping Traditional Properties Using Ethnographic and Historic Resources." The George Wright Society Conference, New Orleans, La.

Myra Ruth Masiel-Zamora
Curator, Pechanga Cultural Resources Department
Pechanga Band of Luiseño Mission Indians

P.O. Box 2183 Temecula, CA 92593
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EDUCATION:
2007-2013: M.A. San Diego State University. Anthropology Department.

2001-2005: Bachelor of Arts Degree, University of California Berkeley, AnthropologyMajor, Native American Studies Minor.

EXPERIENCE:
July 2015-Current: **Curator, Pechanga Cultural Resources**
Responsible for Pechanga General Collections, PastPerfect Database, CommunityOutreach and Cultural Programs, Exhibits, Interns and Volunteers, Research, Loans, Grants, Pechanga Library, NAGPRA, Monitor and Curation Staff Trainingand Archival Management

2015-Current: **Editorial Board Chair, Great Oak Press**
Oversee Great Oak Press Publication Projects and Concept designJune 2009-2014:

Assistant Curator, Pechanga Cultural Resources
Assistant with Pechanga General Collections, PastPerfect Database, NAGPRA, Monitor Training, Pechanga Library and Archival Management. Responsible forCommunity Outreach, Cultural Programs, Exhibits and Research.

August 2005-2008: **Curation Tech, Pechanga Cultural Resources**
Assistant with Pechanga General Collection, Outreach and Exhibits.January 2003-

2005: **Lab Tech, Phoebe Hearst Museum of Anthropology**
Assistant with California Indian Archaeological Collection, Register, NAGPRAOutreach

2003-2005: **Native American Recruitment, University of California, Berkeley** Assistant with New Student Native American Recruitment, Travel and NativeStudent Newsletter Publications.

2001-2004: **Collection Tech, Phoebe Hearst Museum of Anthropology**
Responsible for Inventory and Photographing of California Indian Collections.

AWARDS:
2014: Outstanding Achievement, Pechanga Tribal Council
2003-2005: Native American High Honor Society, University of California Berkeley.

SCHOLARSHIPS:
2007-2012: Pechanga Graduate Scholarship2001-2005:
Pechanga Tribal Scholarship

TEACHING EXPERIENCE:

2004, Fall Semester: Seminar Leader, University of California Berkeley, NativeAmerican Beading, Ruth Hopper, Native American Studies Advisory.

2007, Fall Semester: Teaching Assistant, San Diego State University, Native CaliforniaCultures, Lynn Gamble, Ph.D., professor

2008, Spring Semester: Teaching Assistant, San Diego State University, Cuyamaca FieldSchool, Lynn Gamble, Ph.D., professor

2008, Fall Semester: Teaching Assistant, San Diego State University, Introduction toArchaeology, Lynn Gamble, Ph.D., professor

2009, Spring: Native American Basketry Care and Conservation, Pechanga IndianReservation

2009, Spring: Basket and Net Weaving, Pechanga Indian Reservation

2015-2016 Spring: Guest Lecturer, California Indian Studies, Mt San Jacinto CommunityCollege, Menifee Campus

2010-Current, Traditional Youth Knowledge Teacher and Pechanga Cultural Program,Pechanga Indian Reservation

RECENT CONFERENCE PRESENTATIONS:

2014 "Pechanga Mobile Museum." Native American Graves and Reparation Conference. Berkeley, Ca.
2015 "Pechanga Virtual Museum." Institute of Museum, Libraries and Services. Washington D.C.
2015 "Unratified Treaties of California". Treaty Symposium. Riverside, Ca.
2015 "California Indian History." California Indian Conference. Berkeley, Ca.
2016 "Utilizing Museum Collections as Teaching Tools". Association of Tribal Archives, Libraries and Museums. Gila River, Arizona.
2016 "Native Women Writers." California Indian Conference. San Diego, Ca.

PUBLICATIONS:

2013. Analysis of 'éxva Teméeku, A Luiseño Indian Village Site Named Temeku, Located inTemecula, California. San Diego State University. Montezuma Press.

2016. Where We Began: 'ÉXVA TEEMÉKU. Great Oak Press. Pechanga, Ca.2016.

Good Night, Pechanga. Great Oak Press. Pechanga, Ca.

Appendix B - Photos



Figure 6. Parcel 966-380-006 Facing East (cell tower outside of property marked by fencing)



Figure 7. Parcel 966-380-006 Facing North (Anza Rd in background)



Figure 8. Parcel 966-380-006 Facing South



Figure 9. Parcel 966-380-007 Facing North (Anza Rd in background to the left)



Figure 10. Parcel 966-380-007 Facing South



Figure 11. Parcel 966-380-007 Facing West (Anza Road in background)



Figure 12. Parcel 966-380-009 Facing East (Anza Road at foreground, Rio Linda Rd to the left)



Figure 13. Parcel 966-380-009 Facing North (Rio Linda Rd in background)



Figure 14. Parcel 966-380-009 Facing South (Anza Rd in foreground)



Figure 15. Parcel 966-380-009 Facing West



Figure 16. Parcel 966-380-008 Facing Northeast (Anza Rd off to the left)



Figure 17. Parcel 966-380-008 Facing Southeast



Figure 18. Parcel 966-380-008 Facing Southwest (Anza Rd off to the right)

APPENDIX F

TIA PECHANGA NORTHERN PROPERTIES

DRAFT

Traffic Impact Analysis

Northern Boundary Property Project, Riverside County

JULY 2022

Prepared for:

PECHANGA BAND OF INDIANS
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Table of Contents

SECTION **PAGE NO.**

1 Introduction 1
1.1 Purpose and Scope of the TIA 1
1.2 Project Location and Description 1
1.3 Study Area and Scenarios 2
1.4 Methodology 7
1.4.1 Intersections 7
1.4.2 Significance Criteria 7
1.5 Improvements for Transportation Impacts 8

2. Project Traffic 9
2.1 Trip Generation 9
2.2 Trip Distribution and Assignment 9

3 Existing Setting 13
3.1 Roadway System 13
3.2 Transit Facilities 13
3.3 Pedestrian and Bicycle Facilities 13

4 Existing Traffic Operations 17
4.1 Existing Conditions 17
4.1.1 Traffic Volumes 17
4.1.2 Existing Intersection Operations 17
4.2 Existing plus Project Conditions 21
4.2.1 Traffic Volumes 21
4.2.2 Intersection Operations 21

5 Buildout Traffic Operations 23
5.1 Buildout Conditions 23
5.1.1 Traffic Volumes 23
5.1.2 Intersection Operations 24
5.2 Buildout plus Project Conditions 24
5.2.1 Traffic Volumes 24
5.2.2 Intersection Operations 24

6 Access and Circulation 27

7 Project Impacts, Improvement Measures, and Findings 29
7.1 Project Impacts 29
7.1.1 Improvement Measure 29

7.1.2 Fair-Share Calculation 30
7.2 Findings 30
8 References 32

TABLES

1 Levels of Service for Intersections Using HCM Methodology 7
2 Project Trip Generation 9
3 Existing Peak Hour Intersection Level of Service 17
4 Existing and Existing plus Project Peak Hour Intersection Level of Service 22
5 Buildout Peak Hour Intersection Level of Service 24
6 Buildout plus Project Peak Hour Intersection Level of Service 26
7 Peak Hour Intersection Level of Service – Butterfield Stage Road/Anza Road 27
8 PM Peak Hour Intersection Level of Service – Butterfield Stage Road/ SR-79-Temecula Parkway 29

FIGURES

1 Project Location and Study Area 3
2 Site Plan 5
3 Project Trip Distribution 11
4 Existing Traffic Controls and Geometrics 15
5 Intersection Traffic Volumes 19

APPENDICES

A Traffic Counts
B Intersection LOS - Synchro Worksheets
C RIVCOM Model Output and Growth Rate Calculation
D Project Access -Synchro Worksheets
E Improvement Measure -Synchro Worksheets

1 Introduction

1.1 Purpose and Scope of the TIA

The purpose of this Traffic Impact Analysis (TIA) is to identify traffic impacts associated with the proposed Northern Boundary Property Fee-to-Trust and Residential Development Project (project) for the Pechanga Band of Indians (Pechanga). An Environmental Assessment (EA) per the National Environmental Policy Act (NEPA) is being prepared for the project. Per NEPA, the level of service (LOS) metric is the current metric used for transportation analyses prepared under NEPA. Therefore, the following TIA provides an LOS analysis to identify operational improvements required to provide acceptable operations, consistent with the affected local agency's LOS standards.

The objectives of this TIA are to:

- Estimate trip generation, distribution, and assignment characteristics for the project;
- Document existing roadway, pedestrian, bicycle, transit, and traffic conditions in the study area;
- Document the existing intersection LOS in the study area per traffic volumes collected in the year 2022 and buildout levels of service intersection per traffic volumes forecasted for the year 2045 conditions;
- Analyze the traffic impacts that would occur as a result of the project under the existing and buildout conditions;
- Describe the significance of the potential direct and cumulative impacts under the existing and buildout conditions.
- Identify mitigation measures and/or other improvements needed to meet LOS standards and reduce intersection delay (if any).

The project site is located in Riverside County (County) and the roadway network adjacent to the project site is under the jurisdiction of the City of Temecula (City). This TIA has been prepared using the City's Traffic Impact Analysis Guidelines (City of Temecula 2020) and the County's Transportation Analysis Guidelines for Level of Service and Vehicle Miles Traveled (County of Riverside 2020). The analysis and results of this TIA will be included in the project's NEPA EA document.

1.2 Project Location and Description

Figure 1 illustrates the project's location. Regional access to the project is provided via Interstate (I)-15 and State Route (SR) 79 -Temecula Parkway. Local access to the project would primarily be via Butterfield Stage Road. The approximately 81-acre project site is located on Assessor's Parcel Numbers (APNs) 966-380-006, -007, 008, -009, on partially unincorporated lands along the southeastern border of the City of Temecula, which is located immediately north of the Pechanga Reservation in the Riverside County. The project site is zoned as R1: single-unit residential dwellings, as well as R5: open area combining zone-residential developments (RCIT 2022). The project could potentially construct a maximum of 200 single-family residential units. For the purposes of this TIA, the project is assumed to be fully constructed and operational in one phase. Therefore, the analysis of the project assumes a full buildout of 200 units under both existing and buildout conditions. Figure 2 illustrates the conceptual site plan for the proposed project.

1.3 Study Area and Scenarios

The TIA study area was determined to include major intersections along Butterfield Stage Road where the project would add a substantial number of project trips. Figure 1 shows the project location and study area intersections.

1. Butterfield Stage Road/SR-79-Temecula Parkway (signalized; in the City of Temecula)
2. Butterfield Stage Road/Wolf Store Rd (signalized; in the City of Temecula)
3. Butterfield Stage Road/Channel St-Cam Piedra Rojo (signalized; in the City of Temecula)
4. Butterfield Stage Road/Nighthawk Pass (signalized; in the City of Temecula)

The study area intersections were analyzed for the study scenarios described below. Because, at the time of this analysis, the development of the project site was unknown, it was determined that the Existing and Buildout conditions would be best representative of study scenarios for the Project's TIA.

Existing Conditions

This TIA includes a description of existing conditions in the site vicinity, including existing street system, transit, pedestrian, and bike conditions. The existing weekday AM and PM peak-hour traffic volumes, roadway traffic volumes, and traffic operations were analyzed using the traffic counts collected in April 2022. The Existing conditions are representative of year 2022.

Existing plus Project

Existing plus Project conditions includes analysis of weekday AM and PM peak-hour traffic volumes, and traffic operations with Project traffic added to the Existing conditions. Project traffic comprises vehicular traffic generated from the project. This traffic was distributed and assigned to the roadway segment and intersections in the study area and analyzed under Existing plus Project conditions. The traffic impacts specific to the project under this condition were used as the basis for determining the project's direct impacts.

Buildout Conditions

The Buildout conditions include a long-term horizon year were based on the currently available Riverside County Transportation Demand Model (RIVCOM) for the year 2045. Therefore, the Buildout traffic volumes were estimated by increasing the existing traffic counts by a growth factor calculated by comparing existing traffic volumes with the year 2045 traffic volumes along SR-79-Temecula Parkway and Butterfield Stage Road.

Buildout plus Project Conditions

This condition includes analysis of traffic operations under buildout conditions with project-related traffic added to the AM and PM peak hour traffic volumes. Project traffic was distributed and assigned to the intersections in the study area and analyzed under Buildout plus Project conditions. The traffic impacts specific to the project under this condition were used as the basis for determining for determining the project's contribution to cumulative impacts.



SOURCE: Bing Maps 2021

DUDEK

NOT TO SCALE

Figure 1

Project Location and Study Area

Northern Boundary Property Project

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Figure 2

Site Plan

Northern Boundary Property Project

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1.4 Methodology

Level of service (LOS) is commonly used as a qualitative description of segment or intersection operations and is based on the capacity and the volume of traffic using the segment or intersection.

1.4.1 Intersections

Both the City and County use the Highway Capacity Manual (HCM) methodology to analyze the operation of signalized and unsignalized intersections. The HCM analysis methodology describes the operation of an intersection using a range of LOS, from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding control delay experienced per vehicle for intersections.

At the study area intersections, LOS was calculated using the HCM methodology. The Synchro 10 LOS software was used to determine intersection LOS for all study scenarios. Synchro is consistent with the HCM 6th Edition methodology (TRB 2016). Table 1 shows the LOS values and signalized and unsignalized intersections under the HCM methodology.

Table 1. Levels of Service for Intersections Using HCM Methodology

Level of Service	HCM Average Delay (seconds per vehicle) Unsignalized Intersections	HCM Average Delay (seconds per vehicle) Signalized Intersections
A	< 10.0	< 10.0
B	> 10.0 to < 15.0	> 10.0 to < 20.0
C	> 15.0 to < 25.0	> 20.0 to < 35.0
D	> 25.0 to < 35.0	> 35.0 to < 55.0
E	> 35.0 to < 50.0	> 55.0 to < 80.0
F	> 50.0	> 80.0

Source: TRB 2016
HCM = Highway Capacity Manual

Per City's signalized intersection analysis input parameters, a base saturation flow rate of 1,800 passenger cars per hour per lane was used for all scenarios and a peak hour factor of 1.0 was applied to buildout traffic conditions,

1.4.2 Significance Criteria

The County's Transportation Department requires TIA's to be consistent with the acceptable LOS in the Riverside County General Plan (County of Riverside 2015) to identify infrastructure improvements required to provide acceptable operations. Per County's Circulation Element, the project is located within Southwest Area and LOS D standard applies to all developments located within it. Operational improvements would be required under the following conditions:

- When existing traffic conditions exceed the General Plan target LOS
- When project traffic, when added to existing traffic, will deteriorate the LOS to below the target LOS
- When cumulative traffic exceeds the target LOS

The City of Temecula's General Plan Circulation Element has established minimum LOS standards for the City's Arterial Highway network.

> The TIA shall determine if the required LOS can be achieved after the construction of the proposed project. The TIA shall include all LOS calculations for affected study area intersections and roadway links. All LOS calculations shall be performed utilizing the Synchro software program. The results of the "with-project" conditions shall conform to the City's LOS thresholds shown below:
>
> - LOS "D" or better at all intersections
> - LOS "E" or better for all arterial highway segments (links)
> - LOS "F" or better will be permitted on Old Town Front Street from Second Street to Moreno Road North
>
> All study area intersections or study area roadway links that do not achieve the required LOS, shall be reanalyzed using the proposed delay reduction measures to determine if the required LOS can be achieved. If added project traffic causes an increase in delay of 2.0 seconds or more at intersections operating at LOS "E" or "F", it shall be considered a significant change in delay and measures will be required to reduce the delay to pre-project or acceptable conditions.

Therefore, based on the standards and criteria for General Plan and LOS consistency for operational traffic used by the City and the County, the LOS D threshold has been used in this TIA to determine the significance of traffic impacts of the project.

1.5 Improvements for Transportation Impacts

Per County guidelines, at intersections where a project is forecast to have an impact, whether that be a direct project related impact or a cumulative impact, needed improvements must be identified to offset the projects' impacts. Any deficiencies identified in the TIA as a result of the project shall be accompanied by recommendations to address those deficiencies. Improvements may be provided through the TUMF network (or other funding mechanism), project conditions of approval, or other implementation mechanisms.

A project's proportionate share needs to be identified based on the project's share of new traffic to address cumulative deficiencies or other improvements needed beyond those eligible within an adopted funding program (such as localized improvements to non-TUMF facilities) or improvements that are not fully funded through an adopted funding program.

2. Project Traffic

This section documents the trip generation, distribution, and assignment of project traffic in the study area.

2.1 Trip Generation

As part of the proposed residential development, a maximum of 200 single-family units could be potentially developed on the project site. Trip generation was estimated by using trip rates for single-family detached housing from the Institute of Transportation Engineers, 11th Edition (ITE 2021). Accordingly, AM and PM peak hour trip generation volumes were computed. Trip generation rates, AM and PM peak hour vehicle splits, and the resulting trip generation estimates for the project are summarized in Table 2.

Table 2. Project Trip Generation

Land Use	ITE Code	Size/ Units	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trip Rates[1]									
Single-family detached housing	210	DU	9.43	0.18	0.52	0.70	0.59	0.35	0.94
Trip Generation									
Project	210	200 DU	1,886	36	104	140	118	70	188

Notes: ITE = Institute of Transportation Engineers; DU = dwelling unit

As shown in Table 2, the Project would generate approximately 1,886 daily trips, 140 AM peak hour trips (36 inbound and 104 outbound), and 188 PM peak hour trips (118 inbound and 70 outbound).

2.2 Trip Distribution and Assignment

Project trip distribution percentages are based on logical travel paths to and from the project site. Primary vehicular access would be provided via Butterfield Stage Road, which connects to the Anza Road. The nearest regional route is SR-79-Temecula Parkway and I-15. Important local roadways include Wolf Store Way, Welton Way-Channel Street and Nighthawk Pass. For the most direct route to the project site and to assume a conservative distribution, all trips were distributed via Butterfield Stage Road under Existing plus Project and Buildout plus Project conditions. Project trips were assigned to the study area intersections by applying the above-referenced project trip generation estimates to the trip distribution percentages at each study area intersection. The project trip distribution and assignment are shown in Figure 3.

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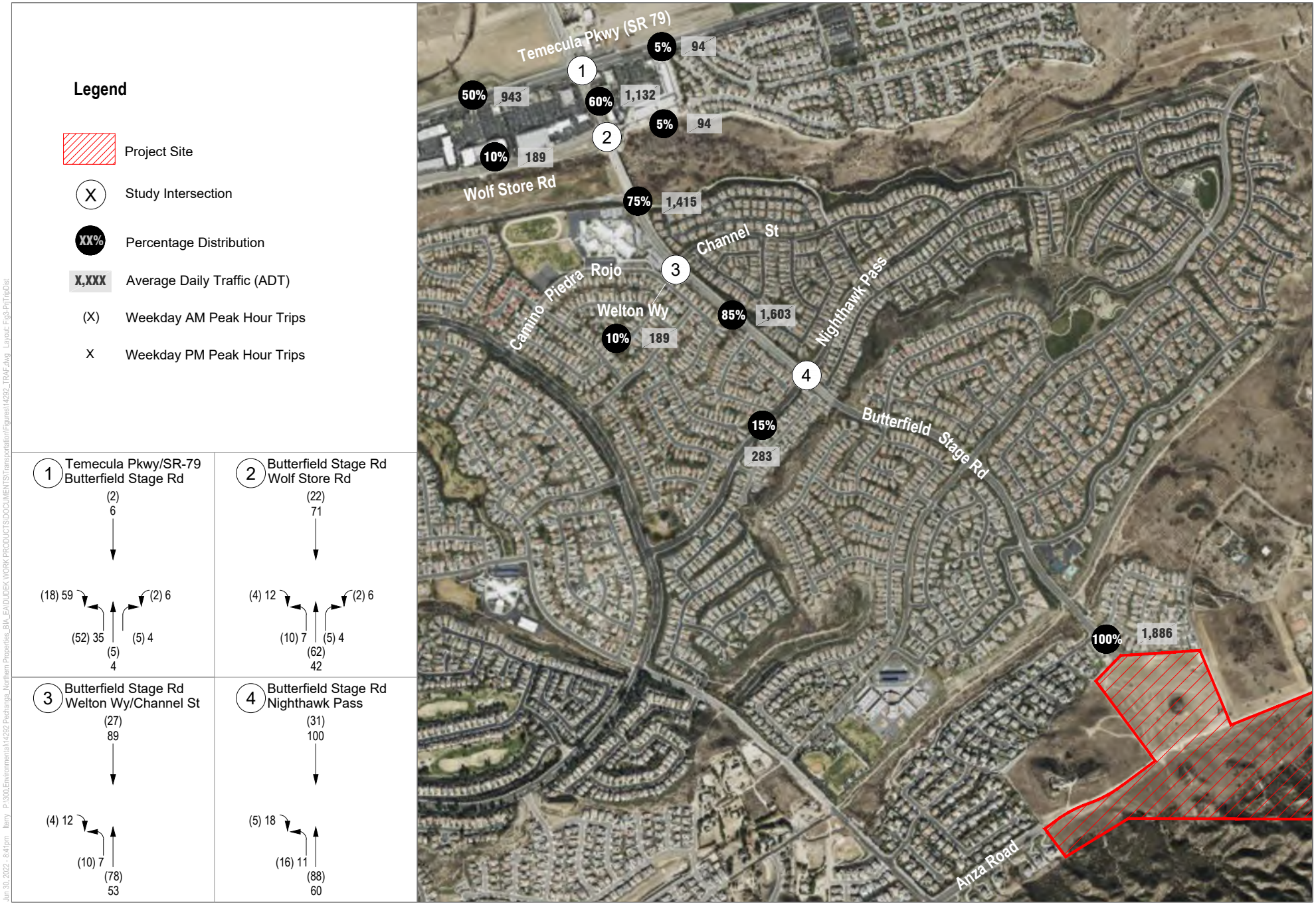


Figure 3

Project Trip Distribution

Northern Boundary Property Project

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3 Existing Setting

This section describes existing conditions within the study area for the existing roadway, transit, bicycle, and pedestrian facilities.

3.1 Roadway System

Characteristics of the existing street system within the study area are described below. The existing traffic controls and geometrics at the study area intersections is shown in Figure 4.

State Route 79 (SR-79)-Temecula Parkway is classified constructed as a six-lane divided Principal Arterial from I-15 to east of Butterfield Stage Road. East of Temecula City limit, the roadway is classified and constructed as a two-lane undivided Rural Highway. Curbside parking is generally prohibited along this roadway. The posted speed limit is 50 miles per hour (MPH) west of Pechanga Parkway and 55 MPH east of Butterfield Stage Road.

Butterfield Stage Road is classified as a north-south, four-lane Major Arterial from SR-79 to Nighthawk Pass and as a Secondary Arterial from Nighthawk Pass to its proposed terminus with Anza Road on the City of Temecula's General Plan Circulation Element. The roadway is constructed per its classification, and it terminates at just south of Morgan Hill Road-Starpoint Street. Parking is not permitted along the roadway, and the posted speed limit is generally 45 MPH.

3.2 Transit Facilities

The Riverside Transit Authority (RTA) provides bus service in Riverside County. Route 24 provides service in the area and connects the Promenade Mall and Temecula Valley Hospital. It operates at a frequency of approximately 65 minutes on weekdays and weekends. The bus stops for Route 24 are located along SR-79-Temecula Parkway, Pechanga Parkway, Redhawk Parkway and Deer Hollow Way. There is no bus stop or transit route within half-mile of the project site.

3.3 Pedestrian and Bicycle Facilities

The above-mentioned roadways are constructed with curbs, gutters, and paved sidewalks along both sides of the street. There are pedestrian crosswalks with Americans with Disabilities Act (ADA) compliant curb ramps at the four study area intersections along Butterfield Stage Road.

Bicycle facilities are typically divided into several classifications that describe their efficacy. Class I (separated right-of-way) bicycle paths are completely separated from roadways and can be typically shared with pedestrians. Class II (painted) bicycle lanes are designed to be on-street and include a painted stripe to indicate the separation between bicyclists and motorists. Class III (signed) bicycle routes are designated to be on-street, however, they are provided on slower roadways that facilitate safe equal sharing of the roadway between bicyclists and motorists. Class IV (protected) bicycle lanes are separated from roadways and provide for exclusive use for bicyclists, including motorists, pedestrians, and other alternative transportation forms that are not permitted.

Currently, there is an existing Class II (painted) bicycle lane along both sides of Butterfield Stage Road from SR-79 to Nighthawk pass Road. There are existing Class II (painted and buffered) bicycle lanes along both sides of SR-79 between Old Town Front Road and Butterfield Stage Road.

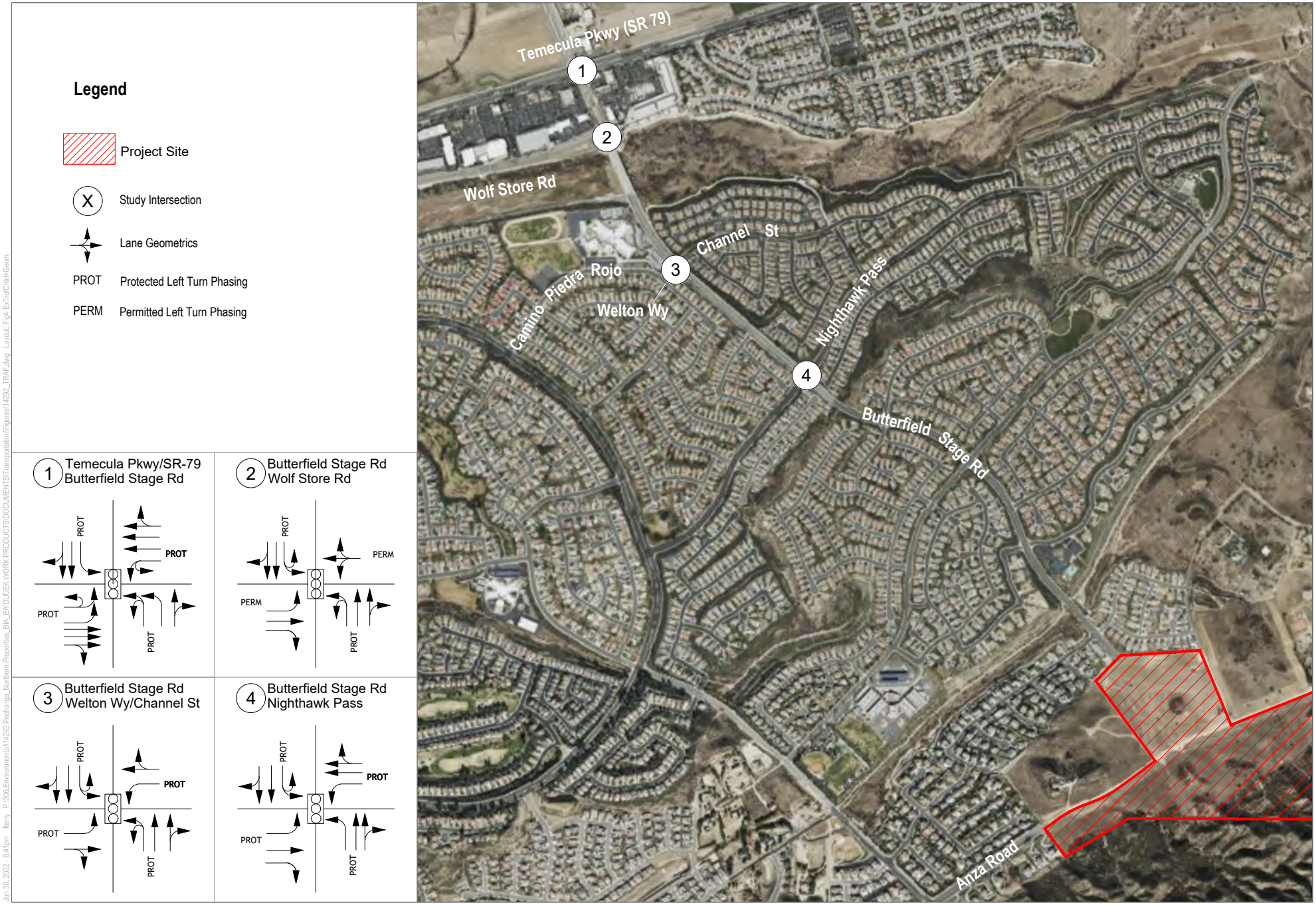


Figure 4

Existing Traffic Controls and Geometrics

Northern Boundary Property Project

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4 Existing Traffic Operations

This section details the Existing and Existing plus Project conditions within the study area including characteristics of the peak hour traffic volumes and intersection operations.

4.1 Existing Conditions

The existing conditions analyzed in this TIA are representative of the year 2022.

4.1.1 Traffic Volumes

The existing weekday peak hour turning movement counts at the study intersections were collected in April 2022 when schools were in session and there were no COVID (pandemic) restrictions in effect. This existing traffic operations analysis focuses on the weekday daily, AM (7:00 a.m. to 9:00 a.m.) and the PM (4:00 p.m. to 6:00 p.m.) peak periods. The peak periods represent the highest volume of traffic for the adjacent street system. Raw traffic count worksheets are provided in Appendix A. Existing weekday AM and PM peak hour volumes are summarized in Figure 5.

4.1.2 Existing Intersection Operations

An intersection LOS analysis was prepared for the existing conditions using HCM 6 methodology via the Synchro LOS software as discussed in Section 1.4. Table 3 shows the results of the existing conditions analysis. LOS worksheets are provided in Appendix B.

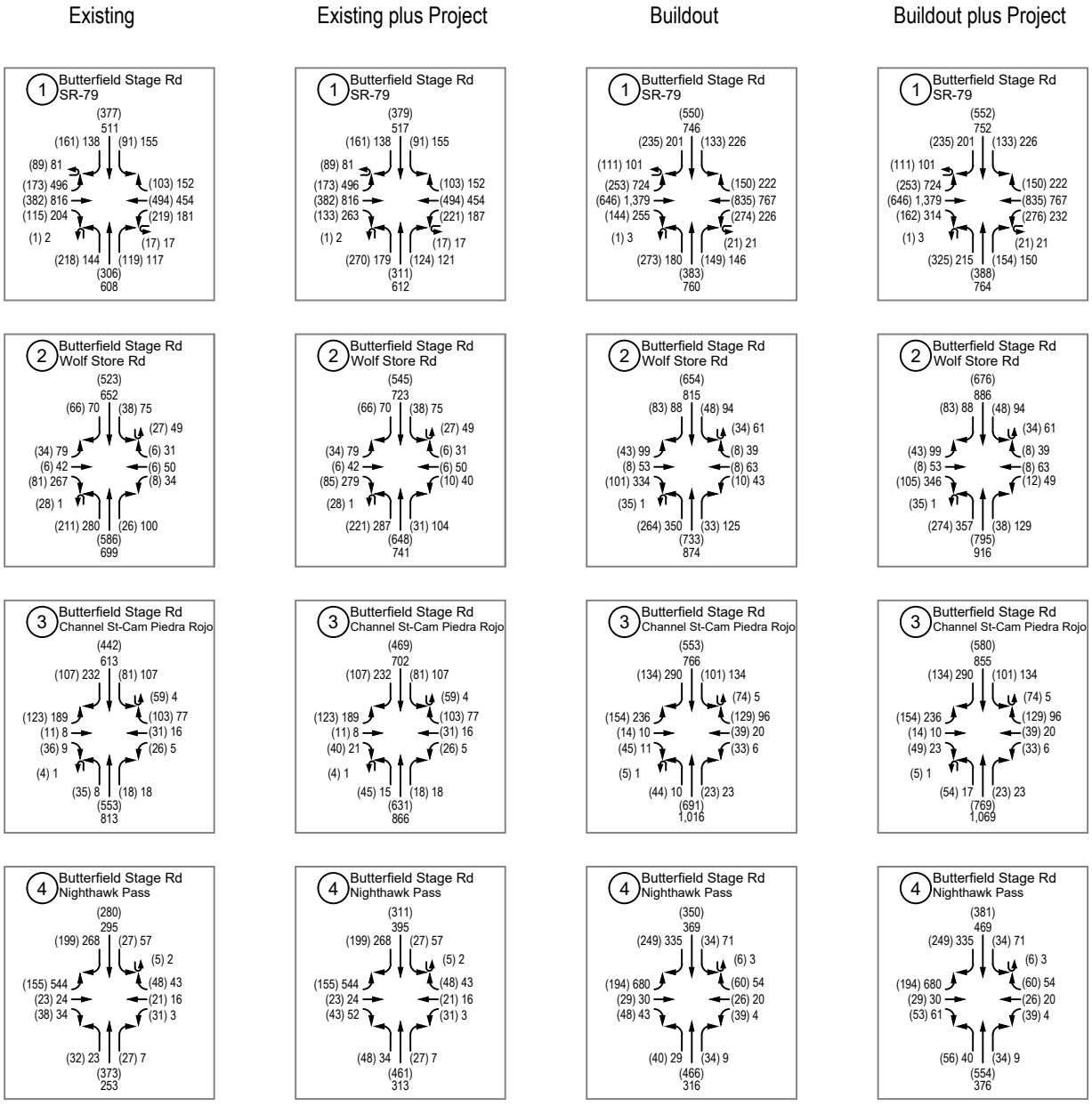
Table 3. Existing Peak Hour Intersection Level of Service

No.	Intersection	LOS Method	Existing Conditions			
			AM Peak		PM Peak	
			Delay[1]	LOS[2]	Delay[1]	LOS[2]
1	Butterfield Stage Road/SR-79-Temecula Parkway	HCM	38.9	D	45.3	D
2	Butterfield Stage Road/Wolf Store Road	HCM	14.8	B	26.1	C
3	Butterfield Stage Road/Channel St-Cam Piedra Rojo	HCM	28.1	C	22.2	C
4	Butterfield Stage Road/Nighthawk Pass	HCM	33.7	C	37.0	D

Notes: HCM = Highway Capacity Manual
1 Delay in seconds per vehicle
2 Level of Service (LOS)

As shown in the table, all of the study area intersections are currently operating at satisfactory levels of service (LOS D or better) under existing conditions.

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Legend

(X) Weekday AM Peak Hour Traffic Volumes

X Weekday PM Peak Hour Traffic Volumes

SOURCE: Dudek 2022

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Figure 5

Intersection Traffic Volumes

Northern Boundary Property Project

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4.2 Existing plus Project Conditions

The Existing plus Project conditions analyzed in this TIA are representative of the year 2022 and analyze the impact of the project with buildout of 200 units.

4.2.1 Traffic Volumes

The total project trip assignment shown in Figure 3 were added to the Existing peak hour traffic volumes to derive the Existing plus Project peak hour traffic condition shown in Figure 5.

4.2.2 Intersection Operations

An intersection LOS analysis was prepared for the Existing plus Project condition using the HCM 6 methodology, and Table 4 summarizes the results of the Existing plus Project intersection analysis for the AM and PM peak hours. Detailed LOS calculation worksheets are included in Appendix B.

As shown in Table 4, all study area intersections are forecast to continue to operate with satisfactory LOS (LOS D or better) under Existing plus Project conditions during both peak hours. Based on the City's guidelines and significance criteria used in this TIA, operation of study area intersections at LOS E or LOS F would be characterized as an operational deficiency and inconsistent with the general plan policies. Because none of the study area intersections operate at LOS E or F with the addition of project traffic, therefore, the Project would not create an impact under Existing plus Project conditions.

Table 4. Existing and Existing plus Project Peak Hour Intersection Level of Service

No.	Intersection	LOS Method	Existing				Existing plus Project				Change in Delay		Inconsistent with LOS Standards?	
			AM Peak		PM Peak		AM Peak		PM Peak					
			Delay[1]	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]	AM	PM	AM	PM
1	Butterfield Stage Road/ SR-79-Temecula Parkway	HCM	38.9	D	45.3	D	39.6	D	45.6	D	0.7	0.3	No	No
2	Butterfield Stage Road/Wolf Store Road	HCM	14.8	B	26.1	C	14.8	B	26.8	C	0.0	0.7	No	No
3	Butterfield Stage Road/Channel St-Cam Piedra Rojo	HCM	28.1	C	22.2	C	28.1	C	22.6	C	0.0	0.4	No	No
4	Butterfield Stage Road/Nighthawk Pass	HCM	33.7	C	37.0	D	32.1	C	36.7	D	-1.6	-0.3	No	No

Notes: HCM = Highway Capacity Manual

1 Delay in seconds per vehicle

2 Level of Service (LOS)

5 Buildout Traffic Operations

This section presents the results of the Buildout and Buildout plus Project conditions analysis that was conducted for the peak hour traffic volumes and traffic operations.

5.1 Buildout Conditions

The buildout conditions analyzed in this TIA are representative of the long-term horizon year (year 2045). The study area is generally built-out in terms of roadway improvements except for Anza Road and its connection to Deer Hollow Way to the west and the Anza Road and SR-79 intersection to the northeast of the site. Additionally, the City of Temecula's General Plan Circulation Element (City of Temecula 2005) includes a proposed interchange at I-15 south of SR-79. This would be the terminus of the Eastern Bypass that would collect and distribute traffic from the eastern portion of the City to/from I-15. The precise location and alignment of this Southern City Interchange and its arterial are not known at this time.

At the time of this writing, there are no known plans or projects that would implement the construction and completion of Anza Road or Eastern Bypass, as shown in the City of Temecula Circulation Plan. Therefore, no additional roadway improvements were assumed under Buildout conditions. The geometrics and intersection configurations under Buildout conditions remain same as Existing conditions as shown on Figure 4.

5.1.1 Traffic Volumes

The buildout traffic volumes were estimated using the currently available Riverside County Transportation Demand Model (RIVCOM) average daily traffic (ADT) plots for the year 2045. Using the existing ADTs, the model base year 2018 and future year 2045 ADTs along Butterfield Stage Road in the study area were reviewed. An ambient growth factor was estimated by comparing the post-processed year 2018 and 2045 ADTs and by averaging it to account for corridor-wide growth along Butterfield Stage Road. The ambient growth factor of 1.1% per year for 23 years, or a total of approximately 25%, was estimated and found appropriate for intersection traffic volumes along Butterfield Stage Road. Since the status of the construction of the Eastern Bypass is unknown at this time, the buildout year 2045 daily traffic volumes along that segment were reassigned to SR-79-Temecula Parkway. Thereby, a higher ambient growth rate for the eastbound and westbound through volumes (3% per year) and southbound turn volumes (2% per year) at the Butterfield Stage Road/SR-79-Temecula Parkway intersection was estimated and applied to analyze a more conservative buildout condition.

The resulting traffic growth factors were applied to the existing peak hour traffic volumes at the intersections in the study area to estimate buildout traffic volumes representative of the year 2045.The model plots showing ADTs for year 2018 and 2045 from RIVCOM are provided in Appendix C. Growth factor calculations and an ADT summary are also provided in Appendix C. Buildout conditions weekday AM and PM peak hour volumes are summarized in Figure 5.

5.1.2 Intersection Operations

An intersection LOS analysis was prepared for the Buildout (no project) condition using the HCM 6 methodology. Table 5 summarizes the results of the Buildout conditions intersection analysis for the AM and PM peak hours. Detailed LOS calculation worksheets are included in Appendix B.

Table 5. Buildout Peak Hour Intersection Level of Service

No.	Intersection	LOS Method	Buildout Conditions			
			AM Peak		PM Peak	
			Delay[1]	LOS[2]	Delay[1]	LOS[2]
1	Butterfield Stage Road/SR-79-Temecula Parkway	HCM	44.0	D	**70.3**	**E**
2	Butterfield Stage Road/Wolf Store Road	HCM	16.4	B	30.5	C
3	Butterfield Stage Road/Channel St-Cam Piedra Rojo	HCM	25.6	C	29.2	C
4	Butterfield Stage Road/Nighthawk Pass	HCM	20.9	C	48.4	D

Notes: HCM = Highway Capacity Manual
1 Delay in seconds per vehicle
2 Level of Service (LOS)

As shown in the table, all of the study area intersections, except Butterfield Stage Road/SR-79-Temecula Parkway intersection, are forecast to continue operating at satisfactory levels of service (LOS D or better) under Buildout conditions. The Butterfield Stage Road/SR-79-Temecula Parkway intersection operates at LOS E during the PM peak hour under Buildout conditions.

5.2 Buildout plus Project Conditions

The Buildout plus Project conditions analyzed in this TIA are representative of the year 2045 and analyze the impact of the project with the buildout of 200 single-family homes on the project site.

5.2.1 Traffic Volumes

The total project trip assignment shown in Figure 3 were added to the Buildout peak hour traffic volumes to derive the Buildout plus Project peak hour traffic condition shown in Figure 5.

5.2.2 Intersection Operations

An intersection LOS analysis was prepared for the Buildout plus Project condition using the HCM 6 methodology, and Table 6 summarizes the results of the Buildout plus Project intersection analysis for the AM and PM peak hours. Detailed LOS calculation worksheets are included in Appendix B.

As shown in Table 5, all study area intersections except Butterfield Stage Road/SR-79-Temecula Parkway intersection are forecast to operate with satisfactory LOS (LOS D or better) under Buildout plus Project conditions

during both peak hours. The Butterfield Stage Road/SR-79-Temecula Parkway intersection operates at LOS E during the PM peak hour under Buildout plus Project conditions and the project would contribute to more than 2 seconds of delay. Based on the City's guidelines and significance criteria used in this TIA, operation of study area intersections at LOS E or LOS F would be characterized as an operational deficiency and inconsistent with the general plan policies and exceeding 2 seconds of delay constitutes a significant delay. Therefore, improvement measures will be required to reduce the delay to pre-project or acceptable conditions for the Butterfield Stage Road/SR-79-Temecula Parkway intersection.

Table 6. Buildout plus Project Peak Hour Intersection Level of Service

No.	Intersection	LOS Method	Buildout				Buildout plus Project				Change in Delay		Inconsistent with LOS Standards or Significant Delay?	
			AM Peak		PM Peak		AM Peak		PM Peak					
			Delay[1]	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]	AM	PM	AM	PM
1	Butterfield Stage Road/SR-79-Temecula Parkway	HCM	44.0	D	**70.3**	**E**	44.7	D	**73.7**	**E**	0.7	3.4	No	**Yes**
2	Butterfield Stage Road/Wolf Store Road	HCM	16.4	B	30.5	C	16.6	B	32.4	C	0.3	1.9	No	No
3	Butterfield Stage Road/Channel St-Cam Piedra Rojo	HCM	25.6	C	29.2	C	26.0	C	30.1	C	0.4	0.9	No	No
4	Butterfield Stage Road/Nighthawk Pass	HCM	20.9	C	48.4	D	21.0	C	48.9	D	0.1	0.5	No	No

Notes: HCM = Highway Capacity Manual

1 Delay in seconds per vehicle

2 Level of Service (LOS)

6 Access and Circulation

Specific details of the project site layout and on-site street circulation network are not available at the time of this writing. However, as shown on the project site plan (Figure 2), the project would be accessible directly from Butterfield Stage Road. This roadway would likely connect to Anza Road and result in a new intersection, the Butterfield Stage Road/Anza Road intersection.

Anza Road is classified as a Secondary Arterial from Deer Hollow Way to Butterfield Stage Road and as a two-lane undivided Rural Highway east of Butterfield Stage Road per the City of Temecula's General Plan Circulation Element. There are no known plans or projects that would implement the construction and completion of Anza Road. However, it is evident from review of recent development along Anza Road, that as private developments are constructed along Anza Road, each of those projects would construct portions of Anza Road along their respective frontage.

Therefore, an analysis of Butterfield Stage Road/Anza Road intersection was conducted to provide intersection LOS under the Existing plus Project conditions. Table 7 summarizes the results of the intersection analysis for the AM and PM peak hours under the Existing plus Project conditions. Detailed LOS calculation worksheets are included in Appendix D.

Table 7. Peak Hour Intersection Level of Service – Butterfield Stage Road/Anza Road

Intersection	Control	Existing plus Project			
		AM Peak		PM Peak	
		Delay[1]	LOS[2]	Delay[1]	LOS[2]
Butterfield Stage Road/Anza Road	Stop-Control	9.3	A	9.4	A

Notes:
1 Delay in seconds per vehicle
2 Level of Service (LOS)

As shown in the table, Butterfield Stage Road/Anza Road intersection is forecast to operate at LOS A under Existing plus Project conditions as a stop-controlled intersection. Due to the relatively low amount of traffic volumes along Butterfield Stage Road near the proposed project site and nominal through traffic along Anza Road, it is not anticipated that the future driveways would create unnecessary delays for other traffic in the area or potentially create unsafe conditions for other motorists, pedestrians, or bicyclists. Additionally, it is not known if and when the Eastern Bypass and/or completion of network gaps along Anza Road would be implemented, therefore an analysis of this intersection under Buildout conditions has not been included in this TIA.

On-site circulation would be facilitated at project driveways and access streets and would not be expected to cause excessive delays for vehicles entering or exiting the project site. The project would construct roadway improvements along the frontages of the project site, including a new concrete sidewalk to provide pedestrian access and connectivity along roadway segments of Butterfield Stage Road and Anza Road.

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7 Project Impacts, Improvement Measures, and Findings

This section includes a discussion of the Project's potential direct and cumulative impacts. It provides fair share calculation for mitigating the Project's potential cumulative impact. This section also summarizes the main findings of the TIA.

7.1 Project Impacts

As discussed in Section 4, none of the study area intersections operate at LOS E or F with the addition of project traffic, therefore, the project has no adverse impact under Existing plus Project conditions. Therefore, the project would not result in direct traffic impact. No mitigation measures would be required.

As discussed in Section 5, the project would contribute to deficient LOS operational standards at Butterfield Stage Road/SR-79-Temecula Parkway intersection in the PM peak hour under the Buildout plus Project conditions. Therefore, the project would result in a potentially cumulative impact at this intersection. The following section provides recommended improvements to reduce the significant intersection delay to pre-project levels and the project's fair-share contribution towards it.

7.1.1 Improvement Measure

Although the Butterfield Stage Road/SR-79-Temecula Parkway intersection is forecasted with deficient LOS during Buildout conditions, the addition of project traffic, the average delay increases by 3.4 seconds at LOS E which is more than the acceptable delay increase of 2.0 seconds or less. Therefore, the following improvement is recommended to reduce the delay at this intersection to pre-project levels:

- If the development is built as proposed, the applicant would pay its fair-share towards re--striping the southbound approach of the Butterfield Stage Road/SR-79-Temecula Parkway intersection to add a second southbound left turn lane. The intersection includes a second southbound left-turn lane; however, the lane is currently striped off and not in operation. Please note that this improvement was included in the intersection geometrics proposed for the Butterfield Stage Road/SR-79-Temecula Parkway intersection in the City's General Plan Update Circulation Element Traffic Study (December 2004).

Table 8. PM Peak Hour Intersection Level of Service – Butterfield Stage Road/ SR-79-Temecula Parkway

Intersection	Buildout		Buildout plus Project		Buildout plus Project with Improvement		Reduction in Delay[1]
	PM Peak		PM Peak		PM Peak		
	Delay[1]	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]	
Butterfield Stage Road/SR-79-Temecula Parkway	70.3	E	73.7	E	60.4	E	13.3

Notes:
1 Delay in seconds per vehicle
2 Level of Service (LOS)

As shown in Table 8, with this improvement, the delay at the intersection would be reduced by 13.3 seconds, which is below the intersection delay of 70.3 seconds under Buildout (without Project) conditions, and below the delay of 3.4 seconds caused by the Project (see Appendix E for LOS calculation worksheets). Therefore, the Project would not result in any adverse cumulative impacts with the implementation of this improvement.

7.1.2 Fair-Share Calculation

The Project's fair share was calculated at the Butterfield Stage Road/SR-79-Temecula Parkway intersection at the Butterfield Stage Road/SR-79-Temecula Parkway intersection using the methodology included in the County's transportation guidelines and is shown below.

$$\frac{\textit{Project Traffic (114 trips)}}{\textit{Buildout plus Project (6,073 trips) - Existing Traffic (4,076 trips)}}$$

Based on the proportion of project traffic of total peak hour during the PM peak hour to the total Buildout plus Project and Existing traffic in the PM peak hour, the Project would be responsible for 5.7% of the cost required to implement the proposed improvement of striping a second southbound left-turn lane at the Butterfield Stage Road/SR-79-Temecula Parkway intersection under the Buildout conditions. With the improvement, the intersection delay would be below pre-project levels and the Project would not result in any adverse cumulative impacts.

7.2 Findings

Based on the results of this TIA, the following summarizes the traffic analysis of the Project:

- The Project would generate approximately 1,886 total daily trips, 140 AM peak-hour trips (36 inbound and 104 outbound), and 188 PM peak-hour trips (118 inbound and 70 outbound).
- The study area intersections operate at LOS D or better under Existing conditions and Existing plus Project conditions during both peak hours. Therefore, the Project would not result in direct impact. No mitigation or improvement measures would be required.
- With the exception of the Butterfield Stage Road/SR-79-Temecula Parkway intersection during the PM peak hour, all the study area intersections would continue to operate at LOS D or better under Buildout conditions and Buildout plus Project conditions during both peak hours.
- The Butterfield Stage Road/SR-79-Temecula Parkway intersection would operate at LOS E during the PM peak hour under Buildout and Buildout plus Project conditions. The Project would contribute to more than 2 seconds of delay; therefore, the project would result in a potentially cumulative traffic impact. If developed as proposed in this report, the project would be responsible for 5.7% of the cost required to implement the proposed improvement of striping a second southbound left-turn lane at the Butterfield Stage Road/SR-79-Temecula Parkway intersection under the Buildout conditions. With this improvement, the intersection delay would be reduced to pre-project levels and the Project would not result in any adverse cumulative

impacts. Based on the development proposed for the site and prior to issuance of grading permit, the applicant would pay its fair-share towards this improvement.

- If the development is constructed as proposed, the project would construct roadway improvements along the frontages of the project site, including a new concrete sidewalk to provide pedestrian access and connectivity along roadway segments of Butterfield Stage Road and Anza Road.

8 References

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Appendix A
Traffic Counts

INTERSECTION TURNING MOVEMENT COUNTS

T218

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Thu, Apr 14, 22

LOCATION: Temecula
NORTH & SOUTH: Butterfield Stage
EAST & WEST: Temecula

PROJECT #: SC3368
LOCATION #: 1
CONTROL: SIGNAL

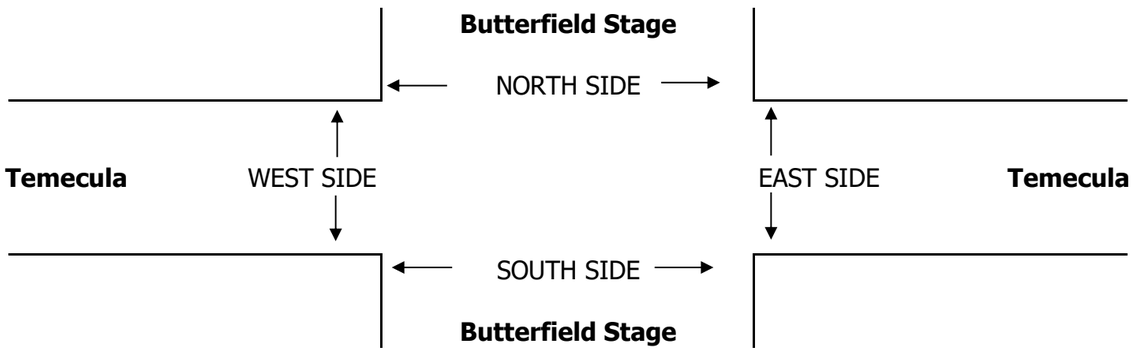
NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Butterfield Stage			SOUTHBOUND Butterfield Stage			EASTBOUND Temecula			WESTBOUND Temecula				U-TURNS				
	LANES:	NL 2	NT 2	NR 0	SL 1	ST 2	SR 0	EL 2	ET 3	ER 0	WL 1	WT 3	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	53	75	32	13	112	43	41	85	29	69	126	30	708	0	0	6	3	9
	7:15 AM	69	94	24	20	87	26	41	120	35	49	115	18	698	0	0	6	2	8
	7:30 AM	34	66	19	21	78	27	54	94	29	50	129	27	628	0	0	14	0	14
	7:45 AM	62	71	44	37	100	65	37	83	22	51	124	28	724	0	0	10	3	13
	8:00 AM	47	63	20	28	80	35	62	124	35	35	119	20	668	0	0	11	5	16
	8:15 AM	44	46	15	23	88	43	56	101	15	23	124	19	597	0	0	16	0	16
	8:30 AM	40	55	18	22	51	40	48	127	28	21	156	23	629	0	0	14	0	14
	8:45 AM	53	49	12	31	78	27	56	118	25	37	110	19	615	1	0	12	4	17
	VOLUMES	402	519	184	195	674	306	395	852	218	335	1,003	184	5,267	1	0	89	17	107
	APPROACH %	36%	47%	17%	17%	57%	26%	27%	58%	15%	22%	66%	12%						
	APP/DEPART	1,105	/	1,009	1,175	/	1,211	1,465	/	1,248	1,522	/	1,799	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	218	306	119	91	377	161	173	382	115	219	494	103	2,758					
	APPROACH %	34%	48%	19%	14%	60%	26%	26%	57%	17%	27%	61%	13%						
	PEAK HR FACTOR		0.860			0.778			0.855			0.907		0.952					
	APP/DEPART	643	/	546	629	/	703	670	/	600	816	/	909	0					
PM	4:00 PM	40	131	24	42	103	27	144	216	49	42	124	35	977	1	0	13	4	18
	4:15 PM	27	155	26	52	140	40	129	211	46	51	122	41	1,040	1	0	13	1	15
	4:30 PM	31	159	25	24	122	35	117	232	59	46	110	40	1,000	0	0	8	2	10
	4:45 PM	46	163	42	37	146	36	106	157	50	42	98	36	959	0	0	8	1	9
	5:00 PM	42	141	44	58	100	45	109	171	57	47	105	23	942	0	0	6	3	9
	5:15 PM	34	124	35	27	115	37	91	179	51	37	96	20	846	0	0	7	2	9
	5:30 PM	34	112	38	25	116	23	115	220	48	33	103	29	896	0	0	15	2	17
	5:45 PM	30	118	32	36	70	28	119	207	50	21	78	25	814	0	0	11	2	13
	VOLUMES	284	1,103	266	301	912	271	930	1,593	410	319	836	249	7,474	2	0	81	17	100
	APPROACH %	17%	67%	16%	20%	61%	18%	32%	54%	14%	23%	60%	18%						
	APP/DEPART	1,653	/	2,201	1,484	/	1,626	2,933	/	2,177	1,404	/	1,470	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	144	608	117	155	511	138	496	816	204	181	454	152	3,976					
	APPROACH %	17%	70%	13%	19%	64%	17%	33%	54%	13%	23%	58%	19%						
	PEAK HR FACTOR		0.866			0.866			0.927			0.919		0.956					
	APP/DEPART	869	/	1,214	804	/	890	1,516	/	1,096	787	/	776	0					



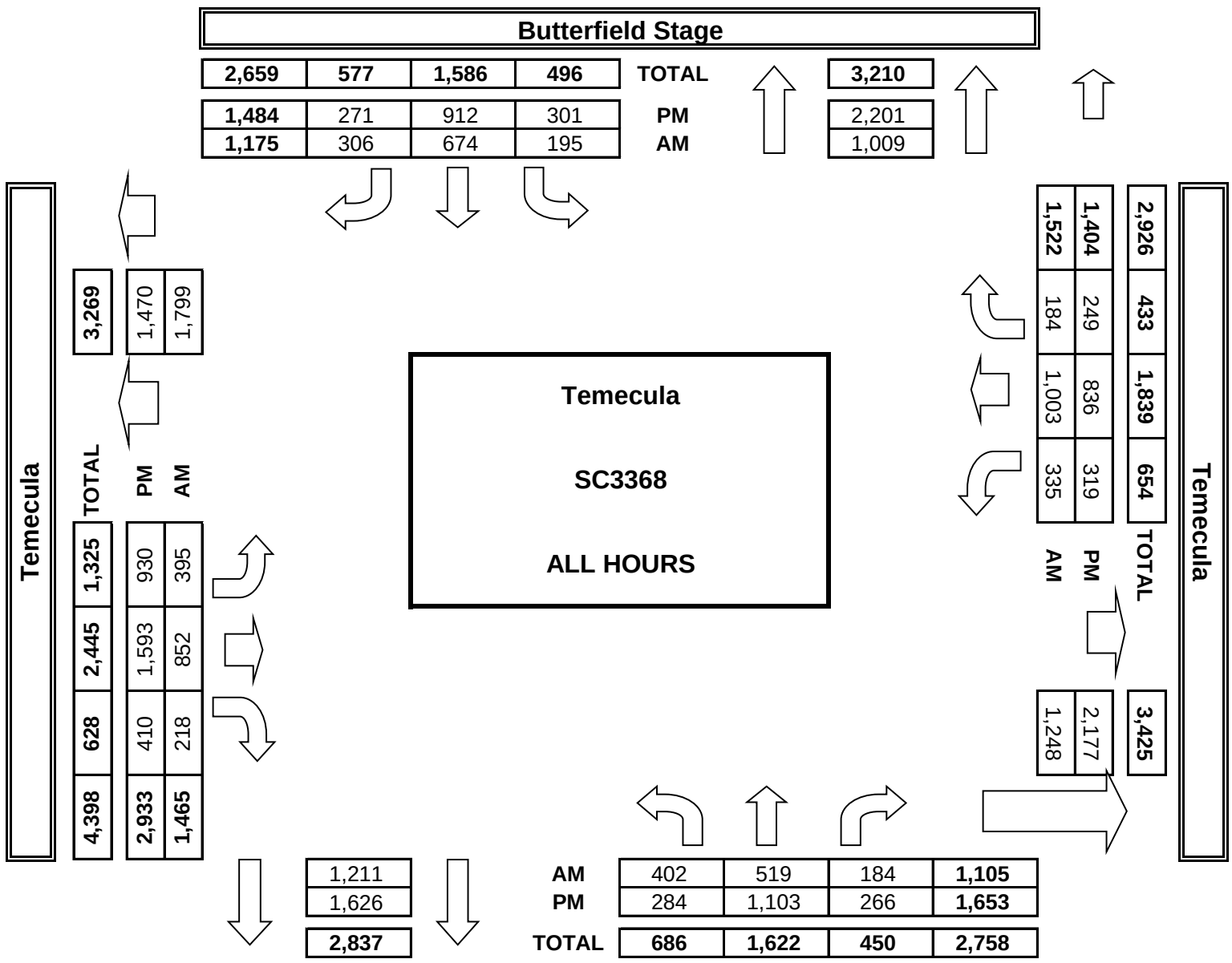
		PEDESTRIAN + BIKE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	0	0	0	0
	7:45 AM	0	1	1	0	2
	8:00 AM	1	0	1	0	2
	8:15 AM	0	0	1	0	1
	8:30 AM	5	2	2	0	9
	8:45 AM	3	0	0	0	3
	TOTAL	9	3	5	0	17
	AM BEGIN PEAK HR	7:00 AM				
PM	4:00 PM	0	1	1	0	2
	4:15 PM	0	2	0	0	2
	4:30 PM	0	2	0	0	2
	4:45 PM	0	1	1	0	2
	5:00 PM	0	2	1	0	3
	5:15 PM	0	4	4	1	9
	5:30 PM	2	2	0	1	5
	5:45 PM	1	3	0	0	4
	TOTAL	3	17	7	2	29
	PM BEGIN PEAK HR	4:00 PM				

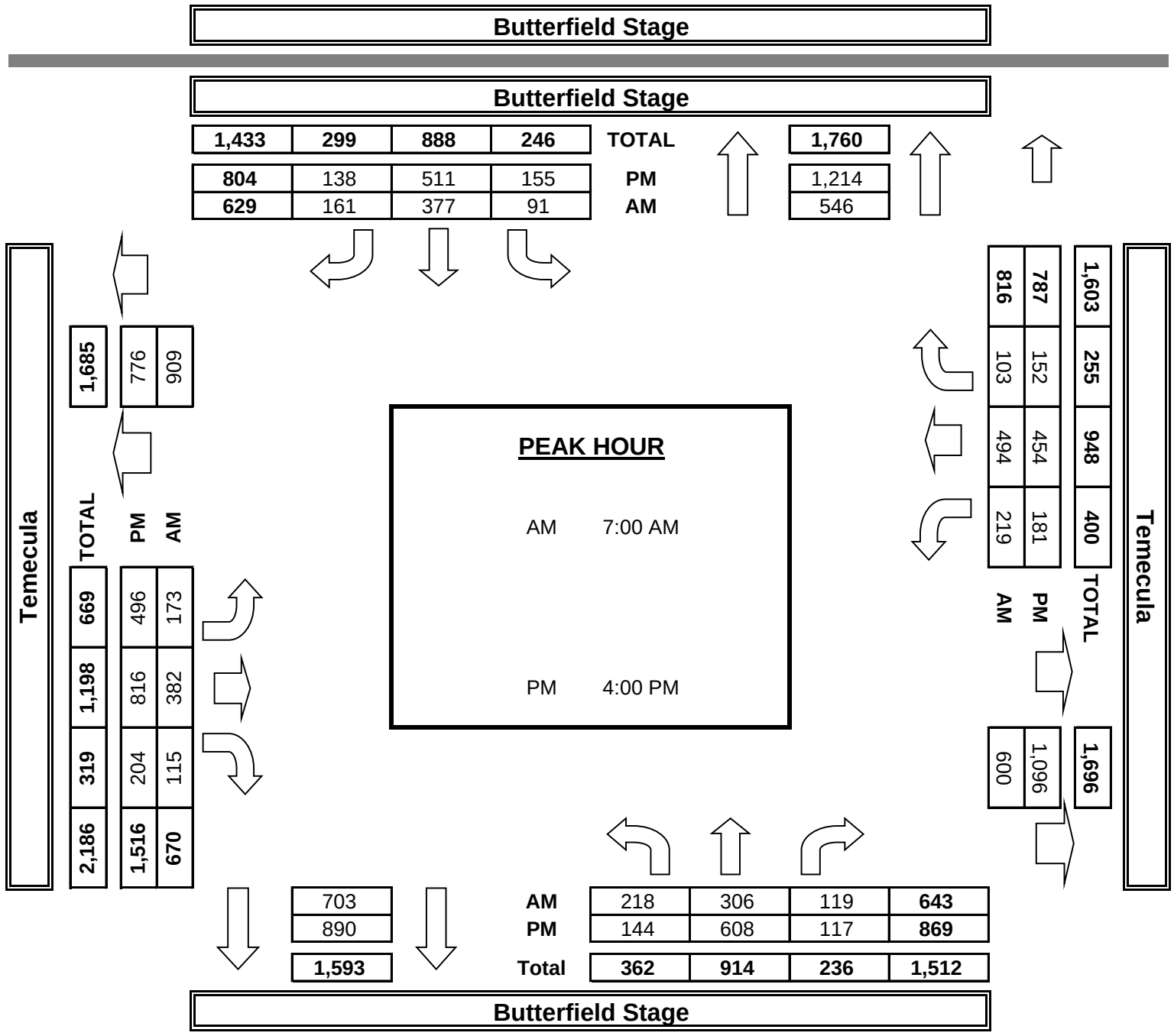
		PEDESTRIAN CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	0	0	0	0
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	0	2	2	0	4
	8:45 AM	0	0	0	0	0
	TOTAL	0	2	2	0	4
	AM BEGIN PEAK HR	0	0	0	0	0
PM	4:00 PM	0	1	1	0	2
	4:15 PM	0	2	0	0	2
	4:30 PM	0	2	0	0	2
	4:45 PM	0	1	1	0	2
	5:00 PM	0	2	1	0	3
	5:15 PM	0	3	3	1	7
	5:30 PM	2	0	0	0	2
	5:45 PM	0	3	0	0	3
	TOTAL	2	14	6	1	23
	PM BEGIN PEAK HR	0	6	2	0	8

		BICYCLE CROSSINGS				
		NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	0	0	0	0
	7:45 AM	0	1	1	0	2
	8:00 AM	1	0	1	0	2
	8:15 AM	0	0	1	0	1
	8:30 AM	5	0	0	0	5
	8:45 AM	3	0	0	0	3
	TOTAL	9	1	3	0	13
	AM BEGIN PEAK HR					
PM	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	0	0	0
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	0	0	0
	5:15 PM	0	1	1	0	2
	5:30 PM	0	2	0	1	3
	5:45 PM	1	0	0	0	1
	TOTAL	1	3	1	1	6
	PM BEGIN PEAK HR					

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T218

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Thu, Apr 14, 22

LOCATION: Temecula
NORTH & SOUTH: Butterfield Stage
EAST & WEST: Wolf Store

PROJECT #: SC3368
LOCATION #: 2
CONTROL: SIGNAL

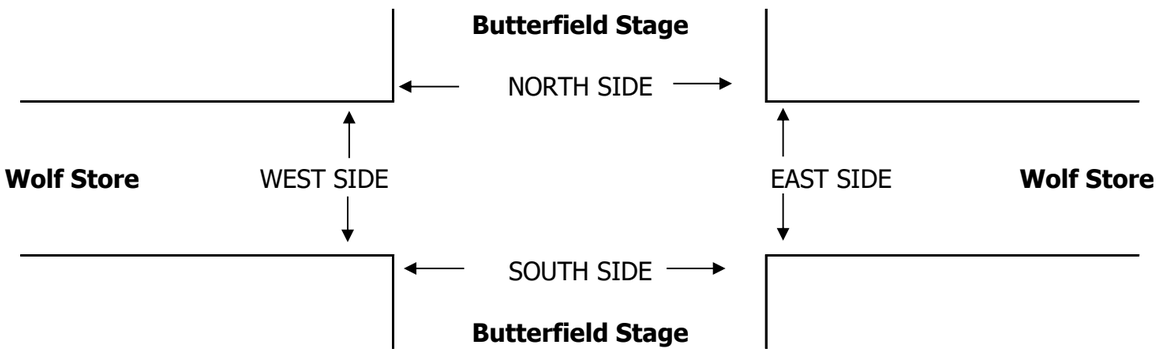
NOTES: Queue NB PM

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Butterfield Stage			SOUTHBOUND Butterfield Stage			EASTBOUND Wolf Store			WESTBOUND Wolf Store				U-TURNS				
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 1	ER 1	WL 0	WT 1	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	21	91	2	7	174	8	5	0	17	0	2	0	327	0	1	0	0	1
	7:15 AM	28	122	0	2	98	10	7	0	30	0	1	1	299	0	2	0	0	2
	7:30 AM	30	142	2	7	101	11	5	0	24	1	1	0	324	3	4	0	0	7
	7:45 AM	33	135	4	13	135	19	5	1	13	4	0	0	362	6	4	0	0	10
	8:00 AM	51	154	8	11	153	17	2	4	16	3	4	3	426	18	6	0	0	24
	8:15 AM	47	154	8	10	130	12	10	2	19	1	1	2	396	1	5	0	0	6
	8:30 AM	45	120	2	6	133	11	11	0	27	2	0	1	358	0	3	0	0	3
	8:45 AM	68	158	8	11	107	26	11	0	19	2	1	0	411	0	2	0	0	2
	VOLUMES	323	1,076	34	67	1,031	114	56	7	165	13	10	7	2,903	28	27	0	0	55
	APPROACH %	23%	75%	2%	6%	85%	9%	25%	3%	72%	43%	33%	23%						
	APP/DEPART	1,433	/	1,166	1,212	/	1,237	228	/	81	30	/	419	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	211	586	26	38	523	66	34	6	81	8	6	6	1,591					
	APPROACH %	26%	71%	3%	6%	83%	11%	28%	5%	67%	40%	30%	30%						
	PEAK HR FACTOR		0.879			0.866			0.796			0.500		0.934					
	APP/DEPART	823	/	642	627	/	631	121	/	54	20	/	264	0					
PM	4:00 PM	69	193	17	21	138	20	21	5	59	8	9	4	564	0	11	0	0	11
	4:15 PM	68	191	33	15	126	15	16	10	67	9	18	8	576	1	1	0	0	2
	4:30 PM	58	177	20	12	167	15	16	9	48	12	6	1	541	0	7	0	0	7
	4:45 PM	78	191	25	15	141	19	26	5	72	10	10	4	596	0	3	0	0	3
	5:00 PM	63	166	18	19	154	18	13	14	70	7	10	12	564	0	7	0	0	7
	5:15 PM	70	155	28	16	174	17	17	10	67	7	17	5	583	0	8	0	0	8
	5:30 PM	69	187	29	25	183	16	23	13	58	10	13	10	636	0	7	0	0	7
	5:45 PM	76	166	14	16	167	17	19	3	58	12	10	9	567	0	5	0	0	5
	VOLUMES	551	1,426	184	139	1,250	137	151	69	499	75	93	53	4,627	1	49	0	0	50
	APPROACH %	25%	66%	9%	9%	82%	9%	21%	10%	69%	34%	42%	24%						
	APP/DEPART	2,161	/	1,679	1,526	/	1,825	719	/	343	221	/	780	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	280	699	100	75	652	70	79	42	267	34	50	31	2,379					
	APPROACH %	26%	65%	9%	9%	82%	9%	20%	11%	69%	30%	43%	27%						
	PEAK HR FACTOR		0.918			0.890			0.942			0.871		0.935					
	APP/DEPART	1,079	/	834	797	/	953	388	/	192	115	/	400	0					



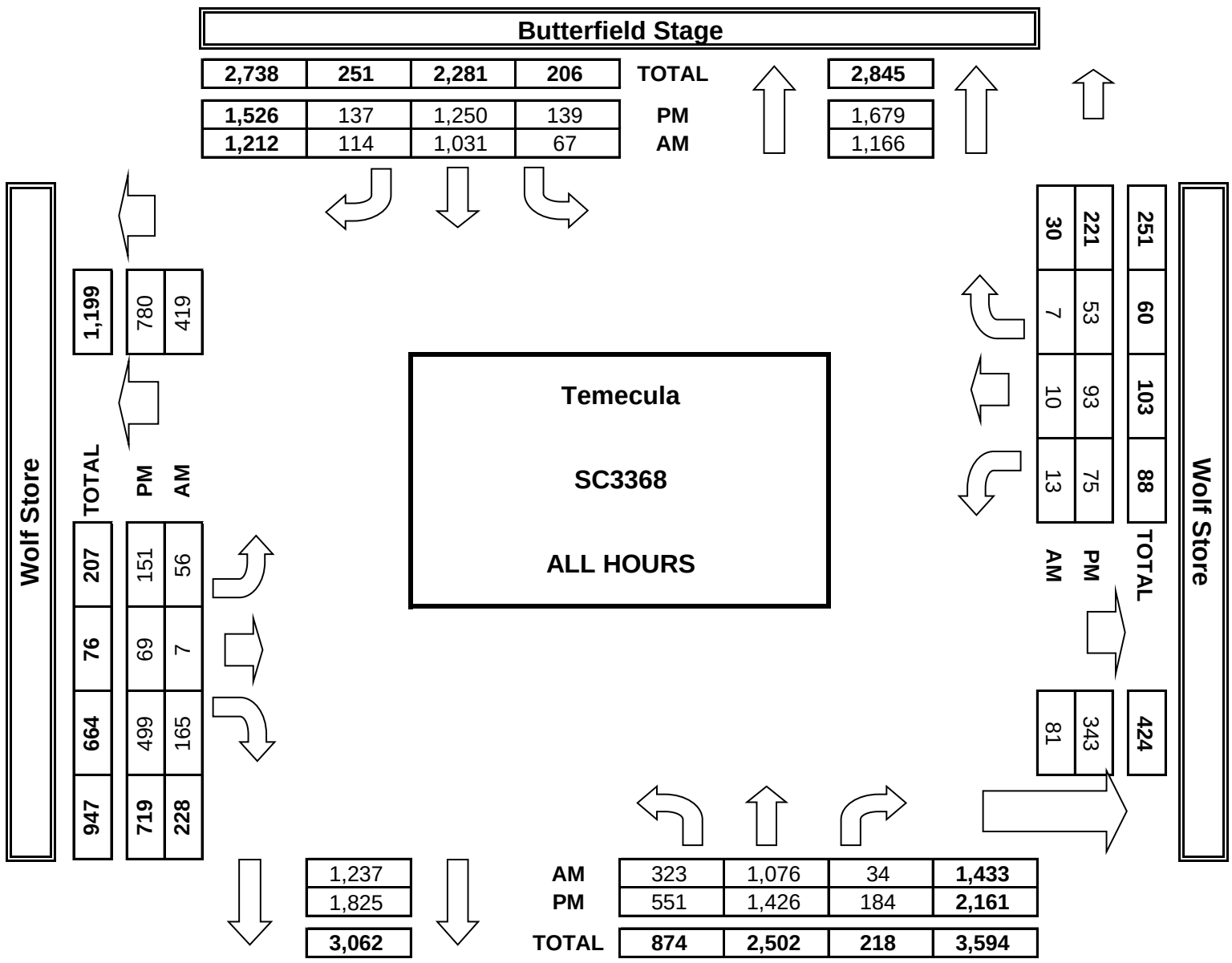
		PEDESTRIAN + BIKE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	0	1	1
	7:15 AM	0	0	0	0	0
	7:30 AM	0	1	2	0	3
	7:45 AM	0	1	2	1	4
	8:00 AM	0	1	1	1	3
	8:15 AM	0	1	3	3	7
	8:30 AM	0	1	1	0	2
	8:45 AM	0	3	0	2	5
	TOTAL	0	8	9	8	25
	AM BEGIN PEAK HR	8:00 AM				
PM	4:00 PM	0	0	0	5	5
	4:15 PM	0	1	2	3	6
	4:30 PM	0	0	1	0	1
	4:45 PM	0	0	0	4	4
	5:00 PM	0	1	0	1	2
	5:15 PM	0	0	0	4	4
	5:30 PM	0	6	0	4	10
	5:45 PM	0	0	0	3	3
	TOTAL	0	8	3	24	35
	PM BEGIN PEAK HR	4:45 PM				

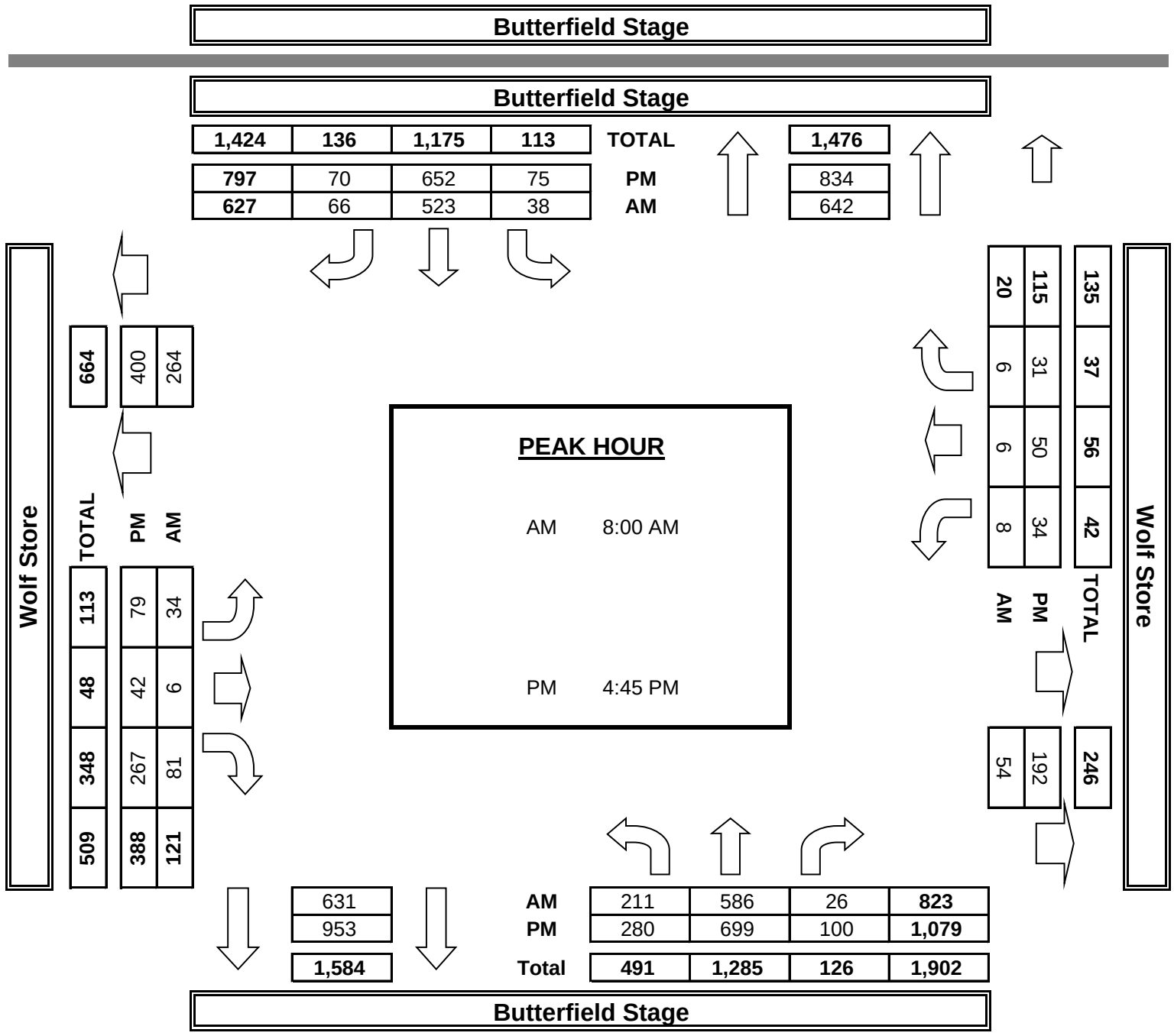
	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	1	1
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	1	1	1	3
8:00 AM	0	1	0	1	2
8:15 AM	0	1	3	2	6
8:30 AM	0	1	0	0	1
8:45 AM	0	3	0	2	5
TOTAL	0	7	4	7	18
AM BEGIN PEAK HR	0	6	3	5	14
4:00 PM	0	0	0	4	4
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	3	3
5:00 PM	0	1	0	0	1
5:15 PM	0	0	0	0	0
5:30 PM	0	4	0	1	5
5:45 PM	0	0	0	3	3
TOTAL	0	5	0	11	16
PM BEGIN PEAK HR	0	5	0	4	9

	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	1	2	0	3
7:45 AM	0	0	1	0	1
8:00 AM	0	0	1	0	1
8:15 AM	0	0	0	1	1
8:30 AM	0	0	1	0	1
8:45 AM	0	0	0	0	0
TOTAL	0	1	5	1	7
4:00 PM	0	0	0	1	1
4:15 PM	0	1	2	3	6
4:30 PM	0	0	1	0	1
4:45 PM	0	0	0	1	1
5:00 PM	0	0	0	1	1
5:15 PM	0	0	0	4	4
5:30 PM	0	2	0	3	5
5:45 PM	0	0	0	0	0
TOTAL	0	3	3	13	19

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T218

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Thu, Apr 14, 22

LOCATION: Temecula
NORTH & SOUTH: Butterfield Stage
EAST & WEST: Channel

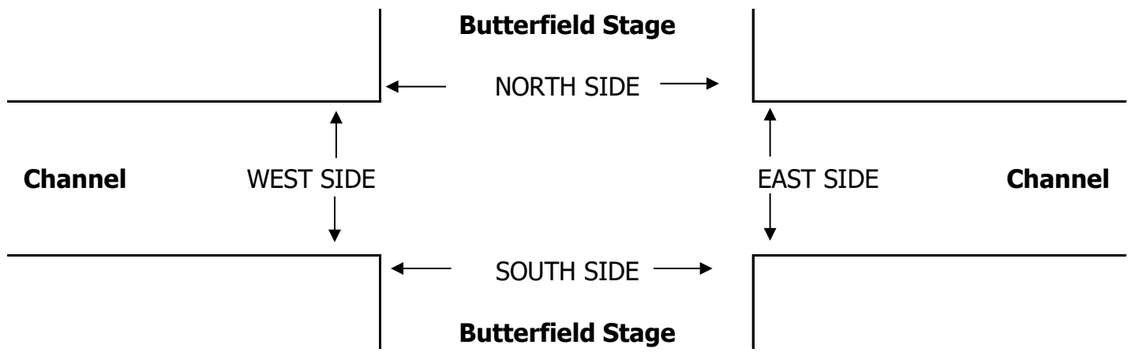
PROJECT #: SC3368
LOCATION #: 3
CONTROL: SIGNAL

NOTES:

AM PM MD OTHER OTHER — ▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Butterfield Stage			SOUTHBOUND Butterfield Stage			EASTBOUND Channel - Welton			WESTBOUND Channel - Welton				U-TURNS				
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	1	72	1	5	166	19	20	0	0	11	4	23	322	0	0	0	0	0
	7:15 AM	4	116	3	3	102	23	20	3	4	5	0	15	298	0	0	0	0	0
	7:30 AM	4	120	3	18	86	24	26	2	3	2	5	23	316	1	6	0	0	7
	7:45 AM	30	120	2	17	105	36	25	6	8	6	7	20	382	2	7	0	0	9
	8:00 AM	22	107	4	53	100	37	30	9	22	4	21	33	442	0	44	0	0	44
	8:15 AM	4	133	0	16	114	20	45	0	10	4	4	30	380	0	2	0	0	2
	8:30 AM	7	135	5	7	132	23	14	1	1	12	2	18	357	1	0	0	0	1
	8:45 AM	2	178	9	5	96	27	34	1	3	6	4	22	387	0	0	0	0	0
	VOLUMES	74	981	27	124	901	209	214	22	51	50	47	184	2,884	4	59	0	0	63
	APPROACH %	7%	91%	2%	10%	73%	17%	75%	8%	18%	18%	17%	65%						
	APP/DEPART	1,082	/	1,438	1,234	/	1,006	287	/	114	281	/	326	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	35	553	18	81	442	107	123	11	36	26	31	103	1,566					
	APPROACH %	6%	91%	3%	13%	70%	17%	72%	6%	21%	16%	19%	64%						
	PEAK HR FACTOR		0.802			0.829			0.697			0.690		0.886					
	APP/DEPART	606	/	825	630	/	505	170	/	64	160	/	172	0					
PM	4:00 PM	6	209	2	17	130	58	52	3	2	1	2	18	500	1	0	0	0	1
	4:15 PM	0	227	0	16	130	56	33	3	1	5	3	30	504	0	2	0	0	2
	4:30 PM	0	204	1	28	154	45	35	8	1	2	2	15	495	0	1	0	0	1
	4:45 PM	2	219	5	21	144	58	57	2	0	1	5	18	532	0	0	0	0	0
	5:00 PM	0	188	5	26	148	57	39	0	3	1	3	21	491	0	0	0	0	0
	5:15 PM	4	191	2	29	158	60	45	3	4	0	4	16	516	0	1	0	0	1
	5:30 PM	2	215	6	31	163	57	48	3	2	3	4	22	556	0	0	0	0	0
	5:45 PM	1	194	2	30	155	52	47	4	0	1	2	17	505	0	0	0	0	0
	VOLUMES	15	1,647	23	198	1,182	443	356	26	13	14	25	157	4,099	1	4	0	0	5
	APPROACH %	1%	98%	1%	11%	65%	24%	90%	7%	3%	7%	13%	80%						
	APP/DEPART	1,685	/	2,164	1,823	/	1,210	395	/	243	196	/	482	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	8	813	18	107	613	232	189	8	9	5	16	77	2,095					
	APPROACH %	1%	97%	2%	11%	64%	24%	92%	4%	4%	5%	16%	79%						
	PEAK HR FACTOR		0.928			0.948			0.873			0.845		0.942					
	APP/DEPART	839	/	1,080	952	/	627	206	/	132	98	/	256	0					



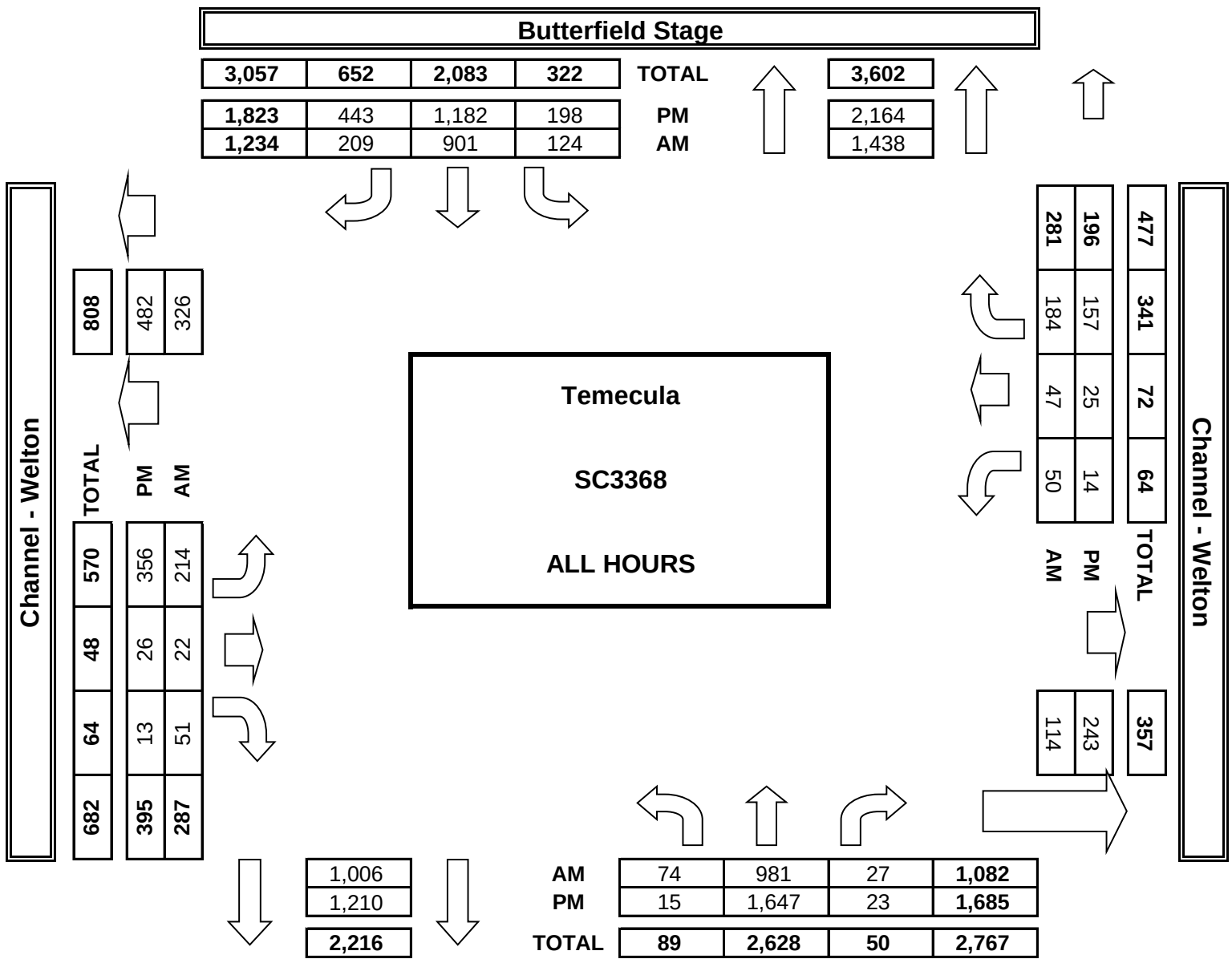
		PEDESTRIAN + BIKE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	1	0	0	0	1
	7:15 AM	0	0	0	2	2
	7:30 AM	0	2	3	0	5
	7:45 AM	13	7	2	0	22
	8:00 AM	24	3	1	0	28
	8:15 AM	0	1	1	3	5
	8:30 AM	1	0	4	1	6
	8:45 AM	3	0	0	2	5
	TOTAL	42	13	11	8	74
	AM BEGIN PEAK HR	8:00 AM				
PM	4:00 PM	3	4	2	0	9
	4:15 PM	1	0	0	1	2
	4:30 PM	0	2	1	3	6
	4:45 PM	3	0	0	0	3
	5:00 PM	0	0	0	1	1
	5:15 PM	1	0	2	1	4
	5:30 PM	0	0	0	3	3
	5:45 PM	2	0	0	0	2
	TOTAL	10	6	5	9	30
	PM BEGIN PEAK HR	4:45 PM				

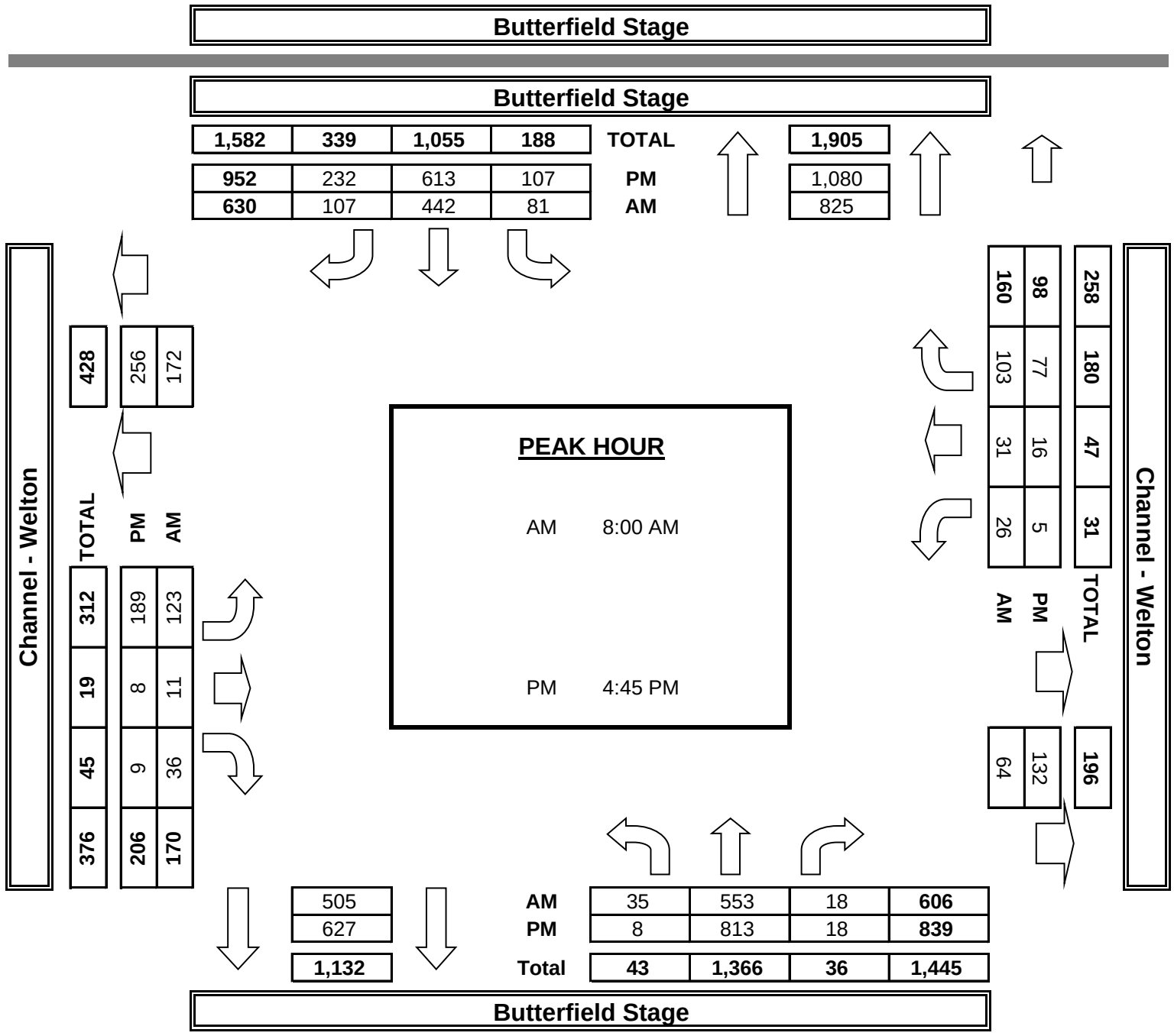
		PEDESTRIAN CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	1	0	0	0	1
	7:15 AM	0	0	0	2	2
	7:30 AM	0	1	2	0	3
	7:45 AM	10	6	1	0	17
	8:00 AM	20	3	1	0	24
	8:15 AM	0	1	1	3	5
	8:30 AM	1	0	4	1	6
	8:45 AM	3	0	0	2	5
	TOTAL	35	11	9	8	63
	AM BEGIN PEAK HR	24	4	6	6	40
PM	4:00 PM	1	4	1	0	6
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	0	1	1
	4:45 PM	2	0	0	0	2
	5:00 PM	0	0	0	0	0
	5:15 PM	0	0	1	0	1
	5:30 PM	0	0	0	2	2
	5:45 PM	2	0	0	0	2
	TOTAL	5	4	2	3	14
	PM BEGIN PEAK HR	2	0	1	2	5

		BICYCLE CROSSINGS				
		NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	1	1	0	2
	7:45 AM	3	1	1	0	5
	8:00 AM	4	0	0	0	4
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	0	0	0
	TOTAL	7	2	2	0	11
	AM BEGIN PEAK HR					
PM	4:00 PM	2	0	1	0	3
	4:15 PM	1	0	0	1	2
	4:30 PM	0	2	1	2	5
	4:45 PM	1	0	0	0	1
	5:00 PM	0	0	0	1	1
	5:15 PM	1	0	1	1	3
	5:30 PM	0	0	0	1	1
	5:45 PM	0	0	0	0	0
	TOTAL	5	2	3	6	16
	PM BEGIN PEAK HR					

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T218

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Thu, Apr 14, 22

LOCATION: Temecula
NORTH & SOUTH: Butterfield Stage
EAST & WEST: Nighthawk

PROJECT #: SC3368
LOCATION #: 4
CONTROL: SIGNAL

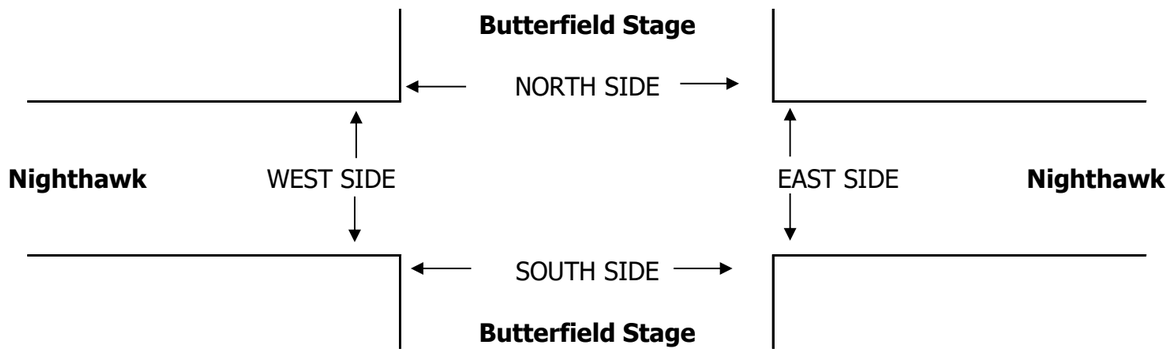
NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Butterfield Stage			SOUTHBOUND Butterfield Stage			EASTBOUND Nighthawk			WESTBOUND Nighthawk				U-TURNS				
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 1	ER 1	WL 1	WT 2	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	14	34	2	3	43	122	24	2	4	8	27	6	289	0	0	0	0	0
	7:15 AM	5	49	1	6	32	76	67	13	8	2	19	7	285	0	0	0	0	0
	7:30 AM	4	67	1	2	42	43	55	15	2	3	3	10	247	0	0	0	0	0
	7:45 AM	13	93	0	4	49	53	40	3	10	3	10	10	288	0	1	0	0	1
	8:00 AM	9	83	2	9	68	58	41	8	17	3	3	15	316	0	3	0	0	3
	8:15 AM	3	56	2	7	68	53	38	4	13	3	2	10	259	0	0	0	0	0
	8:30 AM	8	98	8	6	78	47	38	3	6	16	12	10	330	0	1	0	0	1
	8:45 AM	12	136	15	5	66	41	38	8	2	9	4	13	349	0	0	0	0	0
	VOLUMES	68	616	31	42	446	493	341	56	62	47	80	81	2,363	0	5	0	0	5
	APPROACH %	10%	86%	4%	4%	45%	50%	74%	12%	14%	23%	38%	39%						
	APP/DEPART	715	/	1,043	981	/	555	459	/	124	208	/	641	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	32	373	27	27	280	199	155	23	38	31	21	48	1,254					
	APPROACH %	7%	86%	6%	5%	55%	39%	72%	11%	18%	31%	21%	48%						
	PEAK HR FACTOR		0.663			0.937			0.818			0.658		0.898					
	APP/DEPART	432	/	580	506	/	349	216	/	73	100	/	252	0					
PM	4:00 PM	7	73	2	10	64	52	141	4	8	2	5	9	377	0	0	0	0	0
	4:15 PM	6	54	2	13	69	58	143	12	9	1	8	5	380	0	1	0	0	1
	4:30 PM	5	55	1	17	64	67	129	9	10	2	6	8	373	0	0	0	0	0
	4:45 PM	8	72	0	16	67	70	152	7	11	1	1	13	418	0	0	0	0	0
	5:00 PM	7	64	2	18	72	57	134	6	13	0	8	6	387	0	0	0	0	0
	5:15 PM	5	58	3	10	76	76	128	7	6	1	4	13	387	0	0	0	0	0
	5:30 PM	3	59	2	13	80	65	130	4	4	1	3	11	375	0	0	0	0	0
	5:45 PM	5	63	1	15	68	76	129	8	4	4	4	6	383	0	1	0	0	1
	VOLUMES	46	498	13	112	560	521	1,086	57	65	12	39	71	3,080	0	2	0	0	2
	APPROACH %	8%	89%	2%	9%	47%	44%	90%	5%	5%	10%	32%	58%						
	APP/DEPART	557	/	1,657	1,193	/	637	1,208	/	180	122	/	606	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	23	253	7	57	295	268	544	24	34	3	16	43	1,567					
	APPROACH %	8%	89%	2%	9%	48%	43%	90%	4%	6%	5%	26%	69%						
	PEAK HR FACTOR		0.884			0.957			0.885			0.861		0.937					
	APP/DEPART	283	/	840	620	/	332	602	/	88	62	/	307	0					



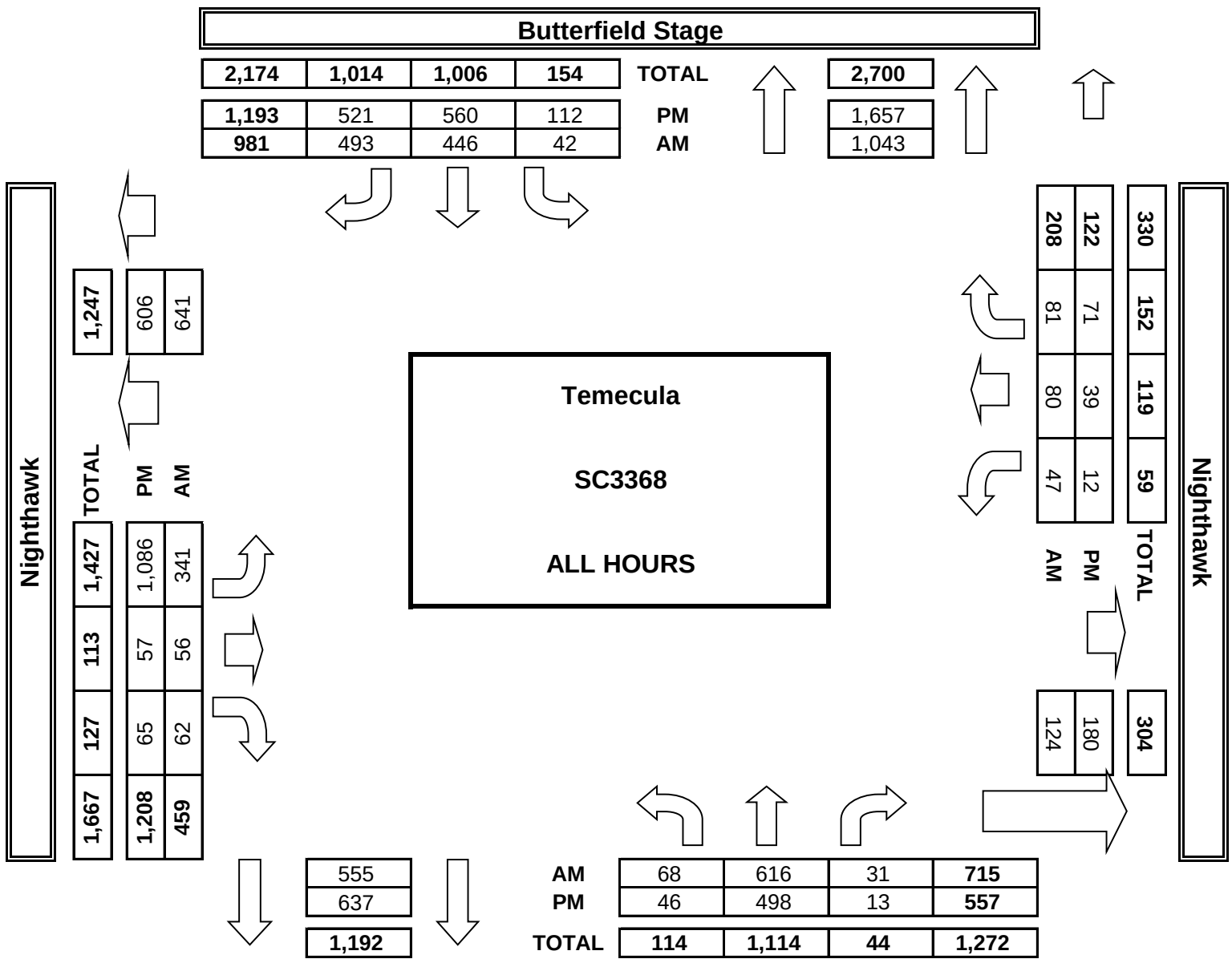
		PEDESTRIAN + BIKE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	0	1	1
	7:15 AM	1	0	0	2	3
	7:30 AM	0	1	1	8	10
	7:45 AM	0	3	0	8	11
	8:00 AM	0	0	1	3	4
	8:15 AM	0	1	1	1	3
	8:30 AM	0	2	4	0	6
	8:45 AM	0	2	0	1	3
	TOTAL	1	9	7	24	41
	AM BEGIN PEAK HR	8:00 AM				
PM	4:00 PM	0	3	2	7	12
	4:15 PM	0	0	0	2	2
	4:30 PM	0	1	1	2	4
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	1	5	6
	5:15 PM	0	0	2	0	2
	5:30 PM	0	1	0	0	1
	5:45 PM	0	0	0	2	2
	TOTAL	0	5	6	18	29
	PM BEGIN PEAK HR	4:45 PM				

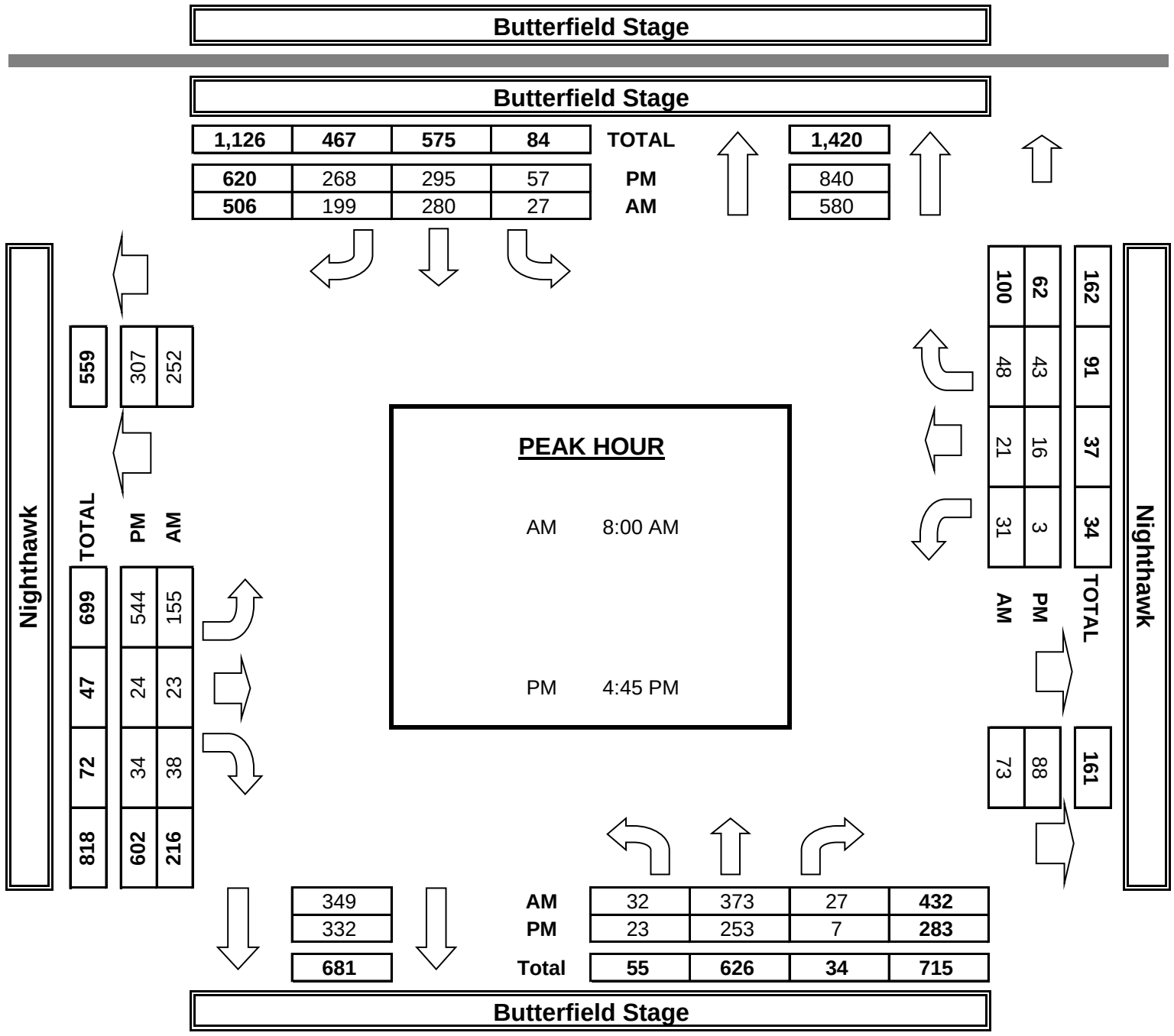
		PEDESTRIAN CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	0	1	1
	7:15 AM	0	0	0	2	2
	7:30 AM	0	1	1	7	9
	7:45 AM	0	3	0	6	9
	8:00 AM	0	0	1	3	4
	8:15 AM	0	1	1	1	3
	8:30 AM	0	2	4	0	6
	8:45 AM	0	2	0	1	3
	TOTAL	0	9	7	21	37
	AM BEGIN PEAK HR	0	5	6	5	16
PM	4:00 PM	0	1	1	5	7
	4:15 PM	0	0	0	0	0
	4:30 PM	0	1	0	0	1
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	1	2	3
	5:15 PM	0	0	1	0	1
	5:30 PM	0	1	0	0	1
	5:45 PM	0	0	0	0	0
	TOTAL	0	3	3	7	13
	PM BEGIN PEAK HR	0	1	2	2	5

		BICYCLE CROSSINGS				
		NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	1	0	0	0	1
	7:30 AM	0	0	0	1	1
	7:45 AM	0	0	0	2	2
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	0	0	0
	TOTAL	1	0	0	3	4
	AM BEGIN PEAK HR					
PM	4:00 PM	0	2	1	2	5
	4:15 PM	0	0	0	2	2
	4:30 PM	0	0	1	2	3
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	0	3	3
	5:15 PM	0	0	1	0	1
	5:30 PM	0	0	0	0	0
	5:45 PM	0	0	0	2	2
	TOTAL	0	2	3	11	16
	PM BEGIN PEAK HR					

AimTD LLC

TURNING MOVEMENT COUNTS





Thursday, April 14, 2022 | CITY: Temecula | PROJECT: SC3368

ADT1 Butterfield south of Temecula.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	NB		SB			PM Period	NB		SB		
0:00	8		4			12:00	131		153		
0:15	4		6			12:15	134		165		
0:30	2		11			12:30	128		137		
0:45	3	17	4	25	42	12:45	132	525	150	605	1130
1:00	8		5			13:00	140		161		
1:15	5		7			13:15	120		168		
1:30	5		9			13:30	142		155		
1:45	11	29	5	26	55	13:45	216	618	198	682	1300
2:00	1		5			14:00	210		185		
2:15	5		4			14:15	193		201		
2:30	7		5			14:30	221		194		
2:45	11	24	7	21	45	14:45	224	848	218	798	1646
3:00	4		12			15:00	207		208		
3:15	23		9			15:15	220		194		
3:30	15		16			15:30	218		199		
3:45	25	67	14	51	118	15:45	214	859	212	813	1672
4:00	23		28			16:00	195		191		
4:15	33		23			16:15	208		237		
4:30	37		28			16:30	215		225		
4:45	51	144	41	120	264	16:45	251	869	237	890	1759
5:00	52		43			17:00	227		201		
5:15	63		51			17:15	193		201		
5:30	78		62			17:30	184		195		
5:45	75	268	111	267	535	17:45	180	784	139	736	1520
6:00	101		191			18:00	152		159		
6:15	114		135			18:15	140		162		
6:30	143		131			18:30	113		138		
6:45	155	513	175	632	1145	18:45	99	504	150	609	1113
7:00	160		207			19:00	89		133		
7:15	187		169			19:15	76		131		
7:30	119		157			19:30	73		118		
7:45	177	643	170	703	1346	19:45	74	312	117	499	811
8:00	130		145			20:00	58		111		
8:15	105		126			20:15	59		110		
8:30	113		100			20:30	48		97		
8:45	114	462	137	508	970	20:45	46	211	80	398	609
9:00	142		95			21:00	40		81		
9:15	98		143			21:15	34		64		
9:30	146		141			21:30	27		57		
9:45	103	489	155	534	1023	21:45	28	129	40	242	371
10:00	136		137			22:00	23		42		
10:15	132		134			22:15	16		32		
10:30	124		129			22:30	20		29		
10:45	118	510	176	576	1086	22:45	12	71	23	126	197
11:00	134		160			23:00	16		15		
11:15	143		173			23:15	14		9		
11:30	107		183			23:30	11		10		
11:45	154	538	153	669	1207	23:45	10	51	7	41	92
Total Vol.		3704		4132	**7836**			5781		6439	**12220**

Daily Totals

NB	SB	Combined
9485	10571	**20056**

	AM			PM		
Split %	47.3%	52.7%	**39.1%**	47.3%	52.7%	**60.9%**
Peak Hour	6:30	6:45	**7:00**	16:15	16:15	**16:15**
Volume	645	708	**1346**	901	900	**1801**
P.H.F.	0.86	0.86	**0.92**	0.92	0.95	**0.92**

cs@aimtd.com Tell. 714 253 7888

Thursday, April 14, 2022 | CITY: Temecula | PROJECT: SC3368

ADT2 Butterfield Stage north of Nighthawk.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	NB		SB			PM Period	NB		SB		
0:00	4		12			12:00	110		106		
0:15	13		9			12:15	77		110		
0:30	2		6			12:30	121		125		
0:45	3	22	3	30	52	12:45	75	383	115	456	839
1:00	4		6			13:00	118		114		
1:15	1		2			13:15	98		109		
1:30	3		5			13:30	82		107		
1:45	3	11	3	16	27	13:45	95	393	105	435	828
2:00	5		2			14:00	116		111		
2:15	3		4			14:15	114		127		
2:30	7		2			14:30	167		105		
2:45	3	18	3	11	29	14:45	243	640	191	534	1174
3:00	0		4			15:00	144		180		
3:15	4		1			15:15	156		162		
3:30	3		1			15:30	246		130		
3:45	8	15	3	9	24	15:45	204	750	132	604	1354
4:00	4		4			16:00	223		126		
4:15	15		4			16:15	203		140		
4:30	10		5			16:30	192		148		
4:45	21	50	6	19	69	16:45	237	855	153	567	1422
5:00	16		12			17:00	204		147		
5:15	22		10			17:15	199		162		
5:30	33		18			17:30	200		158		
5:45	42	113	18	58	171	17:45	199	802	159	626	1428
6:00	41		21			18:00	186		177		
6:15	37		32			18:15	141		139		
6:30	53		40			18:30	127		131		
6:45	64	195	86	179	374	18:45	112	566	131	578	1144
7:00	64		168			19:00	109		119		
7:15	123		114			19:15	97		122		
7:30	132		87			19:30	94		119		
7:45	144	463	106	475	938	19:45	94	394	108	468	862
8:00	142		135			20:00	83		98		
8:15	104		128			20:15	73		87		
8:30	147		131			20:30	63		77		
8:45	187	580	112	506	1086	20:45	59	278	74	336	614
9:00	101		84			21:00	46		59		
9:15	85		81			21:15	44		46		
9:30	103		77			21:30	36		41		
9:45	85	374	75	317	691	21:45	32	158	44	190	348
10:00	96		78			22:00	27		33		
10:15	79		94			22:15	17		27		
10:30	109		73			22:30	15		22		
10:45	83	367	89	334	701	22:45	13	72	18	100	172
11:00	109		82			23:00	9		16		
11:15	83		95			23:15	5		17		
11:30	92		92			23:30	9		17		
11:45	83	367	97	366	733	23:45	4	27	15	65	92
Total Vol.		2575		2320	**4895**			5318		4959	**10277**

Daily Totals

NB	SB	**Combined**
7893	7279	**15172**

	AM			**PM**		
Split %	52.6%	47.4%	**32.3%**	51.7%	48.3%	**67.7%**
Peak Hour	8:00	8:00	**8:00**	15:30	14:45	**16:45**
Volume	580	506	**1086**	876	663	**1460**
P.H.F.	0.78	0.94	**0.91**	0.91	0.87	**0.94**

cs@aimtd.com Tell. 714 253 7888

Thursday, April 14, 2022 | CITY: Temecula | PROJECT: SC3368

ADT3 Butterfield Stage south of Nighthawk.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	NB		SB			PM Period	NB		SB		
0:00	2		4			12:00	66		57		
0:15	1		4			12:15	43		54		
0:30	2		4			12:30	59		79		
0:45	0	5	1	13	18	12:45	35	203	65	255	458
1:00	1		0			13:00	79		66		
1:15	1		0			13:15	64		65		
1:30	2		2			13:30	56		59		
1:45	1	5	1	3	8	13:45	54	253	59	249	502
2:00	0		1			14:00	62		55		
2:15	0		1			14:15	75		53		
2:30	1		1			14:30	84		65		
2:45	2	3	1	4	7	14:45	107	328	144	317	645
3:00	0		1			15:00	60		118		
3:15	1		1			15:15	93		111		
3:30	2		0			15:30	167		63		
3:45	5	8	2	4	12	15:45	90	410	75	367	777
4:00	3		2			16:00	82		74		
4:15	8		0			16:15	62		79		
4:30	6		1			16:30	61		76		
4:45	15	32	0	3	35	16:45	80	285	79	308	593
5:00	6		2			17:00	73		85		
5:15	12		1			17:15	66		83		
5:30	24		4			17:30	64		85		
5:45	27	69	4	11	80	17:45	69	272	76	329	601
6:00	29		5			18:00	59		97		
6:15	26		8			18:15	56		72		
6:30	34		13			18:30	44		75		
6:45	38	127	29	55	182	18:45	43	202	68	312	514
7:00	50		55			19:00	40		63		
7:15	55		42			19:15	35		59		
7:30	72		47			19:30	29		64		
7:45	106	283	62	206	489	19:45	36	140	52	238	378
8:00	94		88			20:00	29		46		
8:15	61		84			20:15	25		41		
8:30	114		100			20:30	24		32		
8:45	163	432	77	349	781	20:45	25	103	29	148	251
9:00	65		47			21:00	19		23		
9:15	59		45			21:15	24		20		
9:30	77		36			21:30	17		21		
9:45	56	257	47	175	432	21:45	16	76	16	80	156
10:00	61		53			22:00	14		12		
10:15	46		53			22:15	12		12		
10:30	71		31			22:30	6		10		
10:45	52	230	59	196	426	22:45	8	40	6	40	80
11:00	59		43			23:00	5		9		
11:15	53		47			23:15	3		3		
11:30	63		54			23:30	3		5		
11:45	50	225	60	204	429	23:45	3	14	5	22	36
Total Vol.		1676		1223	**2899**			2326		2665	**4991**

Daily Totals

NB	SB	Combined
4002	3888	**7890**

	AM			PM		
Split %	57.8%	42.2%	**36.7%**	46.6%	53.4%	**63.3%**
Peak Hour	8:00	8:00	**8:00**	15:15	14:30	**14:45**
Volume	432	349	**781**	432	438	**863**
P.H.F.	0.66	0.87	**0.81**	0.66	0.76	**0.86**

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Thursday, April 14, 2022 CITY: Temecula PROJECT: SC3368

ADT4 Temecula west of Butterfield. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	EB		WB			PM Period	EB		WB		
0:00	14		3			12:00	314		231		
0:15	24		6			12:15	305		212		
0:30	24		7			12:30	308		209		
0:45	14	76	1	17	93	12:45	329	1256	187	839	2095
1:00	19		9			13:00	308		195		
1:15	26		3			13:15	307		207		
1:30	18		12			13:30	345		186		
1:45	17	80	12	36	116	13:45	358	1318	209	797	2115
2:00	8		11			14:00	358		198		
2:15	19		14			14:15	399		199		
2:30	22		21			14:30	350		251		
2:45	12	61	31	77	138	14:45	365	1472	188	836	2308
3:00	19		31			15:00	413		223		
3:15	22		56			15:15	388		175		
3:30	20		62			15:30	310		185		
3:45	14	75	88	237	312	15:45	351	1462	172	755	2217
4:00	24		90			16:00	409		203		
4:15	37		93			16:15	386		201		
4:30	44		99			16:30	408		184		
4:45	63	168	143	425	593	16:45	313	1516	188	776	2292
5:00	55		124			17:00	337		198		
5:15	68		110			17:15	321		174		
5:30	86		156			17:30	383		175		
5:45	95	304	168	558	862	17:45	376	1417	147	694	2111
6:00	112		174			18:00	365		172		
6:15	142		199			18:15	324		174		
6:30	130		187			18:30	330		113		
6:45	128	512	227	787	1299	18:45	294	1313	119	578	1891
7:00	155		228			19:00	282		100		
7:15	196		216			19:15	257		90		
7:30	177		204			19:30	230		104		
7:45	142	670	261	909	1579	19:45	216	985	81	375	1360
8:00	221		212			20:00	192		64		
8:15	172		227			20:15	172		71		
8:30	203		250			20:30	145		56		
8:45	199	795	201	890	1685	20:45	137	646	47	238	884
9:00	190		252			21:00	117		45		
9:15	202		234			21:15	90		33		
9:30	204		249			21:30	85		33		
9:45	217	813	225	960	1773	21:45	61	353	20	131	484
10:00	253		243			22:00	55		17		
10:15	234		233			22:15	58		15		
10:30	266		235			22:30	43		14		
10:45	254	1007	222	933	1940	22:45	31	187	8	54	241
11:00	316		241			23:00	36		7		
11:15	293		222			23:15	24		5		
11:30	279		223			23:30	30		4		
11:45	295	1183	260	946	2129	23:45	22	112	6	22	134
Total Vol.		5744		6775	**12519**			12037		6095	**18132**

Daily Totals

EB	WB	**Combined**
17781	12870	**30651**

	AM			**PM**		
Split %	45.9%	54.1%	**40.8%**	66.4%	33.6%	**59.2%**
Peak Hour	11:45	9:00	**11:45**	15:45	14:15	**14:15**
Volume	1222	960	**2134**	1554	861	**2388**
P.H.F.	0.97	0.95	**0.96**	0.95	0.86	**0.94**

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Appendix B
Intersection LOS - Synchro Worksheets

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (veh/h)	89	173	382	115	17	219	494	103	1	218	306	119
Future Volume (veh/h)	89	173	382	115	17	219	494	103	1	218	306	119
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.99		1.00		1.00		1.00		0.99
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Work Zone On Approach			No				No				No	
Adj Sat Flow, veh/h/ln		1772	1772	1772		1772	1772	1772		1772	1772	1772
Adj Flow Rate, veh/h		182	402	121		231	520	108		229	322	125
Peak Hour Factor		0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95	0.95
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2
Cap, veh/h		249	563	162		299	672	137		295	1241	472
Arrive On Green		0.08	0.15	0.15		0.09	0.17	0.17		0.09	0.52	0.52
Sat Flow, veh/h		3274	3716	1071		3274	4030	819		3274	2376	903
Grp Volume(v), veh/h		182	347	176		231	414	214		229	226	221
Grp Sat Flow(s),veh/h/ln		1637	1612	1562		1637	1612	1625		1637	1683	1596
Q Serve(g_s), s		6.0	11.2	11.9		7.6	13.5	13.9		7.5	8.2	8.4
Cycle Q Clear(g_c), s		6.0	11.2	11.9		7.6	13.5	13.9		7.5	8.2	8.4
Prop In Lane		1.00		0.69		1.00		0.50		1.00		0.57
Lane Grp Cap(c), veh/h		249	488	237		299	538	271		295	879	834
V/C Ratio(X)		0.73	0.71	0.75		0.77	0.77	0.79		0.78	0.26	0.26
Avail Cap(c_a), veh/h		551	718	348		521	689	347		461	879	834
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00		0.96	0.96	0.96
Uniform Delay (d), s/veh		49.7	44.4	44.6		48.9	43.8	44.0		49.0	14.5	14.6
Incr Delay (d2), s/veh		4.1	1.9	4.9		4.2	4.0	9.1		4.2	0.7	0.7
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.6	4.6	4.9		3.3	5.7	6.3		3.2	3.2	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		53.9	46.3	49.5		53.1	47.8	53.1		53.2	15.2	15.3
LnGrp LOS		D	D	D		D	D	D		D	B	B
Approach Vol, veh/h			705				859				676	
Approach Delay, s/veh			49.0				50.6				28.1	
Approach LOS			D				D				C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	62.0	14.5	21.2	14.4	59.9	12.9	22.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.5	34.5	17.5	24.5	15.5	34.5	18.5	23.5
Max Q Clear Time (g_c+I1), s	8.2	10.4	9.6	13.9	9.5	13.5	8.0	15.9
Green Ext Time (p_c), s	0.1	2.8	0.5	2.5	0.4	3.5	0.4	2.4

Intersection Summary	
HCM 6th Ctrl Delay	38.9
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.



Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	91	377	161
Future Volume (veh/h)	91	377	161
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00
Work Zone On Approach		No	
Adj Sat Flow, veh/h/ln	1772	1772	1772
Adj Flow Rate, veh/h	96	397	169
Peak Hour Factor	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2
Cap, veh/h	120	1163	489
Arrive On Green	0.07	0.50	0.50
Sat Flow, veh/h	1688	2310	971
Grp Volume(v), veh/h	96	288	278
Grp Sat Flow(s),veh/h/ln	1688	1683	1597
Q Serve(g_s), s	6.2	11.3	11.5
Cycle Q Clear(g_c), s	6.2	11.3	11.5
Prop In Lane	1.00		0.61
Lane Grp Cap(c), veh/h	120	848	804
V/C Ratio(X)	0.80	0.34	0.35
Avail Cap(c_a), veh/h	238	848	804
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.3	16.3	16.4
Incr Delay (d2), s/veh	11.4	1.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	4.5	4.4
Unsig. Movement Delay, s/veh			
LnGrp Delay(d),s/veh	61.7	17.4	17.6
LnGrp LOS	E	B	B
Approach Vol, veh/h		662	
Approach Delay, s/veh		23.9	
Approach LOS		C	
Timer - Assigned Phs			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	34	6	81	8	6	6	28	211	586	26	27	38
Future Volume (veh/h)	34	6	81	8	6	6	28	211	586	26	27	38
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	0.98		0.97	0.99		0.97		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772		1772	1772	1772		1772
Adj Flow Rate, veh/h	37	6	87	9	6	6		227	630	28		41
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93		0.93	0.93	0.93		0.93
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2
Cap, veh/h	272	191	157	130	74	47		271	2055	91		70
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11		0.16	0.63	0.63		0.04
Sat Flow, veh/h	1380	1772	1453	406	682	435		1688	3283	146		1688
Grp Volume(v), veh/h	37	6	87	21	0	0		227	323	335		41
Grp Sat Flow(s),veh/h/ln	1380	1772	1453	1523	0	0		1688	1683	1745		1688
Q Serve(g_s), s	0.6	0.2	3.4	0.0	0.0	0.0		7.8	5.3	5.3		1.4
Cycle Q Clear(g_c), s	1.3	0.2	3.4	0.7	0.0	0.0		7.8	5.3	5.3		1.4
Prop In Lane	1.00		1.00	0.43		0.29		1.00		0.08		1.00
Lane Grp Cap(c), veh/h	272	191	157	250	0	0		271	1054	1092		70
V/C Ratio(X)	0.14	0.03	0.56	0.08	0.00	0.00		0.84	0.31	0.31		0.59
Avail Cap(c_a), veh/h	537	532	436	528	0	0		295	1054	1092		194
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00		1.00	1.00	1.00		0.87
Uniform Delay (d), s/veh	24.4	24.0	25.4	24.2	0.0	0.0		24.4	5.2	5.2		28.3
Incr Delay (d2), s/veh	0.2	0.1	3.1	0.1	0.0	0.0		17.5	0.8	0.7		6.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	0.5	0.1	1.2	0.3	0.0	0.0		4.2	1.6	1.6		0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.7	24.0	28.5	24.3	0.0	0.0		41.9	5.9	5.9		35.0
LnGrp LOS	C	C	C	C	A	A		D	A	A		C
Approach Vol, veh/h		130			21				885			
Approach Delay, s/veh		27.2			24.3				15.2			
Approach LOS		C			C				B			

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.0	42.1		11.0	14.1	34.9		11.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	6.9	21.6		18.0	10.5	18.0		18.0				
Max Q Clear Time (g_c+I1), s	3.4	7.3		5.4	9.8	8.8		2.7				
Green Ext Time (p_c), s	0.0	3.5		0.3	0.0	2.7		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		14.8	
HCM 6th LOS		B	

Notes

User approved ignoring U-Turning movement.

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	523	66
Future Volume (veh/h)	523	66
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1772	1772
Adj Flow Rate, veh/h	562	71
Peak Hour Factor	0.93	0.93
Percent Heavy Veh, %	2	2
Cap, veh/h	1522	192
Arrive On Green	0.51	0.51
Sat Flow, veh/h	3006	379
Grp Volume(v), veh/h	314	319
Grp Sat Flow(s),veh/h/ln	1683	1702
Q Serve(g_s), s	6.8	6.8
Cycle Q Clear(g_c), s	6.8	6.8
Prop In Lane		0.22
Lane Grp Cap(c), veh/h	852	862
V/C Ratio(X)	0.37	0.37
Avail Cap(c_a), veh/h	852	862
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.87	0.87
Uniform Delay (d), s/veh	9.0	9.0
Incr Delay (d2), s/veh	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	2.4
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	10.1	10.1
LnGrp LOS	B	B
Approach Vol, veh/h	674	
Approach Delay, s/veh	11.6	
Approach LOS	B	
Timer - Assigned Phs		



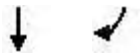
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	123	11	36	26	31	103	4	35	553	18	59	81
Future Volume (veh/h)	123	11	36	26	31	103	4	35	553	18	59	81
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.95		1.00		0.97		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772		1772	1772	1772		1772
Adj Flow Rate, veh/h	138	12	40	29	35	116		39	621	20		91
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89		0.89	0.89	0.89		0.89
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2
Cap, veh/h	165	73	242	44	47	155		51	1825	59		114
Arrive On Green	0.10	0.21	0.21	0.03	0.14	0.14		0.03	0.55	0.55		0.07
Sat Flow, veh/h	1688	349	1164	1688	345	1145		1688	3325	107		1688
Grp Volume(v), veh/h	138	0	52	29	0	151		39	314	327		91
Grp Sat Flow(s),veh/h/ln	1688	0	1513	1688	0	1490		1688	1683	1749		1688
Q Serve(g_s), s	9.6	0.0	3.4	2.0	0.0	11.7		2.8	12.4	12.4		6.4
Cycle Q Clear(g_c), s	9.6	0.0	3.4	2.0	0.0	11.7		2.8	12.4	12.4		6.4
Prop In Lane	1.00		0.77	1.00		0.77		1.00		0.06		1.00
Lane Grp Cap(c), veh/h	165	0	314	44	0	202		51	924	960		114
V/C Ratio(X)	0.84	0.00	0.17	0.67	0.00	0.75		0.76	0.34	0.34		0.80
Avail Cap(c_a), veh/h	288	0	435	105	0	267		120	924	960		316
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		1.00
Uniform Delay (d), s/veh	53.2	0.0	39.0	57.9	0.0	49.9		57.8	15.0	15.0		55.1
Incr Delay (d2), s/veh	10.5	0.0	0.2	16.1	0.0	7.8		20.5	1.0	1.0		11.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	4.6	0.0	1.3	1.1	0.0	4.8		1.5	5.0	5.1		3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.7	0.0	39.2	74.0	0.0	57.7		78.2	16.0	16.0		66.9
LnGrp LOS	E	A	D	E	A	E		E	B	B		E
Approach Vol, veh/h		190			180				680			
Approach Delay, s/veh		57.0			60.3				19.6			
Approach LOS		E			E				B			

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.6	70.3	7.6	29.4	8.1	74.8	16.2	20.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	22.5	37.5	7.5	34.5	8.5	51.5	20.5	21.5
Max Q Clear Time (g_c+I1), s	8.4	14.4	4.0	5.4	4.8	13.3	11.6	13.7
Green Ext Time (p_c), s	0.2	4.1	0.0	0.2	0.0	4.3	0.2	0.5

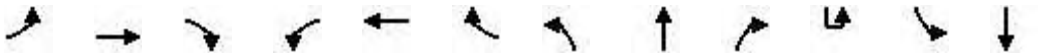
Intersection Summary	
HCM 6th Ctrl Delay	28.1
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	442	107
Future Volume (veh/h)	442	107
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		0.99
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1772	1772
Adj Flow Rate, veh/h	497	120
Peak Hour Factor	0.89	0.89
Percent Heavy Veh, %	2	2
Cap, veh/h	1576	378
Arrive On Green	0.59	0.59
Sat Flow, veh/h	2689	646
Grp Volume(v), veh/h	310	307
Grp Sat Flow(s),veh/h/ln	1683	1652
Q Serve(g_s), s	11.2	11.3
Cycle Q Clear(g_c), s	11.2	11.3
Prop In Lane		0.39
Lane Grp Cap(c), veh/h	987	968
V/C Ratio(X)	0.31	0.32
Avail Cap(c_a), veh/h	987	968
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	12.6	12.6
Incr Delay (d2), s/veh	0.8	0.9
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	4.3
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	13.4	13.5
LnGrp LOS	B	B
Approach Vol, veh/h	708	
Approach Delay, s/veh	20.3	
Approach LOS	C	
Timer - Assigned Phs		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	155	23	38	31	21	48	32	373	27	5	27	280
Future Volume (veh/h)	155	23	38	31	21	48	32	373	27	5	27	280
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.99		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772	1772	1772	1772		1772	1772
Adj Flow Rate, veh/h	172	26	42	34	23	53	36	414	30		30	311
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90		0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2		2	2
Cap, veh/h	143	250	210	60	154	135	62	1638	118		54	968
Arrive On Green	0.08	0.14	0.14	0.04	0.09	0.09	0.04	0.51	0.51		0.03	0.51
Sat Flow, veh/h	1688	1772	1486	1688	1683	1477	1688	3183	230		1688	1898
Grp Volume(v), veh/h	172	26	42	34	23	53	36	218	226		30	275
Grp Sat Flow(s),veh/h/ln	1688	1772	1486	1688	1683	1477	1688	1683	1729		1688	1683
Q Serve(g_s), s	5.5	0.8	1.6	1.3	0.8	2.2	1.4	4.7	4.7		1.1	6.2
Cycle Q Clear(g_c), s	5.5	0.8	1.6	1.3	0.8	2.2	1.4	4.7	4.7		1.1	6.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13		1.00	
Lane Grp Cap(c), veh/h	143	250	210	60	154	135	62	866	890		54	858
V/C Ratio(X)	1.20	0.10	0.20	0.57	0.15	0.39	0.58	0.25	0.25		0.55	0.32
Avail Cap(c_a), veh/h	143	491	411	143	466	409	130	866	890		130	858
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Uniform Delay (d), s/veh	29.8	24.3	24.7	30.9	27.2	27.8	30.8	8.8	8.8		31.0	9.3
Incr Delay (d2), s/veh	140.6	0.2	0.5	8.3	0.4	1.8	8.3	0.7	0.7		8.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	0.3	0.6	0.6	0.3	0.8	0.7	1.6	1.7		0.6	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	170.4	24.5	25.1	39.2	27.6	29.6	39.1	9.5	9.5		39.5	10.3
LnGrp LOS	F	C	C	D	C	C	D	A	A		D	B
Approach Vol, veh/h		240			110			480				562
Approach Delay, s/veh		129.2			32.2			11.7				12.0
Approach LOS		F			C			B				B

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	37.9	6.8	13.7	6.9	37.6	10.0	10.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	18.5	5.5	18.0	5.0	18.5	5.5	18.0
Max Q Clear Time (g_c+I1), s	3.1	6.7	3.3	3.6	3.4	8.4	7.5	4.2
Green Ext Time (p_c), s	0.0	2.0	0.0	0.2	0.0	2.4	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	33.7
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	199
Future Volume (veh/h)	199
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1772
Adj Flow Rate, veh/h	221
Peak Hour Factor	0.90
Percent Heavy Veh, %	2
Cap, veh/h	671
Arrive On Green	0.51
Sat Flow, veh/h	1315
Grp Volume(v), veh/h	257
Grp Sat Flow(s),veh/h/ln	1530
Q Serve(g_s), s	6.4
Cycle Q Clear(g_c), s	6.4
Prop In Lane	0.86
Lane Grp Cap(c), veh/h	780
V/C Ratio(X)	0.33
Avail Cap(c_a), veh/h	780
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	9.4
Incr Delay (d2), s/veh	1.1
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	2.1
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	10.5
LnGrp LOS	B
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (veh/h)	81	496	816	204	17	181	454	152	2	144	608	117
Future Volume (veh/h)	81	496	816	204	17	181	454	152	2	144	608	117
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.97		1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Work Zone On Approach			No				No				No	
Adj Sat Flow, veh/h/ln		1870	1870	1870		1870	1870	1870		1870	1870	1870
Adj Flow Rate, veh/h		517	850	212		189	473	158		150	633	122
Peak Hour Factor		0.96	0.96	0.96		0.96	0.96	0.96		0.96	0.96	0.96
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2
Cap, veh/h		600	1037	257		249	584	187		207	1234	237
Arrive On Green		0.17	0.26	0.26		0.07	0.15	0.15		0.06	0.42	0.42
Sat Flow, veh/h		3456	4061	1006		3456	3796	1217		3456	2964	570
Grp Volume(v), veh/h		517	712	350		189	422	209		150	379	376
Grp Sat Flow(s),veh/h/ln		1728	1702	1663		1728	1702	1609		1728	1777	1757
Q Serve(g_s), s		17.4	23.6	23.9		6.4	14.4	15.1		5.1	19.0	19.1
Cycle Q Clear(g_c), s		17.4	23.6	23.9		6.4	14.4	15.1		5.1	19.0	19.1
Prop In Lane		1.00		0.60		1.00		0.76		1.00		0.32
Lane Grp Cap(c), veh/h		600	869	425		249	524	248		207	740	731
V/C Ratio(X)		0.86	0.82	0.83		0.76	0.81	0.84		0.72	0.51	0.51
Avail Cap(c_a), veh/h		821	1001	489		366	553	261		291	740	731
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00		0.91	0.91	0.91
Uniform Delay (d), s/veh		48.2	42.1	42.2		54.7	49.0	49.4		55.4	26.0	26.0
Incr Delay (d2), s/veh		7.1	4.8	9.9		5.3	8.2	20.7		4.8	2.3	2.3
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		8.1	10.4	10.9		3.0	6.7	7.5		2.4	8.5	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		55.3	46.9	52.0		59.9	57.2	70.1		60.3	28.3	28.4
LnGrp LOS		E	D	D		E	E	E		E	C	C
Approach Vol, veh/h			1579				820				905	
Approach Delay, s/veh			50.8				61.1				33.6	
Approach LOS			D				E				C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.3	54.4	13.1	35.1	11.7	60.0	25.3	23.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	17.5	36.5	12.7	35.3	10.1	43.9	28.5	19.5
Max Q Clear Time (g_c+I1), s	12.7	21.1	8.4	25.9	7.1	17.5	19.4	17.1
Green Ext Time (p_c), s	0.2	4.3	0.2	4.8	0.1	4.6	1.4	1.0

Intersection Summary	
HCM 6th Ctrl Delay	45.3
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.



Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	155	511	138
Future Volume (veh/h)	155	511	138
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00
Work Zone On Approach		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870
Adj Flow Rate, veh/h	161	532	144
Peak Hour Factor	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2
Cap, veh/h	189	1275	344
Arrive On Green	0.11	0.46	0.46
Sat Flow, veh/h	1781	2757	743
Grp Volume(v), veh/h	161	342	334
Grp Sat Flow(s),veh/h/ln	1781	1777	1722
Q Serve(g_s), s	10.7	15.4	15.5
Cycle Q Clear(g_c), s	10.7	15.4	15.5
Prop In Lane	1.00		0.43
Lane Grp Cap(c), veh/h	189	822	797
V/C Ratio(X)	0.85	0.42	0.42
Avail Cap(c_a), veh/h	260	822	797
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.7	21.5	21.5
Incr Delay (d2), s/veh	17.3	1.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	6.7	6.6
Unsig. Movement Delay, s/veh			
LnGrp Delay(d),s/veh	70.0	23.0	23.1
LnGrp LOS	E	C	C
Approach Vol, veh/h		837	
Approach Delay, s/veh		32.1	
Approach LOS		C	
Timer - Assigned Phs			

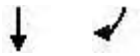
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	79	42	267	34	50	31	1	280	699	100	49	75
Future Volume (veh/h)	79	42	267	34	50	31	1	280	699	100	49	75
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	0.99		0.99	1.00		0.97		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870		1870	1870	1870		1870
Adj Flow Rate, veh/h	84	45	284	36	53	33		298	744	106		80
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		0.94	0.94	0.94		0.94
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2
Cap, veh/h	344	377	317	116	160	83		341	1842	262		104
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20		0.19	0.59	0.59		0.06
Sat Flow, veh/h	1304	1870	1573	320	796	414		1781	3121	444		1781
Grp Volume(v), veh/h	84	45	284	122	0	0		298	423	427		80
Grp Sat Flow(s),veh/h/ln	1304	1870	1573	1530	0	0		1781	1777	1789		1781
Q Serve(g_s), s	0.0	1.8	15.8	0.9	0.0	0.0		14.6	11.5	11.5		4.0
Cycle Q Clear(g_c), s	4.9	1.8	15.8	5.5	0.0	0.0		14.6	11.5	11.5		4.0
Prop In Lane	1.00		1.00	0.30		0.27		1.00		0.25		1.00
Lane Grp Cap(c), veh/h	344	377	317	360	0	0		341	1049	1056		104
V/C Ratio(X)	0.24	0.12	0.90	0.34	0.00	0.00		0.87	0.40	0.40		0.77
Avail Cap(c_a), veh/h	364	405	341	382	0	0		505	1049	1056		269
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00		1.00	1.00	1.00		0.84
Uniform Delay (d), s/veh	30.6	29.4	35.0	30.8	0.0	0.0		35.3	9.9	9.9		41.8
Incr Delay (d2), s/veh	0.4	0.1	24.0	0.6	0.0	0.0		11.0	1.2	1.2		9.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	1.6	0.8	8.0	2.3	0.0	0.0		7.2	4.4	4.4		2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.0	29.5	59.0	31.4	0.0	0.0		46.4	11.1	11.1		51.4
LnGrp LOS	C	C	E	C	A	A		D	B	B		D
Approach Vol, veh/h		413			122				1148			
Approach Delay, s/veh		50.1			31.4				20.2			
Approach LOS		D			C				C			

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	57.6		22.6	21.7	45.7		22.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	13.6	43.4		19.5	25.5	31.5		19.5				
Max Q Clear Time (g_c+I1), s	6.0	13.5		17.8	16.6	15.4		7.5				
Green Ext Time (p_c), s	0.1	6.2		0.3	0.6	4.5		0.5				

Intersection Summary		
HCM 6th Ctrl Delay		26.1
HCM 6th LOS		C

Notes

User approved ignoring U-Turning movement.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	652	70
Future Volume (veh/h)	652	70
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		0.97
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1870
Adj Flow Rate, veh/h	694	74
Peak Hour Factor	0.94	0.94
Percent Heavy Veh, %	2	2
Cap, veh/h	1477	157
Arrive On Green	0.46	0.46
Sat Flow, veh/h	3230	344
Grp Volume(v), veh/h	381	387
Grp Sat Flow(s),veh/h/ln	1777	1798
Q Serve(g_s), s	13.4	13.4
Cycle Q Clear(g_c), s	13.4	13.4
Prop In Lane		0.19
Lane Grp Cap(c), veh/h	813	822
V/C Ratio(X)	0.47	0.47
Avail Cap(c_a), veh/h	813	822
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.84	0.84
Uniform Delay (d), s/veh	16.9	16.9
Incr Delay (d2), s/veh	1.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	5.6
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	18.5	18.5
LnGrp LOS	B	B
Approach Vol, veh/h	848	
Approach Delay, s/veh	21.6	
Approach LOS	C	
Timer - Assigned Phs		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	189	8	9	5	16	77	1	8	813	18	4	107
Future Volume (veh/h)	189	8	9	5	16	77	1	8	813	18	4	107
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97		1.00		0.98		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870		1870	1870	1870		1870
Adj Flow Rate, veh/h	201	9	10	5	17	82		9	865	19		114
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		0.94	0.94	0.94		0.94
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2
Cap, veh/h	239	174	194	12	25	119		20	1670	37		144
Arrive On Green	0.13	0.22	0.22	0.01	0.09	0.09		0.01	0.47	0.47		0.08
Sat Flow, veh/h	1781	802	891	1781	273	1318		1781	3553	78		1781
Grp Volume(v), veh/h	201	0	19	5	0	99		9	433	451		114
Grp Sat Flow(s),veh/h/ln	1781	0	1693	1781	0	1592		1781	1777	1854		1781
Q Serve(g_s), s	8.8	0.0	0.7	0.2	0.0	4.8		0.4	13.6	13.6		5.0
Cycle Q Clear(g_c), s	8.8	0.0	0.7	0.2	0.0	4.8		0.4	13.6	13.6		5.0
Prop In Lane	1.00		0.53	1.00		0.83		1.00		0.04		1.00
Lane Grp Cap(c), veh/h	239	0	368	12	0	143		20	835	871		144
V/C Ratio(X)	0.84	0.00	0.05	0.43	0.00	0.69		0.45	0.52	0.52		0.79
Avail Cap(c_a), veh/h	256	0	519	111	0	358		111	835	871		167
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		1.00
Uniform Delay (d), s/veh	33.8	0.0	24.8	39.6	0.0	35.3		39.3	14.9	14.9		36.1
Incr Delay (d2), s/veh	20.6	0.0	0.1	22.8	0.0	5.9		14.7	2.3	2.2		19.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	5.1	0.0	0.3	0.2	0.0	2.1		0.3	5.6	5.8		2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.4	0.0	24.8	62.3	0.0	41.2		53.9	17.1	17.0		55.6
LnGrp LOS	D	A	C	E	A	D		D	B	B		E
Approach Vol, veh/h		220			104				893			
Approach Delay, s/veh		51.8			42.2				17.5			
Approach LOS		D			D				B			

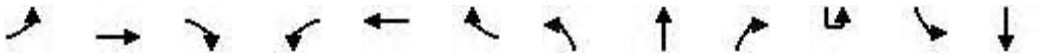
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	42.1	5.0	21.9	5.4	47.7	15.2	11.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	25.0	5.0	24.5	5.0	27.5	11.5	18.0
Max Q Clear Time (g_c+I1), s	7.0	15.6	2.2	2.7	2.4	14.9	10.8	6.8
Green Ext Time (p_c), s	0.0	3.8	0.0	0.0	0.0	4.8	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	22.2
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	613	232
Future Volume (veh/h)	613	232
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1870
Adj Flow Rate, veh/h	652	247
Peak Hour Factor	0.94	0.94
Percent Heavy Veh, %	2	2
Cap, veh/h	1360	515
Arrive On Green	0.54	0.54
Sat Flow, veh/h	2519	954
Grp Volume(v), veh/h	460	439
Grp Sat Flow(s),veh/h/ln	1777	1697
Q Serve(g_s), s	12.9	12.9
Cycle Q Clear(g_c), s	12.9	12.9
Prop In Lane		0.56
Lane Grp Cap(c), veh/h	959	916
V/C Ratio(X)	0.48	0.48
Avail Cap(c_a), veh/h	959	916
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	11.4	11.4
Incr Delay (d2), s/veh	1.7	1.8
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	4.8
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	13.2	13.2
LnGrp LOS	B	B
Approach Vol, veh/h	1013	
Approach Delay, s/veh	18.0	
Approach LOS	B	
Timer - Assigned Phs		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	544	24	34	3	16	43	23	253	7	2	57	295
Future Volume (veh/h)	544	24	34	3	16	43	23	253	7	2	57	295
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	1.00		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870		1870	1870
Adj Flow Rate, veh/h	579	26	36	3	17	46	24	269	7		61	314
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2		2	2
Cap, veh/h	604	733	613	7	101	88	45	1275	33		78	675
Arrive On Green	0.34	0.39	0.39	0.00	0.06	0.06	0.03	0.36	0.36		0.04	0.38
Sat Flow, veh/h	1781	1870	1564	1781	1777	1539	1781	3538	92		1781	1780
Grp Volume(v), veh/h	579	26	36	3	17	46	24	135	141		61	313
Grp Sat Flow(s),veh/h/ln	1781	1870	1564	1781	1777	1539	1781	1777	1854		1781	1777
Q Serve(g_s), s	28.7	0.8	1.3	0.2	0.8	2.6	1.2	4.7	4.7		3.1	12.0
Cycle Q Clear(g_c), s	28.7	0.8	1.3	0.2	0.8	2.6	1.2	4.7	4.7		3.1	12.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.05		1.00	
Lane Grp Cap(c), veh/h	604	733	613	7	101	88	45	640	668		78	674
V/C Ratio(X)	0.96	0.04	0.06	0.42	0.17	0.52	0.54	0.21	0.21		0.78	0.47
Avail Cap(c_a), veh/h	604	904	756	99	355	308	99	640	668		99	674
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Uniform Delay (d), s/veh	29.1	16.9	17.0	44.7	40.4	41.3	43.4	19.9	19.9		42.6	21.1
Incr Delay (d2), s/veh	26.7	0.0	0.0	34.7	0.8	4.8	9.7	0.7	0.7		25.8	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	16.2	0.3	0.5	0.1	0.4	1.1	0.6	2.0	2.1		1.9	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.9	16.9	17.1	79.4	41.2	46.0	53.0	20.7	20.7		68.4	23.4
LnGrp LOS	E	B	B	E	D	D	D	C	C		E	C
Approach Vol, veh/h		641			66			300				660
Approach Delay, s/veh		52.1			46.3			23.3				27.7
Approach LOS		D			D			C				C

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	36.9	4.9	39.8	6.8	38.6	35.0	9.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	18.5	5.0	43.5	5.0	18.5	30.5	18.0
Max Q Clear Time (g_c+I1), s	5.1	6.7	2.2	3.3	3.2	14.3	30.7	4.6
Green Ext Time (p_c), s	0.0	1.1	0.0	0.2	0.0	1.5	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	37.0
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	268
Future Volume (veh/h)	268
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1870
Adj Flow Rate, veh/h	285
Peak Hour Factor	0.94
Percent Heavy Veh, %	2
Cap, veh/h	599
Arrive On Green	0.38
Sat Flow, veh/h	1579
Grp Volume(v), veh/h	286
Grp Sat Flow(s),veh/h/ln	1583
Q Serve(g_s), s	12.3
Cycle Q Clear(g_c), s	12.3
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	600
V/C Ratio(X)	0.48
Avail Cap(c_a), veh/h	600
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	21.2
Incr Delay (d2), s/veh	2.7
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	4.9
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	23.9
LnGrp LOS	C
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (veh/h)	81	496	816	263	17	187	454	152	2	179	612	121
Future Volume (veh/h)	81	496	816	263	17	187	454	152	2	179	612	121
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.97		1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Work Zone On Approach			No				No				No	
Adj Sat Flow, veh/h/ln		1870	1870	1870		1870	1870	1870		1870	1870	1870
Adj Flow Rate, veh/h		517	850	274		195	473	158		186	638	126
Peak Hour Factor		0.96	0.96	0.96		0.96	0.96	0.96		0.96	0.96	0.96
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2
Cap, veh/h		600	1012	324		255	632	203		243	1191	235
Arrive On Green		0.17	0.27	0.27		0.07	0.17	0.17		0.07	0.40	0.40
Sat Flow, veh/h		3456	3805	1219		3456	3797	1218		3456	2950	582
Grp Volume(v), veh/h		517	760	364		195	422	209		186	384	380
Grp Sat Flow(s),veh/h/ln		1728	1702	1619		1728	1702	1611		1728	1777	1755
Q Serve(g_s), s		17.4	25.3	25.5		6.6	14.2	14.9		6.3	19.7	19.8
Cycle Q Clear(g_c), s		17.4	25.3	25.5		6.6	14.2	14.9		6.3	19.7	19.8
Prop In Lane		1.00		0.75		1.00		0.76		1.00		0.33
Lane Grp Cap(c), veh/h		600	906	431		255	566	268		243	718	709
V/C Ratio(X)		0.86	0.84	0.85		0.76	0.75	0.78		0.77	0.53	0.54
Avail Cap(c_a), veh/h		821	1001	476		366	566	268		291	718	709
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00		0.89	0.89	0.89
Uniform Delay (d), s/veh		48.2	41.6	41.7		54.5	47.6	47.9		54.8	27.2	27.2
Incr Delay (d2), s/veh		7.1	6.0	12.2		5.8	5.3	13.7		8.7	2.5	2.6
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		8.1	11.3	11.6		3.1	6.4	7.0		3.1	8.8	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		55.3	47.6	53.9		60.4	52.9	61.6		63.5	29.7	29.8
LnGrp LOS		E	D	D		E	D	E		E	C	C
Approach Vol, veh/h			1641				826				950	
Approach Delay, s/veh			51.4				56.9				36.4	
Approach LOS			D				E				D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.3	53.0	13.4	36.4	12.9	57.3	25.3	24.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	17.5	36.5	12.7	35.3	10.1	43.9	28.5	19.5
Max Q Clear Time (g_c+I1), s	12.7	21.8	8.6	27.5	8.3	18.4	19.4	16.9
Green Ext Time (p_c), s	0.2	4.3	0.2	4.4	0.1	4.6	1.4	1.0

Intersection Summary	
HCM 6th Ctrl Delay	45.6
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.



Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	155	517	138
Future Volume (veh/h)	155	517	138
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00
Work Zone On Approach		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870
Adj Flow Rate, veh/h	161	539	144
Peak Hour Factor	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2
Cap, veh/h	189	1216	324
Arrive On Green	0.11	0.44	0.44
Sat Flow, veh/h	1781	2765	735
Grp Volume(v), veh/h	161	345	338
Grp Sat Flow(s),veh/h/ln	1781	1777	1724
Q Serve(g_s), s	10.7	16.2	16.4
Cycle Q Clear(g_c), s	10.7	16.2	16.4
Prop In Lane	1.00		0.43
Lane Grp Cap(c), veh/h	189	782	758
V/C Ratio(X)	0.85	0.44	0.45
Avail Cap(c_a), veh/h	260	782	758
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.7	23.4	23.4
Incr Delay (d2), s/veh	17.3	1.8	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	7.2	7.0
Unsig. Movement Delay, s/veh			
LnGrp Delay(d),s/veh	70.0	25.2	25.3
LnGrp LOS	E	C	C
Approach Vol, veh/h		844	
Approach Delay, s/veh		33.8	
Approach LOS		C	
Timer - Assigned Phs			

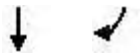
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	79	42	279	40	50	31	1	287	741	104	49	75
Future Volume (veh/h)	79	42	279	40	50	31	1	287	741	104	49	75
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	0.99		0.99	1.00		0.97		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870		1870	1870	1870		1870
Adj Flow Rate, veh/h	84	45	297	43	53	33		305	788	111		80
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		0.94	0.94	0.94		0.94
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2
Cap, veh/h	347	388	327	131	153	79		348	1826	257		104
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21		0.20	0.58	0.58		0.06
Sat Flow, veh/h	1305	1870	1574	372	735	381		1781	3126	440		1781
Grp Volume(v), veh/h	84	45	297	129	0	0		305	448	451		80
Grp Sat Flow(s),veh/h/ln	1305	1870	1574	1488	0	0		1781	1777	1789		1781
Q Serve(g_s), s	0.0	1.8	16.6	2.2	0.0	0.0		15.0	12.6	12.6		4.0
Cycle Q Clear(g_c), s	5.1	1.8	16.6	6.1	0.0	0.0		15.0	12.6	12.6		4.0
Prop In Lane	1.00		1.00	0.33		0.26		1.00		0.25		1.00
Lane Grp Cap(c), veh/h	347	388	327	362	0	0		348	1038	1045		104
V/C Ratio(X)	0.24	0.12	0.91	0.36	0.00	0.00		0.88	0.43	0.43		0.77
Avail Cap(c_a), veh/h	353	397	334	369	0	0		517	1038	1045		267
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00		1.00	1.00	1.00		0.83
Uniform Delay (d), s/veh	30.3	28.9	34.8	30.5	0.0	0.0		35.2	10.4	10.4		41.8
Incr Delay (d2), s/veh	0.4	0.1	27.3	0.6	0.0	0.0		11.0	1.3	1.3		9.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	1.6	0.8	8.7	2.4	0.0	0.0		7.4	4.9	4.9		2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.6	29.1	62.1	31.1	0.0	0.0		46.1	11.7	11.7		51.3
LnGrp LOS	C	C	E	C	A	A		D	B	B		D
Approach Vol, veh/h		426			129				1204			
Approach Delay, s/veh		52.4			31.1				20.4			
Approach LOS		D			C				C			

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	57.1		23.2	22.1	44.7		23.2				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	13.5	43.9		19.1	26.1	31.3		19.1				
Max Q Clear Time (g_c+I1), s	6.0	14.6		18.6	17.0	17.3		8.1				
Green Ext Time (p_c), s	0.1	6.6		0.1	0.6	4.6		0.5				

Intersection Summary		
HCM 6th Ctrl Delay		26.8
HCM 6th LOS		C

Notes

User approved ignoring U-Turning movement.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	723	70
Future Volume (veh/h)	723	70
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		0.97
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1870
Adj Flow Rate, veh/h	769	74
Peak Hour Factor	0.94	0.94
Percent Heavy Veh, %	2	2
Cap, veh/h	1460	140
Arrive On Green	0.45	0.45
Sat Flow, veh/h	3267	314
Grp Volume(v), veh/h	418	425
Grp Sat Flow(s),veh/h/ln	1777	1804
Q Serve(g_s), s	15.3	15.3
Cycle Q Clear(g_c), s	15.3	15.3
Prop In Lane		0.17
Lane Grp Cap(c), veh/h	794	806
V/C Ratio(X)	0.53	0.53
Avail Cap(c_a), veh/h	794	806
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.83	0.83
Uniform Delay (d), s/veh	18.0	18.0
Incr Delay (d2), s/veh	2.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	6.5
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	20.1	20.0
LnGrp LOS	C	C
Approach Vol, veh/h	923	
Approach Delay, s/veh	22.8	
Approach LOS	C	
Timer - Assigned Phs		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	189	8	21	5	16	77	1	15	866	18	4	107
Future Volume (veh/h)	189	8	21	5	16	77	1	15	866	18	4	107
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97		1.00		0.98		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870		1870	1870	1870		1870
Adj Flow Rate, veh/h	201	9	22	5	17	82		16	921	19		114
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		0.94	0.94	0.94		0.94
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2
Cap, veh/h	239	104	254	12	25	120		33	1668	34		144
Arrive On Green	0.13	0.22	0.22	0.01	0.09	0.09		0.02	0.47	0.47		0.08
Sat Flow, veh/h	1781	476	1163	1781	273	1319		1781	3558	73		1781
Grp Volume(v), veh/h	201	0	31	5	0	99		16	460	480		114
Grp Sat Flow(s),veh/h/ln	1781	0	1639	1781	0	1592		1781	1777	1855		1781
Q Serve(g_s), s	8.8	0.0	1.2	0.2	0.0	4.8		0.7	14.8	14.8		5.0
Cycle Q Clear(g_c), s	8.8	0.0	1.2	0.2	0.0	4.8		0.7	14.8	14.8		5.0
Prop In Lane	1.00		0.71	1.00		0.83		1.00		0.04		1.00
Lane Grp Cap(c), veh/h	239	0	358	12	0	145		33	833	870		144
V/C Ratio(X)	0.84	0.00	0.09	0.43	0.00	0.68		0.48	0.55	0.55		0.79
Avail Cap(c_a), veh/h	256	0	502	111	0	358		111	833	870		167
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		1.00
Uniform Delay (d), s/veh	33.8	0.0	24.9	39.6	0.0	35.2		38.9	15.2	15.2		36.1
Incr Delay (d2), s/veh	20.6	0.0	0.1	22.8	0.0	5.5		10.3	2.6	2.5		19.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	5.1	0.0	0.5	0.2	0.0	2.1		0.4	6.1	6.4		2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.4	0.0	25.0	62.3	0.0	40.8		49.2	17.9	17.7		55.6
LnGrp LOS	D	A	C	E	A	D		D	B	B		E
Approach Vol, veh/h		232			104				956			
Approach Delay, s/veh		50.5			41.8				18.3			
Approach LOS		D			D				B			

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	42.0	5.0	22.0	6.0	47.0	15.2	11.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	25.0	5.0	24.5	5.0	27.5	11.5	18.0
Max Q Clear Time (g_c+I1), s	7.0	16.8	2.2	3.2	2.7	16.9	10.8	6.8
Green Ext Time (p_c), s	0.0	3.7	0.0	0.1	0.0	4.8	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	22.6
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	702	232
Future Volume (veh/h)	702	232
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1870
Adj Flow Rate, veh/h	747	247
Peak Hour Factor	0.94	0.94
Percent Heavy Veh, %	2	2
Cap, veh/h	1393	460
Arrive On Green	0.53	0.53
Sat Flow, veh/h	2622	867
Grp Volume(v), veh/h	506	488
Grp Sat Flow(s),veh/h/ln	1777	1712
Q Serve(g_s), s	14.9	14.9
Cycle Q Clear(g_c), s	14.9	14.9
Prop In Lane		0.51
Lane Grp Cap(c), veh/h	944	909
V/C Ratio(X)	0.54	0.54
Avail Cap(c_a), veh/h	944	909
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	12.3	12.3
Incr Delay (d2), s/veh	2.2	2.3
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	5.7
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	14.5	14.6
LnGrp LOS	B	B
Approach Vol, veh/h	1108	
Approach Delay, s/veh	18.8	
Approach LOS	B	
Timer - Assigned Phs		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	544	24	52	3	16	43	34	313	7	2	57	395
Future Volume (veh/h)	544	24	52	3	16	43	34	313	7	2	57	395
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	1.00		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870		1870	1870
Adj Flow Rate, veh/h	579	26	55	3	17	46	36	333	7		61	420
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2		2	2
Cap, veh/h	604	734	614	7	103	89	59	1279	27		78	752
Arrive On Green	0.34	0.39	0.39	0.00	0.06	0.06	0.03	0.36	0.36		0.04	0.37
Sat Flow, veh/h	1781	1870	1564	1781	1777	1540	1781	3559	75		1781	2032
Grp Volume(v), veh/h	579	26	55	3	17	46	36	166	174		61	367
Grp Sat Flow(s),veh/h/ln	1781	1870	1564	1781	1777	1540	1781	1777	1857		1781	1777
Q Serve(g_s), s	28.7	0.8	2.0	0.2	0.8	2.6	1.8	5.9	6.0		3.1	14.7
Cycle Q Clear(g_c), s	28.7	0.8	2.0	0.2	0.8	2.6	1.8	5.9	6.0		3.1	14.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04		1.00	
Lane Grp Cap(c), veh/h	604	734	614	7	103	89	59	639	667		78	658
V/C Ratio(X)	0.96	0.04	0.09	0.42	0.17	0.52	0.61	0.26	0.26		0.78	0.56
Avail Cap(c_a), veh/h	604	904	756	99	355	308	99	639	667		99	658
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Uniform Delay (d), s/veh	29.1	16.8	17.2	44.7	40.3	41.2	42.9	20.4	20.4		42.6	22.5
Incr Delay (d2), s/veh	26.7	0.0	0.1	34.7	0.7	4.6	9.9	1.0	0.9		25.8	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	16.2	0.3	0.7	0.1	0.4	1.1	0.9	2.6	2.7		1.9	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.9	16.9	17.3	79.4	41.1	45.7	52.9	21.4	21.3		68.4	25.9
LnGrp LOS	E	B	B	E	D	D	D	C	C		E	C
Approach Vol, veh/h		660			66			376				766
Approach Delay, s/veh		51.1			46.1			24.4				29.5
Approach LOS		D			D			C				C

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	36.8	4.9	39.8	7.5	37.8	35.0	9.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	18.5	5.0	43.5	5.0	18.5	30.5	18.0
Max Q Clear Time (g_c+I1), s	5.1	8.0	2.2	4.0	3.8	16.9	30.7	4.6
Green Ext Time (p_c), s	0.0	1.4	0.0	0.3	0.0	0.7	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	36.7
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	268
Future Volume (veh/h)	268
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1870
Adj Flow Rate, veh/h	285
Peak Hour Factor	0.94
Percent Heavy Veh, %	2
Cap, veh/h	506
Arrive On Green	0.37
Sat Flow, veh/h	1367
Grp Volume(v), veh/h	338
Grp Sat Flow(s),veh/h/ln	1622
Q Serve(g_s), s	14.9
Cycle Q Clear(g_c), s	14.9
Prop In Lane	0.84
Lane Grp Cap(c), veh/h	601
V/C Ratio(X)	0.56
Avail Cap(c_a), veh/h	601
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	22.5
Incr Delay (d2), s/veh	3.8
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	6.1
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	26.3
LnGrp LOS	C
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (veh/h)	89	173	382	133	17	221	494	103	1	270	311	124
Future Volume (veh/h)	89	173	382	133	17	221	494	103	1	270	311	124
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.99		1.00		1.00		1.00		0.99
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Work Zone On Approach			No				No				No	
Adj Sat Flow, veh/h/ln		1772	1772	1772		1772	1772	1772		1772	1772	1772
Adj Flow Rate, veh/h		182	402	140		233	520	108		284	327	131
Peak Hour Factor		0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95	0.95
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2
Cap, veh/h		249	551	183		301	686	139		349	1221	479
Arrive On Green		0.08	0.15	0.15		0.09	0.17	0.17		0.11	0.52	0.52
Sat Flow, veh/h		3274	3577	1187		3274	4030	819		3274	2352	923
Grp Volume(v), veh/h		182	361	181		233	414	214		284	232	226
Grp Sat Flow(s),veh/h/ln		1637	1612	1539		1637	1612	1625		1637	1683	1592
Q Serve(g_s), s		6.0	11.7	12.4		7.7	13.4	13.9		9.3	8.5	8.7
Cycle Q Clear(g_c), s		6.0	11.7	12.4		7.7	13.4	13.9		9.3	8.5	8.7
Prop In Lane		1.00		0.77		1.00		0.50		1.00		0.58
Lane Grp Cap(c), veh/h		249	497	237		301	549	276		349	874	826
V/C Ratio(X)		0.73	0.73	0.77		0.77	0.75	0.78		0.81	0.27	0.27
Avail Cap(c_a), veh/h		551	718	343		521	689	347		461	874	826
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00		0.96	0.96	0.96
Uniform Delay (d), s/veh		49.7	44.3	44.6		48.8	43.5	43.6		48.1	14.8	14.8
Incr Delay (d2), s/veh		4.1	2.1	6.1		4.3	3.6	8.3		7.9	0.7	0.8
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.6	4.8	5.1		3.3	5.6	6.2		4.2	3.3	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		53.9	46.4	50.7		53.1	47.1	51.9		56.0	15.5	15.6
LnGrp LOS		D	D	D		D	D	D		E	B	B
Approach Vol, veh/h			724				861				742	
Approach Delay, s/veh			49.3				49.9				31.0	
Approach LOS			D				D				C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	61.6	14.6	21.5	16.2	57.7	12.9	23.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.5	34.5	17.5	24.5	15.5	34.5	18.5	23.5
Max Q Clear Time (g_c+I1), s	8.2	10.7	9.7	14.4	11.3	14.0	8.0	15.9
Green Ext Time (p_c), s	0.1	2.9	0.5	2.5	0.4	3.5	0.4	2.4

Intersection Summary	
HCM 6th Ctrl Delay	39.6
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.

Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	91	379	161
Future Volume (veh/h)	91	379	161
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00
Work Zone On Approach		No	
Adj Sat Flow, veh/h/ln	1772	1772	1772
Adj Flow Rate, veh/h	96	399	169
Peak Hour Factor	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2
Cap, veh/h	120	1119	468
Arrive On Green	0.07	0.48	0.48
Sat Flow, veh/h	1688	2313	968
Grp Volume(v), veh/h	96	289	279
Grp Sat Flow(s),veh/h/ln	1688	1683	1598
Q Serve(g_s), s	6.2	11.8	12.0
Cycle Q Clear(g_c), s	6.2	11.8	12.0
Prop In Lane	1.00		0.61
Lane Grp Cap(c), veh/h	120	814	773
V/C Ratio(X)	0.80	0.35	0.36
Avail Cap(c_a), veh/h	238	814	773
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.3	17.7	17.8
Incr Delay (d2), s/veh	11.4	1.2	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	4.8	4.6
Unsig. Movement Delay, s/veh			
LnGrp Delay(d),s/veh	61.7	18.9	19.1
LnGrp LOS	E	B	B
Approach Vol, veh/h		664	
Approach Delay, s/veh		25.2	
Approach LOS		C	
Timer - Assigned Phs			

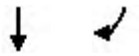
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	34	6	85	10	6	6	28	221	648	31	27	38
Future Volume (veh/h)	34	6	85	10	6	6	28	221	648	31	27	38
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	0.98		0.97	0.99		0.97		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772		1772	1772	1772		1772
Adj Flow Rate, veh/h	37	6	91	11	6	6		238	697	33		41
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93		0.93	0.93	0.93		0.93
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2
Cap, veh/h	245	186	153	124	62	41		283	2214	105		65
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11		0.17	0.68	0.68		0.04
Sat Flow, veh/h	1380	1772	1452	508	594	389		1688	3272	155		1688
Grp Volume(v), veh/h	37	6	91	23	0	0		238	358	372		41
Grp Sat Flow(s),veh/h/ln	1380	1772	1452	1491	0	0		1688	1683	1743		1688
Q Serve(g_s), s	0.7	0.2	4.5	0.0	0.0	0.0		10.2	6.6	6.6		1.8
Cycle Q Clear(g_c), s	1.7	0.2	4.5	0.9	0.0	0.0		10.2	6.6	6.6		1.8
Prop In Lane	1.00		1.00	0.48		0.26		1.00		0.09		1.00
Lane Grp Cap(c), veh/h	245	186	153	228	0	0		283	1139	1180		65
V/C Ratio(X)	0.15	0.03	0.60	0.10	0.00	0.00		0.84	0.31	0.32		0.63
Avail Cap(c_a), veh/h	433	428	350	422	0	0		461	1139	1180		173
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00		1.00	1.00	1.00		0.86
Uniform Delay (d), s/veh	30.7	30.1	32.0	30.4	0.0	0.0		30.2	5.0	5.0		35.5
Incr Delay (d2), s/veh	0.3	0.1	3.7	0.2	0.0	0.0		7.3	0.7	0.7		8.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	0.6	0.1	1.7	0.4	0.0	0.0		4.6	2.0	2.0		0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.0	30.2	35.7	30.6	0.0	0.0		37.5	5.7	5.7		44.1
LnGrp LOS	C	C	D	C	A	A		D	A	A		D
Approach Vol, veh/h		134			23				968			
Approach Delay, s/veh		34.2			30.6				13.5			
Approach LOS		C			C				B			

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.4	55.2		12.4	17.1	45.5		12.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.7	35.7		18.1	20.5	22.9		18.1				
Max Q Clear Time (g_c+I1), s	3.8	8.6		6.5	12.2	10.2		2.9				
Green Ext Time (p_c), s	0.0	5.0		0.3	0.4	3.3		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			14.8									
HCM 6th LOS			B									

Notes

User approved ignoring U-Turning movement.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	545	66
Future Volume (veh/h)	545	66
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1772	1772
Adj Flow Rate, veh/h	586	71
Peak Hour Factor	0.93	0.93
Percent Heavy Veh, %	2	2
Cap, veh/h	1653	200
Arrive On Green	0.55	0.55
Sat Flow, veh/h	3022	365
Grp Volume(v), veh/h	326	331
Grp Sat Flow(s),veh/h/ln	1683	1704
Q Serve(g_s), s	8.2	8.2
Cycle Q Clear(g_c), s	8.2	8.2
Prop In Lane		0.21
Lane Grp Cap(c), veh/h	921	932
V/C Ratio(X)	0.35	0.36
Avail Cap(c_a), veh/h	921	932
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.86	0.86
Uniform Delay (d), s/veh	9.5	9.6
Incr Delay (d2), s/veh	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	2.9
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	10.5	10.5
LnGrp LOS	B	B
Approach Vol, veh/h	698	
Approach Delay, s/veh	12.4	
Approach LOS	B	
Timer - Assigned Phs		

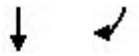
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	123	11	40	26	31	103	4	45	631	18	59	81
Future Volume (veh/h)	123	11	40	26	31	103	4	45	631	18	59	81
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.95		1.00		0.97		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772		1772	1772	1772		1772
Adj Flow Rate, veh/h	138	12	45	29	35	116		51	709	20		91
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89		0.89	0.89	0.89		0.89
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2
Cap, veh/h	165	66	247	44	47	155		65	1833	52		114
Arrive On Green	0.10	0.21	0.21	0.03	0.14	0.14		0.04	0.55	0.55		0.07
Sat Flow, veh/h	1688	317	1190	1688	345	1145		1688	3341	94		1688
Grp Volume(v), veh/h	138	0	57	29	0	151		51	357	372		91
Grp Sat Flow(s),veh/h/ln	1688	0	1507	1688	0	1490		1688	1683	1752		1688
Q Serve(g_s), s	9.6	0.0	3.7	2.0	0.0	11.7		3.6	14.6	14.6		6.4
Cycle Q Clear(g_c), s	9.6	0.0	3.7	2.0	0.0	11.7		3.6	14.6	14.6		6.4
Prop In Lane	1.00		0.79	1.00		0.77		1.00		0.05		1.00
Lane Grp Cap(c), veh/h	165	0	313	44	0	202		65	924	961		114
V/C Ratio(X)	0.84	0.00	0.18	0.67	0.00	0.75		0.79	0.39	0.39		0.80
Avail Cap(c_a), veh/h	288	0	433	105	0	267		120	924	961		316
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		1.00
Uniform Delay (d), s/veh	53.2	0.0	39.1	57.9	0.0	49.9		57.2	15.5	15.5		55.1
Incr Delay (d2), s/veh	10.5	0.0	0.3	16.1	0.0	7.8		18.9	1.2	1.2		11.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	4.6	0.0	1.4	1.1	0.0	4.8		1.9	5.8	6.1		3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.7	0.0	39.4	74.0	0.0	57.7		76.2	16.7	16.7		66.9
LnGrp LOS	E	A	D	E	A	E		E	B	B		E
Approach Vol, veh/h		195			180				780			
Approach Delay, s/veh		56.6			60.3				20.6			
Approach LOS		E			E				C			

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.6	70.3	7.6	29.4	9.1	73.9	16.2	20.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	22.5	37.5	7.5	34.5	8.5	51.5	20.5	21.5
Max Q Clear Time (g_c+I1), s	8.4	16.6	4.0	5.7	5.6	14.2	11.6	13.7
Green Ext Time (p_c), s	0.2	4.6	0.0	0.3	0.0	4.6	0.2	0.5

Intersection Summary	
HCM 6th Ctrl Delay	28.1
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	469	107
Future Volume (veh/h)	469	107
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		0.99
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1772	1772
Adj Flow Rate, veh/h	527	120
Peak Hour Factor	0.89	0.89
Percent Heavy Veh, %	2	2
Cap, veh/h	1574	357
Arrive On Green	0.58	0.58
Sat Flow, veh/h	2723	617
Grp Volume(v), veh/h	325	322
Grp Sat Flow(s),veh/h/ln	1683	1657
Q Serve(g_s), s	12.1	12.2
Cycle Q Clear(g_c), s	12.1	12.2
Prop In Lane		0.37
Lane Grp Cap(c), veh/h	973	958
V/C Ratio(X)	0.33	0.34
Avail Cap(c_a), veh/h	973	958
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	13.2	13.3
Incr Delay (d2), s/veh	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	4.7
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	14.2	14.2
LnGrp LOS	B	B
Approach Vol, veh/h	738	
Approach Delay, s/veh	20.7	
Approach LOS	C	
Timer - Assigned Phs		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	155	23	43	31	21	48	48	461	27	5	27	311
Future Volume (veh/h)	155	23	43	31	21	48	48	461	27	5	27	311
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.99		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772	1772	1772	1772		1772	1772
Adj Flow Rate, veh/h	172	26	48	34	23	53	53	512	30		30	346
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90		0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2		2	2
Cap, veh/h	143	250	210	60	155	136	80	1662	97		54	990
Arrive On Green	0.08	0.14	0.14	0.04	0.09	0.09	0.05	0.51	0.51		0.03	0.50
Sat Flow, veh/h	1688	1772	1486	1688	1683	1477	1688	3231	189		1688	1984
Grp Volume(v), veh/h	172	26	48	34	23	53	53	266	276		30	293
Grp Sat Flow(s),veh/h/ln	1688	1772	1486	1688	1683	1477	1688	1683	1737		1688	1683
Q Serve(g_s), s	5.5	0.8	1.9	1.3	0.8	2.2	2.0	5.9	6.0		1.1	6.9
Cycle Q Clear(g_c), s	5.5	0.8	1.9	1.3	0.8	2.2	2.0	5.9	6.0		1.1	6.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11		1.00	
Lane Grp Cap(c), veh/h	143	250	210	60	155	136	80	866	893		54	840
V/C Ratio(X)	1.20	0.10	0.23	0.57	0.15	0.39	0.66	0.31	0.31		0.55	0.35
Avail Cap(c_a), veh/h	143	504	423	130	466	409	130	866	893		130	840
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Uniform Delay (d), s/veh	29.8	24.3	24.8	30.9	27.2	27.8	30.4	9.1	9.1		31.0	9.9
Incr Delay (d2), s/veh	140.6	0.2	0.5	8.3	0.4	1.8	9.0	0.9	0.9		8.5	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	0.3	0.7	0.6	0.3	0.8	1.0	2.1	2.2		0.6	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	170.4	24.5	25.3	39.2	27.6	29.6	39.5	10.0	10.0		39.5	11.0
LnGrp LOS	F	C	C	D	C	C	D	B	B		D	B
Approach Vol, veh/h		246			110			595				597
Approach Delay, s/veh		126.7			32.2			12.6				12.5
Approach LOS		F			C			B				B

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	37.9	6.8	13.7	7.6	36.9	10.0	10.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	18.5	5.0	18.5	5.0	18.5	5.5	18.0
Max Q Clear Time (g_c+I1), s	3.1	8.0	3.3	3.9	4.0	9.0	7.5	4.2
Green Ext Time (p_c), s	0.0	2.4	0.0	0.2	0.0	2.5	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	32.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	199
Future Volume (veh/h)	199
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1772
Adj Flow Rate, veh/h	221
Peak Hour Factor	0.90
Percent Heavy Veh, %	2
Cap, veh/h	620
Arrive On Green	0.50
Sat Flow, veh/h	1243
Grp Volume(v), veh/h	274
Grp Sat Flow(s),veh/h/ln	1543
Q Serve(g_s), s	7.0
Cycle Q Clear(g_c), s	7.0
Prop In Lane	0.81
Lane Grp Cap(c), veh/h	770
V/C Ratio(X)	0.36
Avail Cap(c_a), veh/h	770
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	9.9
Incr Delay (d2), s/veh	1.3
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	2.3
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	11.2
LnGrp LOS	B
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (veh/h)	111	253	646	144	21	274	835	150	1	273	383	149
Future Volume (veh/h)	111	253	646	144	21	274	835	150	1	273	383	149
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.99		1.00		1.00		1.00		0.99
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Work Zone On Approach			No				No				No	
Adj Sat Flow, veh/h/ln		1772	1772	1772		1772	1772	1772		1772	1772	1772
Adj Flow Rate, veh/h		253	646	144		274	835	150		273	383	149
Peak Hour Factor		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2
Cap, veh/h		320	886	194		341	950	170		334	979	375
Arrive On Green		0.10	0.22	0.22		0.10	0.23	0.23		0.10	0.41	0.41
Sat Flow, veh/h		3274	3959	868		3274	4127	737		3274	2370	908
Grp Volume(v), veh/h		253	524	266		274	651	334		273	270	262
Grp Sat Flow(s),veh/h/ln		1637	1612	1602		1637	1612	1639		1637	1683	1595
Q Serve(g_s), s		8.3	16.6	17.0		9.0	21.4	21.6		9.0	12.4	12.7
Cycle Q Clear(g_c), s		8.3	16.6	17.0		9.0	21.4	21.6		9.0	12.4	12.7
Prop In Lane		1.00		0.54		1.00		0.45		1.00		0.57
Lane Grp Cap(c), veh/h		320	722	359		341	743	377		334	695	659
V/C Ratio(X)		0.79	0.73	0.74		0.80	0.88	0.88		0.82	0.39	0.40
Avail Cap(c_a), veh/h		491	777	386		491	777	395		402	695	659
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00		0.95	0.95	0.95
Uniform Delay (d), s/veh		48.5	39.6	39.7		48.2	40.8	40.9		48.4	22.6	22.7
Incr Delay (d2), s/veh		4.8	3.2	6.9		6.2	10.8	19.9		10.1	1.6	1.7
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		3.6	6.8	7.3		4.0	9.5	10.7		4.1	5.1	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		53.4	42.7	46.6		54.4	51.6	60.8		58.5	24.1	24.4
LnGrp LOS		D	D	D		D	D	E		E	C	C
Approach Vol, veh/h			1043				1259				805	
Approach Delay, s/veh			46.3				54.7				35.9	
Approach LOS			D				D				D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	49.9	16.0	29.1	15.7	49.2	15.3	29.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	16.9	32.1	16.5	26.5	13.5	35.5	16.5	26.5
Max Q Clear Time (g_c+I1), s	10.5	14.7	11.0	19.0	11.0	22.6	10.3	23.6
Green Ext Time (p_c), s	0.2	3.1	0.5	3.1	0.2	4.2	0.4	1.7

Intersection Summary	
HCM 6th Ctrl Delay	44.0
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.



Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	133	550	235
Future Volume (veh/h)	133	550	235
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00
Work Zone On Approach		No	
Adj Sat Flow, veh/h/ln	1772	1772	1772
Adj Flow Rate, veh/h	133	550	235
Peak Hour Factor	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2
Cap, veh/h	161	934	398
Arrive On Green	0.10	0.41	0.41
Sat Flow, veh/h	1688	2299	980
Grp Volume(v), veh/h	133	402	383
Grp Sat Flow(s),veh/h/ln	1688	1683	1596
Q Serve(g_s), s	8.5	20.5	20.6
Cycle Q Clear(g_c), s	8.5	20.5	20.6
Prop In Lane	1.00		0.61
Lane Grp Cap(c), veh/h	161	684	648
V/C Ratio(X)	0.83	0.59	0.59
Avail Cap(c_a), veh/h	259	684	648
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.9	25.5	25.5
Incr Delay (d2), s/veh	11.0	3.7	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	8.8	8.4
Unsig. Movement Delay, s/veh			
LnGrp Delay(d),s/veh	59.9	29.2	29.4
LnGrp LOS	E	C	C
Approach Vol, veh/h		918	
Approach Delay, s/veh		33.7	
Approach LOS		C	
Timer - Assigned Phs			



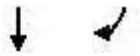
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	43	8	101	10	8	8	35	264	733	33	34	48
Future Volume (veh/h)	43	8	101	10	8	8	35	264	733	33	34	48
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772		1772	1772	1772		1772
Adj Flow Rate, veh/h	43	8	101	10	8	8		264	733	33		48
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2
Cap, veh/h	246	195	160	104	74	52		308	2231	100		69
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11		0.18	0.68	0.68		0.04
Sat Flow, veh/h	1376	1772	1454	380	672	467		1688	3280	148		1688
Grp Volume(v), veh/h	43	8	101	26	0	0		264	376	390		48
Grp Sat Flow(s),veh/h/ln	1376	1772	1454	1519	0	0		1688	1683	1745		1688
Q Serve(g_s), s	0.9	0.3	5.3	0.0	0.0	0.0		12.1	7.4	7.4		2.2
Cycle Q Clear(g_c), s	2.1	0.3	5.3	1.1	0.0	0.0		12.1	7.4	7.4		2.2
Prop In Lane	1.00		1.00	0.38		0.31		1.00		0.08		1.00
Lane Grp Cap(c), veh/h	246	195	160	230	0	0		308	1145	1186		69
V/C Ratio(X)	0.17	0.04	0.63	0.11	0.00	0.00		0.86	0.33	0.33		0.69
Avail Cap(c_a), veh/h	405	401	329	398	0	0		475	1145	1186		205
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00		1.00	1.00	1.00		0.66
Uniform Delay (d), s/veh	32.5	31.8	34.0	32.2	0.0	0.0		31.7	5.3	5.3		37.9
Incr Delay (d2), s/veh	0.3	0.1	4.0	0.2	0.0	0.0		9.4	0.8	0.7		8.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	0.8	0.1	2.0	0.5	0.0	0.0		5.6	2.3	2.4		1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.9	31.9	38.1	32.4	0.0	0.0		41.1	6.0	6.0		45.8
LnGrp LOS	C	C	D	C	A	A		D	A	A		D
Approach Vol, veh/h		152			26				1030			
Approach Delay, s/veh		36.3			32.4				15.0			
Approach LOS		D			C				B			

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	58.9		13.3	19.1	47.6		13.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	9.7	38.7		18.1	22.5	25.9		18.1				
Max Q Clear Time (g_c+I1), s	4.2	9.4		7.3	14.1	12.3		3.1				
Green Ext Time (p_c), s	0.0	5.3		0.3	0.5	3.9		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		16.4	
HCM 6th LOS		B	

Notes

User approved ignoring U-Turning movement.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	654	83
Future Volume (veh/h)	654	83
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1772	1772
Adj Flow Rate, veh/h	654	83
Peak Hour Factor	1.00	1.00
Percent Heavy Veh, %	2	2
Cap, veh/h	1618	205
Arrive On Green	0.54	0.54
Sat Flow, veh/h	3004	381
Grp Volume(v), veh/h	366	371
Grp Sat Flow(s),veh/h/ln	1683	1701
Q Serve(g_s), s	10.3	10.3
Cycle Q Clear(g_c), s	10.3	10.3
Prop In Lane		0.22
Lane Grp Cap(c), veh/h	907	916
V/C Ratio(X)	0.40	0.40
Avail Cap(c_a), veh/h	907	916
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.66	0.66
Uniform Delay (d), s/veh	10.9	10.9
Incr Delay (d2), s/veh	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	3.7
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	11.8	11.8
LnGrp LOS	B	B
Approach Vol, veh/h	785	
Approach Delay, s/veh	13.8	
Approach LOS	B	
Timer - Assigned Phs		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	154	14	45	33	39	129	5	44	691	23	74	101
Future Volume (veh/h)	154	14	45	33	39	129	5	44	691	23	74	101
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96		1.00		0.97		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772		1772	1772	1772		1772
Adj Flow Rate, veh/h	154	14	45	33	39	129		44	691	23		101
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2
Cap, veh/h	187	91	292	55	60	200		66	1380	46		128
Arrive On Green	0.11	0.25	0.25	0.03	0.17	0.17		0.04	0.42	0.42		0.08
Sat Flow, veh/h	1688	361	1161	1688	349	1155		1688	3321	110		1688
Grp Volume(v), veh/h	154	0	59	33	0	168		44	350	364		101
Grp Sat Flow(s),veh/h/ln	1688	0	1522	1688	0	1505		1688	1683	1748		1688
Q Serve(g_s), s	7.1	0.0	2.4	1.5	0.0	8.3		2.1	12.3	12.3		4.7
Cycle Q Clear(g_c), s	7.1	0.0	2.4	1.5	0.0	8.3		2.1	12.3	12.3		4.7
Prop In Lane	1.00		0.76	1.00		0.77		1.00		0.06		1.00
Lane Grp Cap(c), veh/h	187	0	382	55	0	260		66	700	726		128
V/C Ratio(X)	0.82	0.00	0.15	0.60	0.00	0.65		0.67	0.50	0.50		0.79
Avail Cap(c_a), veh/h	200	0	409	127	0	339		154	700	726		243
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		1.00
Uniform Delay (d), s/veh	34.8	0.0	23.3	38.2	0.0	30.8		37.9	17.3	17.3		36.3
Incr Delay (d2), s/veh	22.4	0.0	0.2	10.2	0.0	2.7		11.1	2.5	2.5		10.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	0.9	0.8	0.0	3.1		1.0	5.0	5.1		2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.2	0.0	23.5	48.3	0.0	33.5		49.0	19.8	19.7		46.6
LnGrp LOS	E	A	C	D	A	C		D	B	B		D
Approach Vol, veh/h		213			201				758			
Approach Delay, s/veh		47.9			35.9				21.5			
Approach LOS		D			D				C			

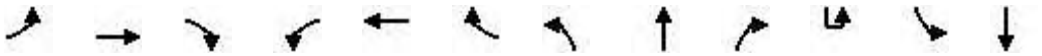
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	37.7	7.1	24.6	7.6	40.7	13.4	18.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.5	23.0	6.0	21.5	7.3	27.2	9.5	18.0
Max Q Clear Time (g_c+I1), s	6.7	14.3	3.5	4.4	4.1	13.4	9.1	10.3
Green Ext Time (p_c), s	0.1	2.9	0.0	0.2	0.0	3.7	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	25.6
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	553	134
Future Volume (veh/h)	553	134
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		0.99
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1772	1772
Adj Flow Rate, veh/h	553	134
Peak Hour Factor	1.00	1.00
Percent Heavy Veh, %	2	2
Cap, veh/h	1215	293
Arrive On Green	0.45	0.45
Sat Flow, veh/h	2685	648
Grp Volume(v), veh/h	346	341
Grp Sat Flow(s),veh/h/ln	1683	1650
Q Serve(g_s), s	11.3	11.4
Cycle Q Clear(g_c), s	11.3	11.4
Prop In Lane		0.39
Lane Grp Cap(c), veh/h	762	747
V/C Ratio(X)	0.45	0.46
Avail Cap(c_a), veh/h	762	747
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	15.1	15.1
Incr Delay (d2), s/veh	2.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	4.4
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	17.0	17.1
LnGrp LOS	B	B
Approach Vol, veh/h	788	
Approach Delay, s/veh	20.9	
Approach LOS	C	
Timer - Assigned Phs		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	194	29	48	39	26	60	40	466	34	6	34	350
Future Volume (veh/h)	194	29	48	39	26	60	40	466	34	6	34	350
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.99		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772	1772	1772	1772		1772	1772
Adj Flow Rate, veh/h	194	29	48	39	26	60	40	466	34		34	350
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2		2	2
Cap, veh/h	233	332	279	64	148	129	65	1535	112		58	905
Arrive On Green	0.14	0.19	0.19	0.04	0.09	0.09	0.04	0.48	0.48		0.03	0.48
Sat Flow, veh/h	1688	1772	1490	1688	1683	1476	1688	3181	231		1688	1891
Grp Volume(v), veh/h	194	29	48	39	26	60	40	246	254		34	311
Grp Sat Flow(s),veh/h/ln	1688	1772	1490	1688	1683	1476	1688	1683	1729		1688	1683
Q Serve(g_s), s	7.8	0.9	1.9	1.6	1.0	2.7	1.6	6.2	6.2		1.4	8.3
Cycle Q Clear(g_c), s	7.8	0.9	1.9	1.6	1.0	2.7	1.6	6.2	6.2		1.4	8.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13		1.00	
Lane Grp Cap(c), veh/h	233	332	279	64	148	129	65	813	835		58	806
V/C Ratio(X)	0.83	0.09	0.17	0.61	0.18	0.46	0.61	0.30	0.30		0.58	0.39
Avail Cap(c_a), veh/h	253	567	477	147	433	380	121	813	835		121	806
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Uniform Delay (d), s/veh	29.4	23.5	23.9	33.2	29.6	30.4	33.1	11.0	11.0		33.3	11.7
Incr Delay (d2), s/veh	19.5	0.1	0.3	9.0	0.6	2.6	9.0	1.0	0.9		8.9	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.4	0.7	0.8	0.4	1.0	0.8	2.3	2.4		0.7	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.9	23.6	24.2	42.1	30.1	32.9	42.2	11.9	11.9		42.2	13.1
LnGrp LOS	D	C	C	D	C	C	D	B	B		D	B
Approach Vol, veh/h		271			125			540				633
Approach Delay, s/veh		41.8			35.2			14.2				14.7
Approach LOS		D			D			B				B

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	38.3	7.2	17.6	7.2	38.0	14.1	10.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	18.5	6.1	22.4	5.0	18.5	10.5	18.0
Max Q Clear Time (g_c+I1), s	3.4	8.2	3.6	3.9	3.6	10.5	9.8	4.7
Green Ext Time (p_c), s	0.0	2.2	0.0	0.2	0.0	2.4	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	20.9
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	249
Future Volume (veh/h)	249
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1772
Adj Flow Rate, veh/h	249
Peak Hour Factor	1.00
Percent Heavy Veh, %	2
Cap, veh/h	632
Arrive On Green	0.48
Sat Flow, veh/h	1321
Grp Volume(v), veh/h	288
Grp Sat Flow(s),veh/h/ln	1528
Q Serve(g_s), s	8.5
Cycle Q Clear(g_c), s	8.5
Prop In Lane	0.86
Lane Grp Cap(c), veh/h	732
V/C Ratio(X)	0.39
Avail Cap(c_a), veh/h	732
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	11.7
Incr Delay (d2), s/veh	1.6
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	2.9
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	13.3
LnGrp LOS	B
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (veh/h)	101	724	1379	255	21	226	767	222	3	180	760	146
Future Volume (veh/h)	101	724	1379	255	21	226	767	222	3	180	760	146
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.97		1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Work Zone On Approach			No				No				No	
Adj Sat Flow, veh/h/ln		1772	1772	1772		1772	1772	1772		1772	1772	1772
Adj Flow Rate, veh/h		724	1379	255		226	767	222		180	760	146
Peak Hour Factor		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2
Cap, veh/h		778	1430	264		277	730	209		221	791	152
Arrive On Green		0.24	0.35	0.35		0.08	0.20	0.20		0.07	0.28	0.28
Sat Flow, veh/h		3274	4088	755		3274	3711	1062		3274	2808	539
Grp Volume(v), veh/h		724	1088	546		226	665	324		180	456	450
Grp Sat Flow(s),veh/h/ln		1637	1612	1618		1637	1612	1549		1637	1683	1664
Q Serve(g_s), s		26.0	39.7	39.8		8.1	23.6	23.6		6.5	32.0	32.0
Cycle Q Clear(g_c), s		26.0	39.7	39.8		8.1	23.6	23.6		6.5	32.0	32.0
Prop In Lane		1.00		0.47		1.00		0.69		1.00		0.32
Lane Grp Cap(c), veh/h		778	1128	566		277	635	305		221	474	468
V/C Ratio(X)		0.93	0.96	0.97		0.82	1.05	1.06		0.81	0.96	0.96
Avail Cap(c_a), veh/h		805	1129	566		278	635	305		221	474	468
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00		0.79	0.79	0.79
Uniform Delay (d), s/veh		44.8	38.3	38.3		54.0	48.2	48.2		55.2	42.5	42.5
Incr Delay (d2), s/veh		17.0	18.7	29.2		16.9	49.1	69.0		16.7	28.4	28.6
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		12.3	18.4	20.1		4.0	13.8	14.9		3.2	16.9	16.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		61.8	57.0	67.5		71.0	97.3	117.2		71.9	70.8	71.1
LnGrp LOS		E	E	E		E	F	F		E	E	E
Approach Vol, veh/h			2358				1215				1086	
Approach Delay, s/veh			60.9				97.7				71.1	
Approach LOS			E				F				E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.6	38.3	14.6	46.5	12.6	46.3	33.0	28.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	16.1	33.7	10.2	42.0	8.1	41.7	29.5	22.7
Max Q Clear Time (g_c+I1), s	18.1	34.0	10.1	41.8	8.5	33.3	28.0	25.6
Green Ext Time (p_c), s	0.0	0.0	0.0	0.2	0.0	3.9	0.5	0.0

Intersection Summary	
HCM 6th Ctrl Delay	70.3
HCM 6th LOS	E

Notes

User approved ignoring U-Turning movement.



Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	226	746	201
Future Volume (veh/h)	226	746	201
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00
Work Zone On Approach		No	
Adj Sat Flow, veh/h/ln	1772	1772	1772
Adj Flow Rate, veh/h	226	746	201
Peak Hour Factor	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2
Cap, veh/h	226	909	245
Arrive On Green	0.13	0.35	0.35
Sat Flow, veh/h	1688	2611	703
Grp Volume(v), veh/h	226	481	466
Grp Sat Flow(s),veh/h/ln	1688	1683	1631
Q Serve(g_s), s	16.1	31.3	31.3
Cycle Q Clear(g_c), s	16.1	31.3	31.3
Prop In Lane	1.00		0.43
Lane Grp Cap(c), veh/h	226	586	568
V/C Ratio(X)	1.00	0.82	0.82
Avail Cap(c_a), veh/h	226	586	568
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.9	35.7	35.7
Incr Delay (d2), s/veh	59.3	12.2	12.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.5	14.7	14.3
Unsig. Movement Delay, s/veh			
LnGrp Delay(d),s/veh	111.2	47.9	48.2
LnGrp LOS	F	D	D
Approach Vol, veh/h		1173	
Approach Delay, s/veh		60.2	
Approach LOS		E	
Timer - Assigned Phs			



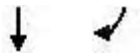
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	99	53	334	43	63	39	1	350	874	125	61	94
Future Volume (veh/h)	99	53	334	43	63	39	1	350	874	125	61	94
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772		1772	1772	1772		1772
Adj Flow Rate, veh/h	99	53	334	43	63	39		350	874	125		94
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2
Cap, veh/h	371	401	337	127	171	88		390	1578	226		120
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23		0.23	0.53	0.53		0.07
Sat Flow, veh/h	1286	1772	1492	305	755	390		1688	2955	423		1688
Grp Volume(v), veh/h	99	53	334	145	0	0		350	498	501		94
Grp Sat Flow(s),veh/h/ln	1286	1772	1492	1450	0	0		1688	1683	1694		1688
Q Serve(g_s), s	0.0	1.9	17.9	1.6	0.0	0.0		16.1	15.7	15.7		4.4
Cycle Q Clear(g_c), s	5.8	1.9	17.9	6.2	0.0	0.0		16.1	15.7	15.7		4.4
Prop In Lane	1.00		1.00	0.30		0.27		1.00		0.25		1.00
Lane Grp Cap(c), veh/h	371	401	337	386	0	0		390	899	905		120
V/C Ratio(X)	0.27	0.13	0.99	0.38	0.00	0.00		0.90	0.55	0.55		0.79
Avail Cap(c_a), veh/h	371	401	337	386	0	0		462	899	905		255
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00		1.00	1.00	1.00		0.43
Uniform Delay (d), s/veh	26.2	24.7	30.9	26.2	0.0	0.0		29.8	12.3	12.3		36.6
Incr Delay (d2), s/veh	0.4	0.1	46.1	0.6	0.0	0.0		17.9	2.5	2.4		4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	1.6	0.8	10.5	2.3	0.0	0.0		8.2	5.9	5.9		1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.6	24.8	76.9	26.8	0.0	0.0		47.7	14.8	14.8		41.5
LnGrp LOS	C	C	E	C	A	A		D	B	B		D
Approach Vol, veh/h		486			145				1349			
Approach Delay, s/veh		61.0			26.8				23.3			
Approach LOS		E			C				C			

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.2	47.2		22.6	23.0	34.4		22.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	12.1	36.3		18.1	21.9	26.5		18.1				
Max Q Clear Time (g_c+I1), s	6.4	17.7		19.9	18.1	20.2		8.2				
Green Ext Time (p_c), s	0.1	6.5		0.0	0.4	3.0		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		30.5	
HCM 6th LOS		C	

Notes

User approved ignoring U-Turning movement.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	815	88
Future Volume (veh/h)	815	88
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		0.97
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1772	1772
Adj Flow Rate, veh/h	815	88
Peak Hour Factor	1.00	1.00
Percent Heavy Veh, %	2	2
Cap, veh/h	1142	123
Arrive On Green	0.37	0.37
Sat Flow, veh/h	3055	330
Grp Volume(v), veh/h	449	454
Grp Sat Flow(s),veh/h/ln	1683	1702
Q Serve(g_s), s	18.2	18.2
Cycle Q Clear(g_c), s	18.2	18.2
Prop In Lane		0.19
Lane Grp Cap(c), veh/h	629	636
V/C Ratio(X)	0.71	0.71
Avail Cap(c_a), veh/h	629	636
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.43	0.43
Uniform Delay (d), s/veh	21.4	21.4
Incr Delay (d2), s/veh	3.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	7.4
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	24.4	24.4
LnGrp LOS	C	C
Approach Vol, veh/h	997	
Approach Delay, s/veh	26.0	
Approach LOS	C	
Timer - Assigned Phs		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	236	10	11	6	20	96	1	10	1016	23	5	134
Future Volume (veh/h)	236	10	11	6	20	96	1	10	1016	23	5	134
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98		1.00		0.98		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772		1772	1772	1772		1772
Adj Flow Rate, veh/h	236	10	11	6	20	96		10	1016	23		134
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2
Cap, veh/h	264	193	212	13	27	129		21	1492	34		163
Arrive On Green	0.16	0.25	0.25	0.01	0.10	0.10		0.01	0.44	0.44		0.10
Sat Flow, veh/h	1688	764	841	1688	260	1250		1688	3363	76		1688
Grp Volume(v), veh/h	236	0	21	6	0	116		10	509	530		134
Grp Sat Flow(s),veh/h/ln	1688	0	1605	1688	0	1510		1688	1683	1756		1688
Q Serve(g_s), s	12.3	0.0	0.9	0.3	0.0	6.7		0.5	21.7	21.7		7.0
Cycle Q Clear(g_c), s	12.3	0.0	0.9	0.3	0.0	6.7		0.5	21.7	21.7		7.0
Prop In Lane	1.00		0.52	1.00		0.83		1.00		0.04		1.00
Lane Grp Cap(c), veh/h	264	0	405	13	0	156		21	747	779		163
V/C Ratio(X)	0.89	0.00	0.05	0.46	0.00	0.75		0.48	0.68	0.68		0.82
Avail Cap(c_a), veh/h	264	0	483	94	0	302		94	747	779		163
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		1.00
Uniform Delay (d), s/veh	37.2	0.0	25.5	44.5	0.0	39.2		44.2	20.0	20.0		39.9
Incr Delay (d2), s/veh	29.3	0.0	0.1	23.1	0.0	6.9		16.3	5.0	4.8		27.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	7.1	0.0	0.3	0.2	0.0	2.8		0.3	9.1	9.4		4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.5	0.0	25.6	67.6	0.0	46.1		60.5	24.9	24.7		67.2
LnGrp LOS	E	A	C	E	A	D		E	C	C		E
Approach Vol, veh/h		257			122				1049			
Approach Delay, s/veh		63.2			47.2				25.2			
Approach LOS		E			D				C			

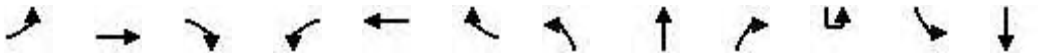
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	44.4	5.2	27.2	5.6	52.0	18.6	13.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.7	31.2	5.0	27.1	5.0	34.9	14.1	18.0
Max Q Clear Time (g_c+I1), s	9.0	23.7	2.3	2.9	2.5	22.1	14.3	8.7
Green Ext Time (p_c), s	0.0	3.9	0.0	0.1	0.0	5.8	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	29.2
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	766	290
Future Volume (veh/h)	766	290
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1772	1772
Adj Flow Rate, veh/h	766	290
Peak Hour Factor	1.00	1.00
Percent Heavy Veh, %	2	2
Cap, veh/h	1260	477
Arrive On Green	0.53	0.53
Sat Flow, veh/h	2387	903
Grp Volume(v), veh/h	540	516
Grp Sat Flow(s),veh/h/ln	1683	1607
Q Serve(g_s), s	20.1	20.1
Cycle Q Clear(g_c), s	20.1	20.1
Prop In Lane		0.56
Lane Grp Cap(c), veh/h	889	849
V/C Ratio(X)	0.61	0.61
Avail Cap(c_a), veh/h	889	849
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	14.8	14.8
Incr Delay (d2), s/veh	3.1	3.2
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	7.5
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	17.8	18.0
LnGrp LOS	B	B
Approach Vol, veh/h	1190	
Approach Delay, s/veh	23.5	
Approach LOS	C	
Timer - Assigned Phs		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	680	30	43	4	20	54	29	316	9	3	71	369
Future Volume (veh/h)	680	30	43	4	20	54	29	316	9	3	71	369
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	1.00		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772	1772	1772	1772		1772	1772
Adj Flow Rate, veh/h	680	30	43	4	20	54	29	316	9		71	369
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2		2	2
Cap, veh/h	673	803	671	9	100	86	45	1087	31		89	592
Arrive On Green	0.40	0.45	0.45	0.01	0.06	0.06	0.03	0.33	0.33		0.05	0.35
Sat Flow, veh/h	1688	1772	1482	1688	1683	1459	1688	3343	95		1688	1683
Grp Volume(v), veh/h	680	30	43	4	20	54	29	159	166		71	369
Grp Sat Flow(s),veh/h/ln	1688	1772	1482	1688	1683	1459	1688	1683	1754		1688	1683
Q Serve(g_s), s	43.9	1.0	1.8	0.3	1.2	4.0	1.9	7.7	7.8		4.6	20.0
Cycle Q Clear(g_c), s	43.9	1.0	1.8	0.3	1.2	4.0	1.9	7.7	7.8		4.6	20.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.05		1.00	
Lane Grp Cap(c), veh/h	673	803	671	9	100	86	45	547	570		89	592
V/C Ratio(X)	1.01	0.04	0.06	0.45	0.20	0.63	0.64	0.29	0.29		0.79	0.62
Avail Cap(c_a), veh/h	673	917	767	77	275	239	77	547	570		115	592
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Uniform Delay (d), s/veh	33.0	16.7	16.9	54.6	49.3	50.6	53.0	27.7	27.7		51.5	29.6
Incr Delay (d2), s/veh	37.1	0.0	0.0	32.3	1.0	7.2	14.3	1.3	1.3		24.4	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	24.3	0.4	0.6	0.2	0.6	1.6	1.0	3.3	3.5		2.5	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.1	16.8	17.0	86.9	50.3	57.8	67.3	29.0	29.0		75.9	34.5
LnGrp LOS	F	B	B	F	D	E	E	C	C		E	C
Approach Vol, veh/h		753			78			354				775
Approach Delay, s/veh		65.0			57.3			32.1				38.8
Approach LOS		E			E			C				D

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.3	40.3	5.1	54.3	7.4	43.2	48.4	11.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	22.6	5.0	56.9	5.0	25.1	43.9	18.0
Max Q Clear Time (g_c+I1), s	6.6	9.8	2.3	3.8	3.9	22.5	45.9	6.0
Green Ext Time (p_c), s	0.0	1.5	0.0	0.3	0.0	1.1	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	48.4
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	335
Future Volume (veh/h)	335
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1772
Adj Flow Rate, veh/h	335
Peak Hour Factor	1.00
Percent Heavy Veh, %	2
Cap, veh/h	527
Arrive On Green	0.35
Sat Flow, veh/h	1499
Grp Volume(v), veh/h	335
Grp Sat Flow(s),veh/h/ln	1499
Q Serve(g_s), s	20.5
Cycle Q Clear(g_c), s	20.5
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	527
V/C Ratio(X)	0.64
Avail Cap(c_a), veh/h	527
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	29.8
Incr Delay (d2), s/veh	5.8
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	8.1
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	35.6
LnGrp LOS	D
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (veh/h)	111	253	646	162	21	276	835	150	1	325	388	154
Future Volume (veh/h)	111	253	646	162	21	276	835	150	1	325	388	154
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.99		1.00		1.00		1.00		0.99
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Work Zone On Approach			No				No				No	
Adj Sat Flow, veh/h/ln		1772	1772	1772		1772	1772	1772		1772	1772	1772
Adj Flow Rate, veh/h		253	646	162		276	835	150		325	388	154
Peak Hour Factor		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2
Cap, veh/h		320	862	212		343	950	170		388	972	380
Arrive On Green		0.10	0.22	0.22		0.10	0.23	0.23		0.12	0.41	0.41
Sat Flow, veh/h		3274	3860	951		3274	4127	737		3274	2354	921
Grp Volume(v), veh/h		253	538	270		276	651	334		325	276	266
Grp Sat Flow(s),veh/h/ln		1637	1612	1586		1637	1612	1639		1637	1683	1592
Q Serve(g_s), s		8.3	17.1	17.5		9.1	21.4	21.6		10.7	12.7	13.0
Cycle Q Clear(g_c), s		8.3	17.1	17.5		9.1	21.4	21.6		10.7	12.7	13.0
Prop In Lane		1.00		0.60		1.00		0.45		1.00		0.58
Lane Grp Cap(c), veh/h		320	720	354		343	743	377		388	695	658
V/C Ratio(X)		0.79	0.75	0.76		0.81	0.88	0.88		0.84	0.40	0.40
Avail Cap(c_a), veh/h		491	777	382		491	777	395		461	695	658
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00		0.94	0.94	0.94
Uniform Delay (d), s/veh		48.5	39.8	40.0		48.1	40.8	40.9		47.5	22.7	22.8
Incr Delay (d2), s/veh		4.8	3.7	8.2		6.3	10.8	19.9		10.6	1.6	1.7
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		3.6	7.1	7.6		4.0	9.5	10.7		4.9	5.3	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		53.4	43.5	48.2		54.5	51.6	60.8		58.1	24.3	24.5
LnGrp LOS		D	D	D		D	D	E		E	C	C
Approach Vol, veh/h			1061				1261				867	
Approach Delay, s/veh			47.1				54.7				37.0	
Approach LOS			D				D				D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	49.9	16.0	29.1	17.5	47.4	15.3	29.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	16.7	32.3	16.5	26.5	15.5	33.5	16.5	26.5
Max Q Clear Time (g_c+I1), s	10.5	15.0	11.1	19.5	12.7	23.2	10.3	23.6
Green Ext Time (p_c), s	0.2	3.2	0.5	3.0	0.3	3.7	0.4	1.7

Intersection Summary	
HCM 6th Ctrl Delay	44.7
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.



Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	133	552	235
Future Volume (veh/h)	133	552	235
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00
Work Zone On Approach		No	
Adj Sat Flow, veh/h/ln	1772	1772	1772
Adj Flow Rate, veh/h	133	552	235
Peak Hour Factor	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2
Cap, veh/h	161	898	381
Arrive On Green	0.10	0.39	0.39
Sat Flow, veh/h	1688	2302	977
Grp Volume(v), veh/h	133	403	384
Grp Sat Flow(s),veh/h/ln	1688	1683	1596
Q Serve(g_s), s	8.5	21.1	21.2
Cycle Q Clear(g_c), s	8.5	21.1	21.2
Prop In Lane	1.00		0.61
Lane Grp Cap(c), veh/h	161	656	622
V/C Ratio(X)	0.83	0.61	0.62
Avail Cap(c_a), veh/h	256	656	622
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.9	26.9	26.9
Incr Delay (d2), s/veh	11.5	4.3	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	9.1	8.7
Unsig. Movement Delay, s/veh			
LnGrp Delay(d),s/veh	60.3	31.2	31.5
LnGrp LOS	E	C	C
Approach Vol, veh/h		920	
Approach Delay, s/veh		35.5	
Approach LOS		D	
Timer - Assigned Phs			



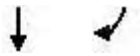
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	43	8	105	12	8	8	35	274	795	38	34	48
Future Volume (veh/h)	43	8	105	12	8	8	35	274	795	38	34	48
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772		1772	1772	1772		1772
Adj Flow Rate, veh/h	43	8	105	12	8	8		274	795	38		48
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2
Cap, veh/h	250	200	164	115	70	48		318	2215	106		69
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11		0.19	0.68	0.68		0.04
Sat Flow, veh/h	1377	1772	1454	448	623	428		1688	3270	156		1688
Grp Volume(v), veh/h	43	8	105	28	0	0		274	409	424		48
Grp Sat Flow(s),veh/h/ln	1377	1772	1454	1499	0	0		1688	1683	1743		1688
Q Serve(g_s), s	0.8	0.3	5.5	0.0	0.0	0.0		12.6	8.3	8.3		2.2
Cycle Q Clear(g_c), s	2.0	0.3	5.5	1.2	0.0	0.0		12.6	8.3	8.3		2.2
Prop In Lane	1.00		1.00	0.43		0.29		1.00		0.09		1.00
Lane Grp Cap(c), veh/h	250	200	164	233	0	0		318	1140	1181		69
V/C Ratio(X)	0.17	0.04	0.64	0.12	0.00	0.00		0.86	0.36	0.36		0.69
Avail Cap(c_a), veh/h	406	401	329	396	0	0		475	1140	1181		205
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00		1.00	1.00	1.00		0.62
Uniform Delay (d), s/veh	32.3	31.6	33.9	32.0	0.0	0.0		31.5	5.5	5.5		37.9
Incr Delay (d2), s/veh	0.3	0.1	4.1	0.2	0.0	0.0		10.3	0.9	0.9		7.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	0.8	0.1	2.1	0.5	0.0	0.0		5.9	2.6	2.7		1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.7	31.7	38.0	32.3	0.0	0.0		41.7	6.4	6.3		45.4
LnGrp LOS	C	C	D	C	A	A		D	A	A		D
Approach Vol, veh/h		156			28				1107			
Approach Delay, s/veh		36.2			32.3				15.1			
Approach LOS		D			C				B			

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	58.7		13.5	19.6	46.9		13.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	9.7	38.7		18.1	22.5	25.9		18.1				
Max Q Clear Time (g_c+I1), s	4.2	10.3		7.5	14.6	12.9		3.2				
Green Ext Time (p_c), s	0.0	5.9		0.3	0.5	4.0		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			16.6									
HCM 6th LOS			B									

Notes

User approved ignoring U-Turning movement.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	676	83
Future Volume (veh/h)	676	83
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1772	1772
Adj Flow Rate, veh/h	676	83
Peak Hour Factor	1.00	1.00
Percent Heavy Veh, %	2	2
Cap, veh/h	1599	196
Arrive On Green	0.53	0.53
Sat Flow, veh/h	3017	370
Grp Volume(v), veh/h	377	382
Grp Sat Flow(s),veh/h/ln	1683	1703
Q Serve(g_s), s	10.8	10.9
Cycle Q Clear(g_c), s	10.8	10.9
Prop In Lane		0.22
Lane Grp Cap(c), veh/h	893	903
V/C Ratio(X)	0.42	0.42
Avail Cap(c_a), veh/h	893	903
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.62	0.62
Uniform Delay (d), s/veh	11.4	11.4
Incr Delay (d2), s/veh	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	3.9
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	12.3	12.3
LnGrp LOS	B	B
Approach Vol, veh/h	807	
Approach Delay, s/veh	14.3	
Approach LOS	B	
Timer - Assigned Phs		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	154	14	49	33	39	129	5	54	769	23	74	101
Future Volume (veh/h)	154	14	49	33	39	129	5	54	769	23	74	101
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96		1.00		0.97		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772		1772	1772	1772		1772
Adj Flow Rate, veh/h	154	14	49	33	39	129		54	769	23		101
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2
Cap, veh/h	187	85	297	55	60	200		74	1385	41		128
Arrive On Green	0.11	0.25	0.25	0.03	0.17	0.17		0.04	0.42	0.42		0.08
Sat Flow, veh/h	1688	337	1181	1688	349	1155		1688	3334	100		1688
Grp Volume(v), veh/h	154	0	63	33	0	168		54	388	404		101
Grp Sat Flow(s),veh/h/ln	1688	0	1518	1688	0	1505		1688	1683	1750		1688
Q Serve(g_s), s	7.1	0.0	2.6	1.5	0.0	8.3		2.5	14.0	14.0		4.7
Cycle Q Clear(g_c), s	7.1	0.0	2.6	1.5	0.0	8.3		2.5	14.0	14.0		4.7
Prop In Lane	1.00		0.78	1.00		0.77		1.00		0.06		1.00
Lane Grp Cap(c), veh/h	187	0	381	55	0	260		74	700	727		128
V/C Ratio(X)	0.82	0.00	0.17	0.60	0.00	0.65		0.73	0.55	0.56		0.79
Avail Cap(c_a), veh/h	200	0	408	127	0	339		154	700	727		243
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		1.00
Uniform Delay (d), s/veh	34.8	0.0	23.4	38.2	0.0	30.8		37.8	17.8	17.8		36.3
Incr Delay (d2), s/veh	22.4	0.0	0.2	10.2	0.0	2.7		13.0	3.2	3.0		10.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	0.9	0.8	0.0	3.1		1.3	5.7	5.9		2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.2	0.0	23.6	48.3	0.0	33.5		50.8	20.9	20.8		46.6
LnGrp LOS	E	A	C	D	A	C		D	C	C		D
Approach Vol, veh/h		217			201				846			
Approach Delay, s/veh		47.5			35.9				22.8			
Approach LOS		D			D				C			

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	37.7	7.1	24.6	8.0	40.3	13.4	18.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.5	23.0	6.0	21.5	7.3	27.2	9.5	18.0
Max Q Clear Time (g_c+I1), s	6.7	16.0	3.5	4.6	4.5	14.1	9.1	10.3
Green Ext Time (p_c), s	0.1	2.8	0.0	0.2	0.0	3.8	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	26.0
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	580	134
Future Volume (veh/h)	580	134
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		0.99
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1772	1772
Adj Flow Rate, veh/h	580	134
Peak Hour Factor	1.00	1.00
Percent Heavy Veh, %	2	2
Cap, veh/h	1215	280
Arrive On Green	0.45	0.45
Sat Flow, veh/h	2713	625
Grp Volume(v), veh/h	359	355
Grp Sat Flow(s),veh/h/ln	1683	1654
Q Serve(g_s), s	12.0	12.1
Cycle Q Clear(g_c), s	12.0	12.1
Prop In Lane		0.38
Lane Grp Cap(c), veh/h	754	741
V/C Ratio(X)	0.48	0.48
Avail Cap(c_a), veh/h	754	741
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	15.5	15.5
Incr Delay (d2), s/veh	2.2	2.2
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	4.7
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	17.7	17.7
LnGrp LOS	B	B
Approach Vol, veh/h	815	
Approach Delay, s/veh	21.3	
Approach LOS	C	
Timer - Assigned Phs		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	194	29	53	39	26	60	56	554	34	6	34	381
Future Volume (veh/h)	194	29	53	39	26	60	56	554	34	6	34	381
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.99		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772	1772	1772	1772		1772	1772
Adj Flow Rate, veh/h	194	29	53	39	26	60	56	554	34		34	381
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2		2	2
Cap, veh/h	233	333	280	64	148	130	80	1555	95		58	921
Arrive On Green	0.14	0.19	0.19	0.04	0.09	0.09	0.05	0.48	0.48		0.03	0.47
Sat Flow, veh/h	1688	1772	1490	1688	1683	1476	1688	3221	197		1688	1960
Grp Volume(v), veh/h	194	29	53	39	26	60	56	289	299		34	327
Grp Sat Flow(s),veh/h/ln	1688	1772	1490	1688	1683	1476	1688	1683	1735		1688	1683
Q Serve(g_s), s	7.8	0.9	2.1	1.6	1.0	2.7	2.3	7.5	7.5		1.4	8.9
Cycle Q Clear(g_c), s	7.8	0.9	2.1	1.6	1.0	2.7	2.3	7.5	7.5		1.4	8.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11		1.00	
Lane Grp Cap(c), veh/h	233	333	280	64	148	130	80	812	837		58	791
V/C Ratio(X)	0.83	0.09	0.19	0.61	0.18	0.46	0.70	0.36	0.36		0.58	0.41
Avail Cap(c_a), veh/h	253	567	477	147	433	380	121	812	837		121	791
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Uniform Delay (d), s/veh	29.4	23.5	23.9	33.2	29.6	30.4	32.9	11.3	11.3		33.3	12.2
Incr Delay (d2), s/veh	19.5	0.1	0.3	9.0	0.6	2.6	10.5	1.2	1.2		8.9	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.4	0.7	0.8	0.4	1.0	1.1	2.8	2.9		0.7	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.9	23.6	24.3	42.1	30.1	32.9	43.4	12.5	12.5		42.2	13.8
LnGrp LOS	D	C	C	D	C	C	D	B	B		D	B
Approach Vol, veh/h		276			125			644				664
Approach Delay, s/veh		41.5			35.2			15.2				15.4
Approach LOS		D			D			B				B

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	38.3	7.2	17.6	7.8	37.4	14.1	10.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	18.5	6.1	22.4	5.0	18.5	10.5	18.0
Max Q Clear Time (g_c+I1), s	3.4	9.5	3.6	4.1	4.3	11.1	9.8	4.7
Green Ext Time (p_c), s	0.0	2.4	0.0	0.2	0.0	2.4	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	21.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	249
Future Volume (veh/h)	249
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1772
Adj Flow Rate, veh/h	249
Peak Hour Factor	1.00
Percent Heavy Veh, %	2
Cap, veh/h	593
Arrive On Green	0.47
Sat Flow, veh/h	1263
Grp Volume(v), veh/h	303
Grp Sat Flow(s),veh/h/ln	1539
Q Serve(g_s), s	9.1
Cycle Q Clear(g_c), s	9.1
Prop In Lane	0.82
Lane Grp Cap(c), veh/h	723
V/C Ratio(X)	0.42
Avail Cap(c_a), veh/h	723
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	12.3
Incr Delay (d2), s/veh	1.8
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	3.2
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	14.0
LnGrp LOS	B
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (veh/h)	101	724	1379	314	21	232	767	222	3	215	764	150
Future Volume (veh/h)	101	724	1379	314	21	232	767	222	3	215	764	150
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.97		1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Work Zone On Approach			No				No				No	
Adj Sat Flow, veh/h/ln		1772	1772	1772		1772	1772	1772		1772	1772	1772
Adj Flow Rate, veh/h		724	1379	314		232	767	222		215	764	150
Peak Hour Factor		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2
Cap, veh/h		778	1380	314		273	733	210		254	785	154
Arrive On Green		0.24	0.35	0.35		0.08	0.20	0.20		0.08	0.28	0.28
Sat Flow, veh/h		3274	3924	892		3274	3711	1062		3274	2796	549
Grp Volume(v), veh/h		724	1133	560		232	665	324		215	460	454
Grp Sat Flow(s),veh/h/ln		1637	1612	1591		1637	1612	1549		1637	1683	1662
Q Serve(g_s), s		26.0	42.1	42.2		8.4	23.7	23.7		7.8	32.4	32.4
Cycle Q Clear(g_c), s		26.0	42.1	42.2		8.4	23.7	23.7		7.8	32.4	32.4
Prop In Lane		1.00		0.56		1.00		0.69		1.00		0.33
Lane Grp Cap(c), veh/h		778	1134	559		273	637	306		254	473	467
V/C Ratio(X)		0.93	1.00	1.00		0.85	1.04	1.06		0.85	0.97	0.97
Avail Cap(c_a), veh/h		805	1134	559		273	637	306		254	473	467
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00		0.77	0.77	0.77
Uniform Delay (d), s/veh		44.8	38.9	38.9		54.3	48.2	48.2		54.6	42.7	42.7
Incr Delay (d2), s/veh		17.0	26.4	38.4		21.7	47.9	67.7		18.2	30.2	30.5
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		12.3	20.5	22.1		4.3	13.7	14.9		3.8	17.3	17.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		61.8	65.3	77.3		76.0	96.0	115.9		72.9	72.9	73.2
LnGrp LOS		E	E	F		E	F	F		E	E	E
Approach Vol, veh/h			2417				1221				1129	
Approach Delay, s/veh			67.0				97.5				73.0	
Approach LOS			E				F				E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.6	38.2	14.5	46.7	13.8	45.0	33.0	28.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	16.1	33.7	10.0	42.2	9.3	40.5	29.5	22.7
Max Q Clear Time (g_c+I1), s	18.1	34.4	10.4	44.2	9.8	34.1	28.0	25.7
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	3.2	0.5	0.0

Intersection Summary	
HCM 6th Ctrl Delay	73.7
HCM 6th LOS	E

Notes

User approved ignoring U-Turning movement.



Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	226	752	201
Future Volume (veh/h)	226	752	201
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00
Work Zone On Approach		No	
Adj Sat Flow, veh/h/ln	1772	1772	1772
Adj Flow Rate, veh/h	226	752	201
Peak Hour Factor	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2
Cap, veh/h	226	883	236
Arrive On Green	0.13	0.34	0.34
Sat Flow, veh/h	1688	2616	699
Grp Volume(v), veh/h	226	484	469
Grp Sat Flow(s),veh/h/ln	1688	1683	1631
Q Serve(g_s), s	16.1	32.1	32.1
Cycle Q Clear(g_c), s	16.1	32.1	32.1
Prop In Lane	1.00		0.43
Lane Grp Cap(c), veh/h	226	568	551
V/C Ratio(X)	1.00	0.85	0.85
Avail Cap(c_a), veh/h	226	568	551
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.9	37.0	37.0
Incr Delay (d2), s/veh	59.3	14.9	15.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.5	15.4	15.0
Unsig. Movement Delay, s/veh			
LnGrp Delay(d),s/veh	111.2	51.9	52.3
LnGrp LOS	F	D	D
Approach Vol, veh/h		1179	
Approach Delay, s/veh		63.4	
Approach LOS		E	
Timer - Assigned Phs			

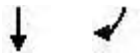
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	99	53	346	49	63	39	1	357	916	129	61	94
Future Volume (veh/h)	99	53	346	49	63	39	1	357	916	129	61	94
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97		1.00		1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772		1772	1772	1772		1772
Adj Flow Rate, veh/h	99	53	346	49	63	39		357	916	129		94
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2
Cap, veh/h	366	401	337	136	162	83		394	1582	223		119
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23		0.23	0.53	0.53		0.07
Sat Flow, veh/h	1287	1772	1492	339	715	367		1688	2961	417		1688
Grp Volume(v), veh/h	99	53	346	151	0	0		357	521	524		94
Grp Sat Flow(s),veh/h/ln	1287	1772	1492	1421	0	0		1688	1683	1695		1688
Q Serve(g_s), s	0.0	1.9	18.1	2.6	0.0	0.0		16.4	16.7	16.7		4.4
Cycle Q Clear(g_c), s	6.1	1.9	18.1	6.7	0.0	0.0		16.4	16.7	16.7		4.4
Prop In Lane	1.00		1.00	0.32		0.26		1.00		0.25		1.00
Lane Grp Cap(c), veh/h	366	401	337	381	0	0		394	899	906		119
V/C Ratio(X)	0.27	0.13	1.03	0.40	0.00	0.00		0.91	0.58	0.58		0.79
Avail Cap(c_a), veh/h	366	401	337	381	0	0		432	899	906		230
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00		1.00	1.00	1.00		0.37
Uniform Delay (d), s/veh	26.3	24.7	31.0	26.4	0.0	0.0		29.8	12.6	12.6		36.6
Incr Delay (d2), s/veh	0.4	0.1	55.6	0.7	0.0	0.0		21.1	2.7	2.7		4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	1.6	0.8	11.4	2.5	0.0	0.0		8.7	6.3	6.3		1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.7	24.8	86.6	27.1	0.0	0.0		50.9	15.3	15.3		40.9
LnGrp LOS	C	C	F	C	A	A		D	B	B		D
Approach Vol, veh/h		498			151				1402			
Approach Delay, s/veh		68.1			27.1				24.3			
Approach LOS		E			C				C			

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.2	47.2		22.6	23.2	34.2		22.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.9	37.5		18.1	20.5	27.9		18.1				
Max Q Clear Time (g_c+I1), s	6.4	18.7		20.1	18.4	22.3		8.7				
Green Ext Time (p_c), s	0.1	6.9		0.0	0.3	2.9		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		32.4	
HCM 6th LOS		C	

Notes

User approved ignoring U-Turning movement.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	886	88
Future Volume (veh/h)	886	88
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		0.97
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1772	1772
Adj Flow Rate, veh/h	886	88
Peak Hour Factor	1.00	1.00
Percent Heavy Veh, %	2	2
Cap, veh/h	1145	114
Arrive On Green	0.37	0.37
Sat Flow, veh/h	3084	306
Grp Volume(v), veh/h	484	490
Grp Sat Flow(s),veh/h/ln	1683	1707
Q Serve(g_s), s	20.3	20.3
Cycle Q Clear(g_c), s	20.3	20.3
Prop In Lane		0.18
Lane Grp Cap(c), veh/h	625	634
V/C Ratio(X)	0.77	0.77
Avail Cap(c_a), veh/h	625	634
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.37	0.37
Uniform Delay (d), s/veh	22.2	22.2
Incr Delay (d2), s/veh	3.5	3.5
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	8.2
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	25.7	25.7
LnGrp LOS	C	C
Approach Vol, veh/h	1068	
Approach Delay, s/veh	27.0	
Approach LOS	C	
Timer - Assigned Phs		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (veh/h)	236	10	23	6	20	96	1	17	1069	23	5	134
Future Volume (veh/h)	236	10	23	6	20	96	1	17	1069	23	5	134
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98		1.00		0.98		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Work Zone On Approach		No			No				No			
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772		1772	1772	1772		1772
Adj Flow Rate, veh/h	236	10	23	6	20	96		17	1069	23		134
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Percent Heavy Veh, %	2	2	2	2	2	2		2	2	2		2
Cap, veh/h	264	119	274	13	27	130		32	1492	32		163
Arrive On Green	0.16	0.25	0.25	0.01	0.10	0.10		0.02	0.44	0.44		0.10
Sat Flow, veh/h	1688	472	1085	1688	260	1250		1688	3368	72		1688
Grp Volume(v), veh/h	236	0	33	6	0	116		17	534	558		134
Grp Sat Flow(s),veh/h/ln	1688	0	1557	1688	0	1511		1688	1683	1757		1688
Q Serve(g_s), s	12.3	0.0	1.5	0.3	0.0	6.7		0.9	23.3	23.3		7.0
Cycle Q Clear(g_c), s	12.3	0.0	1.5	0.3	0.0	6.7		0.9	23.3	23.3		7.0
Prop In Lane	1.00		0.70	1.00		0.83		1.00		0.04		1.00
Lane Grp Cap(c), veh/h	264	0	393	13	0	157		32	746	778		163
V/C Ratio(X)	0.89	0.00	0.08	0.46	0.00	0.74		0.52	0.72	0.72		0.82
Avail Cap(c_a), veh/h	264	0	469	94	0	302		94	746	778		163
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		1.00
Uniform Delay (d), s/veh	37.2	0.0	25.7	44.5	0.0	39.2		43.7	20.5	20.5		39.9
Incr Delay (d2), s/veh	29.3	0.0	0.1	23.1	0.0	6.7		12.5	5.8	5.6		27.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	7.1	0.0	0.5	0.2	0.0	2.7		0.5	9.9	10.2		4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.5	0.0	25.8	67.6	0.0	45.9		56.2	26.3	26.1		67.2
LnGrp LOS	E	A	C	E	A	D		E	C	C		E
Approach Vol, veh/h		269			122				1109			
Approach Delay, s/veh		61.5			46.9				26.6			
Approach LOS		E			D				C			

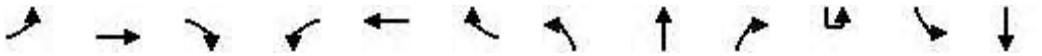
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	44.4	5.2	27.2	6.2	51.3	18.6	13.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.7	31.2	5.0	27.1	5.0	34.9	14.1	18.0
Max Q Clear Time (g_c+I1), s	9.0	25.3	2.3	3.5	2.9	25.0	14.3	8.7
Green Ext Time (p_c), s	0.0	3.4	0.0	0.1	0.0	5.3	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	30.1
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	855	290
Future Volume (veh/h)	855	290
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1772	1772
Adj Flow Rate, veh/h	855	290
Peak Hour Factor	1.00	1.00
Percent Heavy Veh, %	2	2
Cap, veh/h	1284	435
Arrive On Green	0.52	0.52
Sat Flow, veh/h	2468	835
Grp Volume(v), veh/h	583	562
Grp Sat Flow(s),veh/h/ln	1683	1620
Q Serve(g_s), s	22.9	23.0
Cycle Q Clear(g_c), s	22.9	23.0
Prop In Lane		0.52
Lane Grp Cap(c), veh/h	876	843
V/C Ratio(X)	0.67	0.67
Avail Cap(c_a), veh/h	876	843
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	15.8	15.9
Incr Delay (d2), s/veh	4.0	4.2
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	8.8
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	19.8	20.0
LnGrp LOS	B	C
Approach Vol, veh/h	1279	
Approach Delay, s/veh	24.9	
Approach LOS	C	
Timer - Assigned Phs		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	680	30	61	4	20	54	40	376	9	3	71	469
Future Volume (veh/h)	680	30	61	4	20	54	40	376	9	3	71	469
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	1.00		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772	1772	1772	1772		1772	1772
Adj Flow Rate, veh/h	680	30	61	4	20	54	40	376	9		71	469
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2		2	2
Cap, veh/h	673	803	672	9	100	87	54	1092	26		89	649
Arrive On Green	0.40	0.45	0.45	0.01	0.06	0.06	0.03	0.32	0.32		0.05	0.35
Sat Flow, veh/h	1688	1772	1482	1688	1683	1459	1688	3360	80		1688	1877
Grp Volume(v), veh/h	680	30	61	4	20	54	40	188	197		71	421
Grp Sat Flow(s),veh/h/ln	1688	1772	1482	1688	1683	1459	1688	1683	1757		1688	1683
Q Serve(g_s), s	43.9	1.0	2.6	0.3	1.2	4.0	2.6	9.3	9.4		4.6	24.0
Cycle Q Clear(g_c), s	43.9	1.0	2.6	0.3	1.2	4.0	2.6	9.3	9.4		4.6	24.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.05		1.00	
Lane Grp Cap(c), veh/h	673	803	672	9	100	87	54	547	571		89	582
V/C Ratio(X)	1.01	0.04	0.09	0.45	0.20	0.62	0.74	0.34	0.34		0.79	0.72
Avail Cap(c_a), veh/h	673	917	767	77	275	239	77	547	571		115	582
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Uniform Delay (d), s/veh	33.0	16.7	17.2	54.6	49.3	50.5	52.8	28.2	28.2		51.5	31.4
Incr Delay (d2), s/veh	37.1	0.0	0.1	32.3	1.0	7.1	20.1	1.7	1.7		24.4	7.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	24.3	0.4	0.9	0.2	0.6	1.6	1.4	4.0	4.2		2.5	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.1	16.7	17.2	86.9	50.2	57.7	72.9	29.9	29.9		75.9	39.0
LnGrp LOS	F	B	B	F	D	E	E	C	C		E	D
Approach Vol, veh/h		771			78			425				875
Approach Delay, s/veh		63.9			57.3			34.0				42.3
Approach LOS		E			E			C				D

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.3	40.2	5.1	54.4	8.0	42.5	48.4	11.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	22.6	5.0	56.9	5.0	25.1	43.9	18.0
Max Q Clear Time (g_c+I1), s	6.6	11.4	2.3	4.6	4.6	26.1	45.9	6.0
Green Ext Time (p_c), s	0.0	1.7	0.0	0.4	0.0	0.0	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	48.9
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	335
Future Volume (veh/h)	335
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1772
Adj Flow Rate, veh/h	335
Peak Hour Factor	1.00
Percent Heavy Veh, %	2
Cap, veh/h	462
Arrive On Green	0.35
Sat Flow, veh/h	1335
Grp Volume(v), veh/h	383
Grp Sat Flow(s),veh/h/ln	1529
Q Serve(g_s), s	24.1
Cycle Q Clear(g_c), s	24.1
Prop In Lane	0.87
Lane Grp Cap(c), veh/h	529
V/C Ratio(X)	0.73
Avail Cap(c_a), veh/h	529
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	31.4
Incr Delay (d2), s/veh	8.4
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	10.0
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	39.8
LnGrp LOS	D
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Appendix C
RIVCOM Model Output and Growth Rate Calculation

Existing Average Daily Traffic (ADT) Volumes, Daily Traffic Volumes from the RIVCOM Model Plots and Growth Factor estimated using the RIVCOM Model for the Study Area

Roadway Segment	Existing Volumes (Year 2022)	Raw Model Base (Year 2018)	Raw Model Future (Year 2045)	Model Growth (Year 2045-Year 2018)	Model growth adjusted to Existing Year (Year 2045-Year 2022)	Adjusted Future Year (2045)	Growth (in %) between Existing (Year 2022) & Adjusted Future (Year 2045)	Growth Per Year (in %) (a)
SR-79 - Temecula Oarkway								
west of Butterfield Stage Road	30,651	28,637	54,929 (b)	26,292	22,397	53,048	73.1%	3.0%
Butterfield Stage Road								
north of SR-79	Not available	14,992	22,751					2.0%
south of SR-79	20,056	15,597	20,873	5,276	4,494	24,550	22.4%	1.0%
north of Nighthawk	15,172	12,436	16,966	4,530	3,859	19,031	25.4%	1.0%
Channel St-Cam Pieda Rojo to Nighthawk Pass	7,890	8,576	9,047	471	401	8,291	5.1%	Less than 1%

Notes:

(a) Growth per year (for a period of 23 years) that was applied to estimate the buildout conditions peak hour traffic volumes at the study area intersections.

(b) The Year 2045 ADT along SR-79 -Temecula Parkway was modified to include approximately 17,000 ADT from Eastern Bypass because it is not known if the Eastern Bypass would be constructed as assumed in the RIVCOM model's Year 2045 network.

Appendix D
Project Access -Synchro Worksheets

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	0	0	0	0	42	0	26	0	14	9	4
Future Vol, veh/h	10	0	0	0	0	42	0	26	0	14	9	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	100	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	0	0	0	46	0	28	0	15	10	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	46	0	0	0	0	0	52	68	0	59	45	23
Stage 1	-	-	-	-	-	-	22	22	-	23	23	-
Stage 2	-	-	-	-	-	-	30	46	-	36	22	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1562	-	-	-	-	-	947	823	-	937	847	1054
Stage 1	-	-	-	-	-	-	996	877	-	995	876	-
Stage 2	-	-	-	-	-	-	987	857	-	980	877	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1562	-	-	-	-	-	930	817	-	-	841	1054
Mov Cap-2 Maneuver	-	-	-	-	-	-	930	817	-	-	841	-
Stage 1	-	-	-	-	-	-	989	871	-	988	876	-
Stage 2	-	-	-	-	-	-	972	857	-	942	871	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	7.3	0		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	-	1562	-	-	-	-	-	-	841	1054
HCM Lane V/C Ratio	-	0.007	-	-	-	-	-	-	0.012	0.004
HCM Control Delay (s)	-	7.3	-	-	0	-	-	-	9.3	8.4
HCM Lane LOS	-	A	-	-	A	-	-	-	A	A
HCM 95th %tile Q(veh)	-	0	-	-	-	-	-	-	0	0

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	0	0	0	0	28	0	18	0	47	30	12
Future Vol, veh/h	7	0	0	0	0	28	0	18	0	47	30	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	100	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	0	0	0	0	30	0	20	0	51	33	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	30	0	0	0	0	0	54	46	0	41	31	15
Stage 1	-	-	-	-	-	-	16	16	-	15	15	-
Stage 2	-	-	-	-	-	-	38	30	-	26	16	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1583	-	-	-	-	-	944	846	-	963	862	1065
Stage 1	-	-	-	-	-	-	1004	882	-	1005	883	-
Stage 2	-	-	-	-	-	-	977	870	-	992	882	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1583	-	-	-	-	-	902	842	-	-	858	1065
Mov Cap-2 Maneuver	-	-	-	-	-	-	902	842	-	-	858	-
Stage 1	-	-	-	-	-	-	999	878	-	1000	883	-
Stage 2	-	-	-	-	-	-	929	870	-	965	878	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	7.3	0		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	-	1583	-	-	-	-	-	-	858	1065
HCM Lane V/C Ratio	-	0.005	-	-	-	-	-	-	0.038	0.012
HCM Control Delay (s)	-	7.3	-	-	0	-	-	-	9.4	8.4
HCM Lane LOS	-	A	-	-	A	-	-	-	A	A
HCM 95th %tile Q(veh)	-	0	-	-	-	-	-	-	0.1	0

Appendix E
Improvement Measure -Synchro Worksheets

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (veh/h)	101	724	1379	314	21	232	767	222	3	215	764	150
Future Volume (veh/h)	101	724	1379	314	21	232	767	222	3	215	764	150
Initial Q (Qb), veh		0	0	0		0	0	0		0	0	0
Ped-Bike Adj(A_pbT)		1.00		0.98		1.00		0.98		1.00		0.98
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Work Zone On Approach			No				No				No	
Adj Sat Flow, veh/h/ln		1772	1772	1772		1772	1772	1772		1772	1772	1772
Adj Flow Rate, veh/h		724	1379	314		232	767	222		215	764	150
Peak Hour Factor		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Percent Heavy Veh, %		2	2	2		2	2	2		2	2	2
Cap, veh/h		793	1496	340		283	837	240		254	845	166
Arrive On Green		0.24	0.38	0.38		0.09	0.23	0.23		0.08	0.30	0.30
Sat Flow, veh/h		3274	3925	892		3274	3713	1063		3274	2797	549
Grp Volume(v), veh/h		724	1133	560		232	665	324		215	460	454
Grp Sat Flow(s),veh/h/ln		1637	1612	1591		1637	1612	1551		1637	1683	1662
Q Serve(g_s), s		25.8	40.2	40.4		8.4	24.1	24.5		7.8	31.5	31.5
Cycle Q Clear(g_c), s		25.8	40.2	40.4		8.4	24.1	24.5		7.8	31.5	31.5
Prop In Lane		1.00		0.56		1.00		0.69		1.00		0.33
Lane Grp Cap(c), veh/h		793	1230	607		283	727	350		254	509	502
V/C Ratio(X)		0.91	0.92	0.92		0.82	0.91	0.93		0.85	0.90	0.90
Avail Cap(c_a), veh/h		876	1250	617		289	727	350		254	509	502
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00		1.00	1.00	1.00		0.77	0.77	0.77
Uniform Delay (d), s/veh		44.2	35.4	35.5		53.9	45.3	45.5		54.6	40.2	40.2
Incr Delay (d2), s/veh		13.0	11.1	19.6		16.5	16.2	30.1		18.2	18.1	18.3
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		11.8	17.4	18.6		4.1	11.2	12.3		3.8	15.4	15.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		57.2	46.5	55.0		70.4	61.5	75.6		72.9	58.2	58.4
LnGrp LOS		E	D	E		E	E	E		E	E	E
Approach Vol, veh/h			2417				1221				1129	
Approach Delay, s/veh			51.7				66.9				61.1	
Approach LOS			D				E				E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.1	40.8	14.9	50.3	13.8	41.1	33.6	31.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.6	35.3	10.6	46.5	9.3	35.6	32.1	25.0
Max Q Clear Time (g_c+I1), s	10.2	33.5	10.4	42.4	9.8	35.7	27.8	26.5
Green Ext Time (p_c), s	0.0	1.0	0.0	3.4	0.0	0.0	1.3	0.0

Intersection Summary	
HCM 6th Ctrl Delay	60.4
HCM 6th LOS	E

Notes

User approved ignoring U-Turning movement.



Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (veh/h)	226	752	201
Future Volume (veh/h)	226	752	201
Initial Q (Qb), veh	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00
Work Zone On Approach		No	
Adj Sat Flow, veh/h/ln	1772	1772	1772
Adj Flow Rate, veh/h	226	752	201
Peak Hour Factor	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2
Cap, veh/h	262	797	213
Arrive On Green	0.08	0.30	0.30
Sat Flow, veh/h	3274	2615	699
Grp Volume(v), veh/h	226	484	469
Grp Sat Flow(s),veh/h/ln	1637	1683	1631
Q Serve(g_s), s	8.2	33.7	33.7
Cycle Q Clear(g_c), s	8.2	33.7	33.7
Prop In Lane	1.00		0.43
Lane Grp Cap(c), veh/h	262	513	497
V/C Ratio(X)	0.86	0.94	0.94
Avail Cap(c_a), veh/h	262	513	497
HCM Platoon Ratio	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	40.7	40.7
Incr Delay (d2), s/veh	24.3	27.9	28.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	17.8	17.3
Unsig. Movement Delay, s/veh			
LnGrp Delay(d),s/veh	78.9	68.6	69.2
LnGrp LOS	E	E	E
Approach Vol, veh/h		1179	
Approach Delay, s/veh		70.8	
Approach LOS		E	
Timer - Assigned Phs			

APPENDIX G

EMWD LETTER

PECHANGA INDIAN RESERVATION
Temecula Band of Indians

OFFICE OF THE GENERAL COUNSEL
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General Counsel
Steve Bodmer

Deputy General Counsel
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Senior Associate General Counsel
Sana Swe

Associate General Counsel
Lindsey Dollman

February 22, 2022

Re: Record of Conversation

On February 17, 2022, I had a phone conversation with Brenda Dumas, Executive Assistant for Development Services at Eastern Municipal Water District ("EMWD"). Ms. Dumas confirmed the Northern Boundary properties are within EMWD's waste water treatment service area, there are existing sewer facilities at the properties, and EMWD could provide waste water treatment services to the properties.

Sincerely,

Lindsey Dollman
Associate General Counsel

APPENDIX H

Fire Dept Correspondence

PERSONAL COMMUNICATION RECORD

Communication With:	Alex Lampasi
Dudek Participant:	Michelle Ogburn
Communication Date:	05/25/2023
Communication Time:	Type time here
Communication Type:	phone call – 951-770-6001
Subject:	Fire Dept capacity

Communication Summary

Michelle reached out to the Pechanga Fire Department to inquire if the Fire Department had the capacity for the Proposed Project for the Fee to Trust Northern Properties exchange. Michelle briefly explained who she was to the fire department representative who answered the phone. She then explained the Proposed Project to the representative. Alex indicated that the fire department definitely had capacity to service the elements of the proposed project. Michelle thanked Alex. Conversation ended.