City of Patterson

Urban Bicycle Trail Project at Salado Creek

Draft Initial Study/Mitigated Negative Declaration
October 2020

Prepared for:
City of Patterson

Prepared by:
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Acronyms & Abbreviations

AB ..... Assembly Bill
AF ..... acre-feet
AFY ..... acre-feet/year
AQP ..... Air Quality Plan
BAU ..... business as usual
BPS ..... Best Performance Standards
Cal/OSHA ..... California Occupational Safety and Health Administration
CalEEMod ..... California Emissions Estimator Modeling (software)
CalEPA ..... California Environmental Protection Agency
CAL FIRE ..... California Office of the State Fire Marshall
CAP ..... Climate Action Plan
CARB ..... California Air Resources Board
CCAA ..... California Clean Air Act
CCAP ..... Climate Change Action Plan
CCIC ..... Central California Information Center
CCR ..... California Code of Regulations
CDFW ..... California Fish and Wildlife
CEQA ..... California Environmental Quality Act
CFR ..... Code of Federal Regulations
CGS ..... California Geological Survey
City ..... City of Patterson
CNDDB ..... California Natural Diversity Database
CO ..... Carbon Monoxide
CO_2 ..... carbon dioxide
CRHR ..... California Register of Historical Resources
dBA ..... A-weighted decibels
DTSC ..... Department of Toxic Substances Control
DWQ ..... Department of Water Quality
EIR ..... Environmental Impact Report
EPA ..... Environmental Protection Agency
FMMP ..... Farmland Mapping and Monitoring Program
GAMAQI ..... Guidelines for Assessing and Mitigating Air Quality Impacts

GHG ..... greenhouse gases
gpcd ..... gallons per capita day
GSA ..... Groundwater Sustainability Agency
HUC ..... Hydrologic Unit Code
IS ..... Initial Study
IS/MND ..... Initial Study/Mitigated Negative Declaration
MMRP ..... Mitigation Monitoring and Reporting Program
MND ..... Mitigated Negative Declaration
MRZ ..... Mineral Resource Zones
$MTCO_2e$ ..... metric tons carbon dioxide
NAAQS ..... National Ambient Air Quality Standards
NAHC ..... Native American Heritage Commission
ND ..... Negative Declaration
NEPA ..... National Environmental Policy Act
NHPA ..... National Historic Preservation Act
NO_2 ..... Nitrogen Dioxide
NO_x ..... Nitrogen oxides
NRHP ..... National Register of Historic Places
PM_{10} ..... particulate matter 10 microns in size
$PM_{2.5}$ ..... particulate matter 2.5 microns in size
PRC ..... Public Resource Code
ROG ..... reactive organic gases
RWQCB ..... Regional Water Quality Control Board
SB ..... Senate Bill
SJVAB ..... San Joaquin Valley Air Basin
SJVAPCD ..... San Joaquin Valley Air Pollution Control District
SO_2 ..... Sulfur Dioxide
SR ..... State Route
SWIS ..... Solid Waste Database
SWPPP ..... Storm Water Pollution Prevention Plan
SWRCB ..... State Water Resources Control Board
TDS ..... total dissolved solids
µg/m3 ..... micrograms per cubic meter
USACE ..... United States Army Corps of Engineers

USFWS ..... United States Fish and Wildlife Service
UWMP ..... Urban Water Management Plan

Chapter 1 Introduction

Provost & Pritchard Consulting Group (Provost & Pritchard) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) on behalf of the City of Patterson (City) to address the environmental effects of the Urban Bicycle Trail Project at Salado Creek (Project) pertaining to approximately 6,500 linear feet of right-of-way and property located along Salado Creek between Cliff Swallow Drive to the north, to the southern city limits, in the City of Patterson, Stanislaus County. This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 *et.seq.* The City is the CEQA lead agency for this proposed Project.

The site and the proposed Project are described in detail in **Chapter 2 Project Description**.

1.1 Regulatory Information

An Initial Study (IS) is a document prepared by a lead agency to determine whether a project may have a significant effect on the environment. In accordance with California Code of Regulations Title 14 (Chapter 3, Section 15000, *et seq.*)-- also known as the CEQA Guidelines-- Section 15064 (a)(1) states that an environmental impact report (EIR) must be prepared if there is substantial evidence in light of the whole record that the proposed Project under review may have a significant effect on the environment and should be further analyzed to determine mitigation measures or project alternatives that might avoid or reduce project impacts to less than significant levels. A negative declaration (ND) may be prepared instead if the lead agency finds that there is ***no*** substantial evidence in light of the whole record that the project may have a significant effect on the environment. An ND is a written statement describing the reasons why a proposed Project, not otherwise exempt from CEQA, would not have a significant effect on the environment and, therefore, why it would not require the preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, a ND or *mitigated* ND shall be prepared for a project subject to CEQA when either:

a. The IS shows there is no substantial evidence, in light of the whole record before the agency, that the proposed Project may have a significant effect on the environment, or

b. The IS identified potentially significant effects, but:

- Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed MND and IS are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur is prepared, and

- There is no substantial evidence, in light of the whole record before the agency, that the proposed Project *as revised* may have a significant effect on the environment.

1.2 Document Format

This IS/MND contains five chapters and three appendices. **Chapter 1 Introduction**, provides an overview of the proposed Project and the CEQA process. **Chapter 2 Project Description**, provides a detailed description of proposed Project components and objectives. **Chapter 3 Impact Analysis**, presents the CEQA checklist and environmental analysis for all impact areas, mandatory findings of significance, and feasible mitigation measures. If the proposed Project does not have the potential to significantly impact a given issue area, the relevant section provides a brief discussion of the reasons why no impacts are expected. If the proposed Project

could have a potentially significant impact on a resource, the issue area discussion provides a description of potential impacts, and appropriate mitigation measures and/or permit requirements that would reduce those impacts to a less than significant level. **Chapter 3 Impact Analysis** concludes with the Lead Agency's determination based upon this initial evaluation. **Chapter 4 Mitigation Monitoring and Reporting Program (MMRP)**, provides the proposed mitigation measures, implementation timelines, and the entity/agency responsible for ensuring implementation. The IS/MND concludes with **Chapter 5 Works Cited**, a listing of the works cited or relied upon in the analysis.

Chapter 2 Project Description

2.1 Project Title

Urban Bicycle Trail Project at Salado Creek

2.2 Project Details

The Project proposes to fill gaps between existing trail segments to create approximately 6,500 linear feet of continuous bike and pedestrian trail along Salado Creek from just south of Sweet Briar Drive to Cliff Swallow Drive in the City of Patterson. The existing trail segments in poor condition will be rehabilitated. An existing concrete culvert will be modified to create a new protected crossing under Sperry Avenue to improve bike and pedestrian safety. A new culvert will be constructed to create a trail crossing over Salado Creek just north of Sperry Avenue. Approximately 273 trees will be planted, as well as 88 pedestrian scale light poles installed. Although the Area of Potential Effect is approximately 28 acres, the acreage of construction impacts is approximately 5.4 acres.

Due to the alteration of Salado Creek, permits may be required with the Department of Fish & Wildlife and the U.S. Army Corps of Engineers. For the Department of Fish & Wildlife, a Lake or Streambed Alteration Agreement, Section 1600, may be required. For the Army Corps of Engineers, a Section 404 Permit, Clean Water Act, may be required.

2.2.1 Lead Agency Name and Address

City of Patterson
Planning and Development Department
1 Plaza Circle
Patterson, CA 95363

2.2.2 Contact Person and Phone Number

City Contact

Tiffany Rodriguez, Capital Projects Manager
(209) 895-8075
tirodriguez@ci.patterson.ca.us

CEQA Consultant

Provost & Pritchard Consulting Group
Briza Sholars, Environmental Project Manager
(559) 449-2700

2.2.3 Project Location

The Project is generally located along Salado Creek between Cliff Swallow Drive and southern city limits in Patterson, California, Township 5S, Range 7E, Sections 25 and 36, Mount Diablo Base & Meridian (see **Figure 2-1**, **Figure 2-2**, and **Figure 2-3**.

2.2.4 Latitude and Longitude

The centroid of the Project area is located at Latitude 37.469280, Longitude 121.150059.

2.2.5 Surrounding Land Uses

Table 2-1. Surrounding Land Uses

Direction	Existing Land Use	General Plan	Zoning
North	Single-Family Residential	Low Density Residential / Parks/Open Space	LR
South	Agriculture	Low Density Residential	N/A
East	Middle School, Single-Family Residential, Parks	Low Density Residential	LR, PQP, PR
West	Parks, Single-Family Residential	Low Density Residential	LR, PR

Other Public Agencies Whose Approval May Be Required

- San Joaquin Valley Air Pollution Control District (SJVAPCD)
- California Department of Fish & Wildlife (CDFW)
- United States Army Corps of Engineers (USACE)

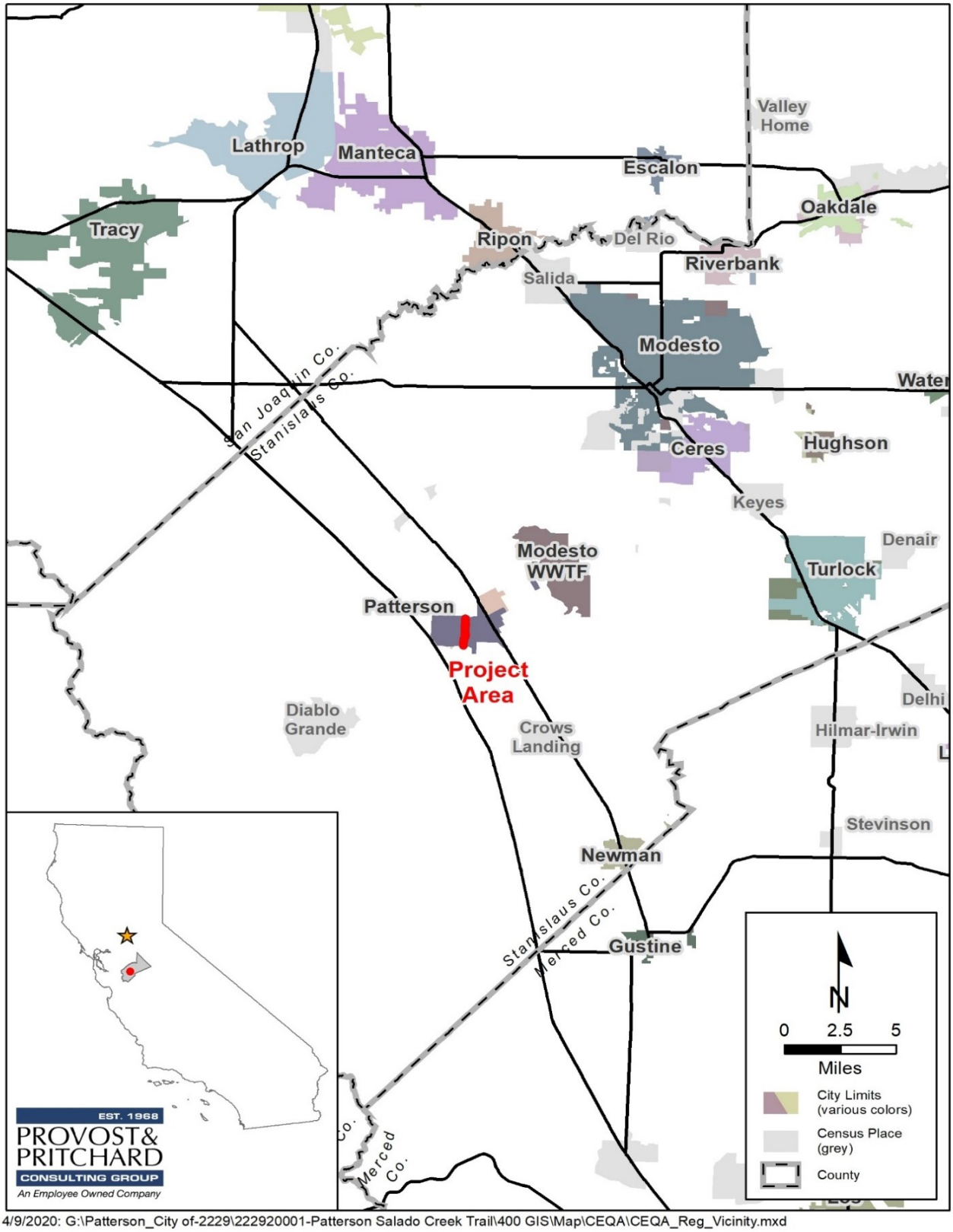
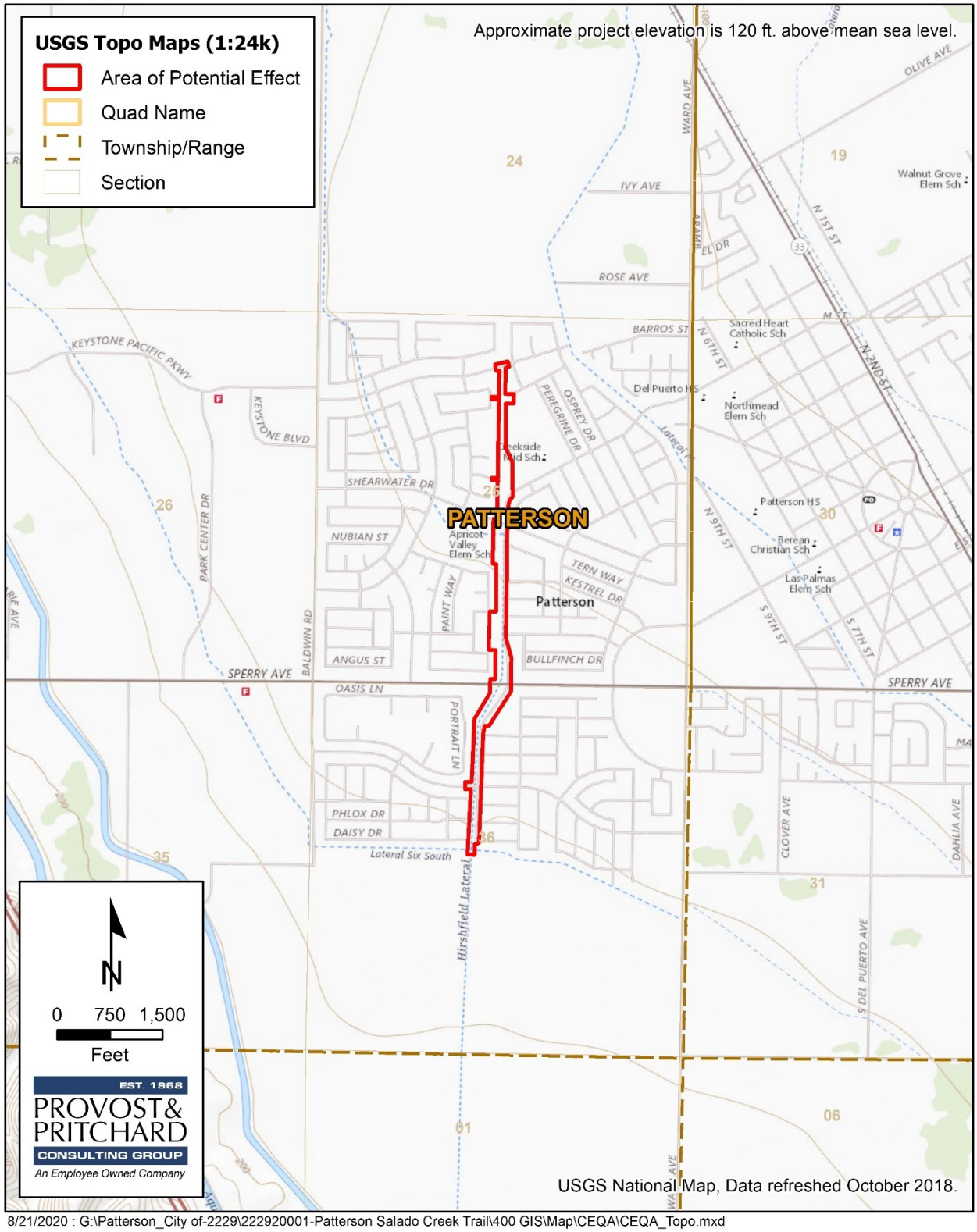
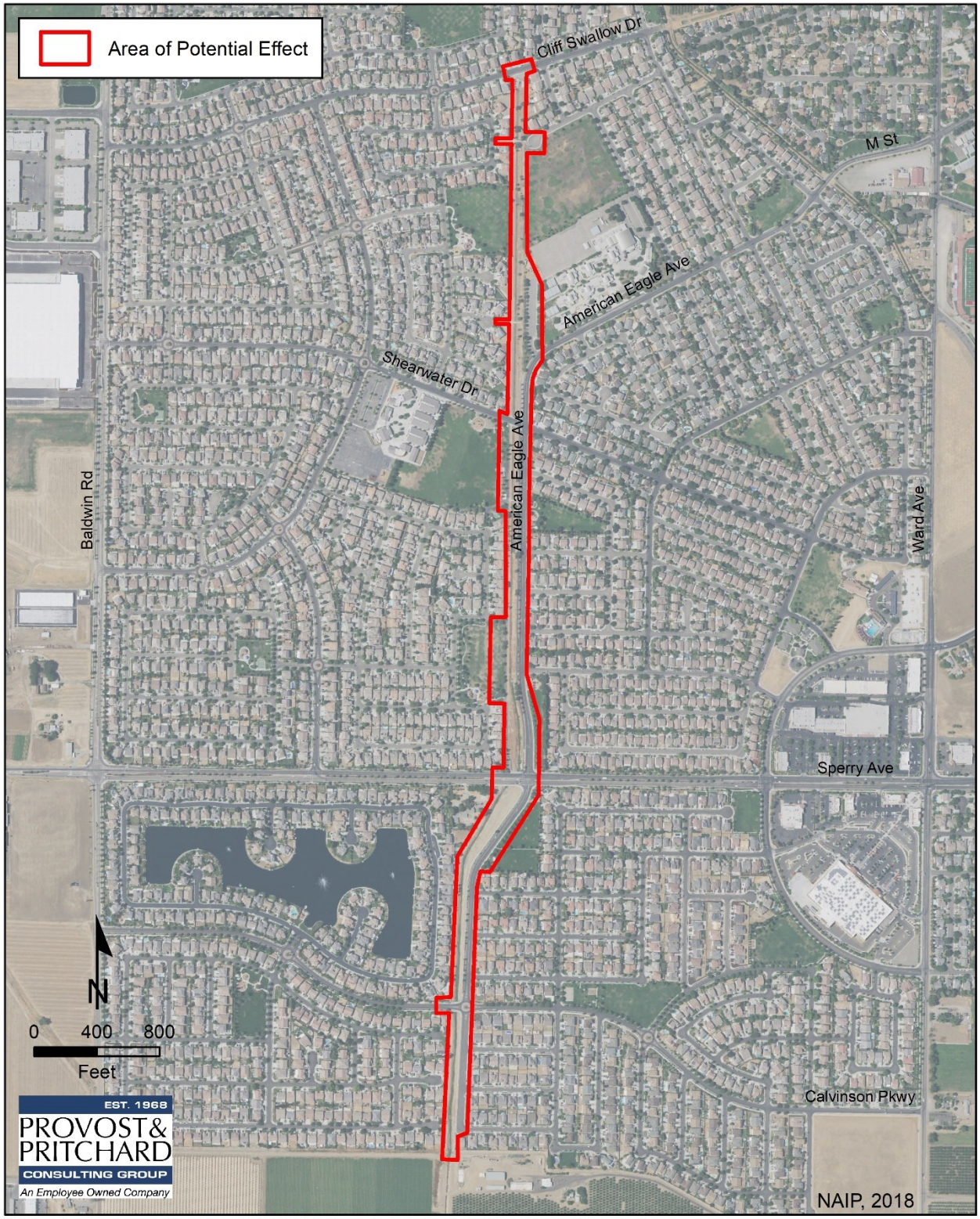


Figure 2-1. Regional Location Map



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Figure 2-2. Topographic Quadrangle Map



8/21/2020 : G:\Patterson_City of-2229\222920001-Patterson Salado Creek Trail\400 GIS\Map\CEQA\CEQA_APE.mxd

Figure 2-3. Area of Potential Effect Map



Figure 2-4. General Plan Land Use Designation Map



Figure 2-5. Zone District Map

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, as indicated by the checklist and subsequent discussion on the following pages.

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

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

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

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

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

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

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



Signature

10/14/2020
Date

Tiffany Rodriguez, Capital Projects Manager
Name/Position

Chapter 3 Impact Analysis

3.1 Aesthetics

Table 3-1. Aesthetics

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

3.1.1 Environmental Setting and Baseline Conditions

Several new segments of the bicycle and pedestrian trail will be built between existing, discontinuous segments to form one continuous trail measuring approximately 10 feet wide and 6,500 feet long between just south of Sweet Briar Drive to Cliff Swallow Drive. Additionally, existing bicycle and pedestrian trail segments which are in poor condition will be rehabilitated as a part of this Project. The Project will also create a new protected crossing under Sperry Avenue to improve bicycle and pedestrian safety.

A long segment of the existing trail has previously been built within the northern end of the APE, on the west side of Salado Creek between Cliff Swallow Drive and Shearwater Drive, and will be rehabilitated. A new trail segment will be constructed along the west side of Salado Creek, between Shearwater Drive to approximately 900 feet south of Calvinson Parkway. A short segment of new trail will also be constructed on the east side of Salado Creek from the existing pedestrian bridge at Sutter Creek Court to the existing trail approximately 400 feet to the south.

Additionally, the large existing concrete box culvert under Sperry Avenue will be modified to accommodate both the bicycle and pedestrian protected undercrossing and the storm water flow in Salado Creek. The other road crossings will be built at-grade and will be designed to be high visibility. The existing culvert and the portion of Salado Creek near the culvert will be excavated approximately five to six feet deeper to accommodate the new trail.

Approximately 273 trees will be planted along the 6,500 feet of completed trail. A plant palette will be developed for all of the trees and plants within the footprint of the Project, with specific consideration given to carbon

sequestration, inclusion of native species, pollinator habitat, low water use, and drought tolerance. The new trees will not exceed 15 gallons in initial planting size. An irrigation system will be designed from the non-potable water system.

Approximately 88 lights will be installed along the 6,500 feet of completed trail with an approximate 75-foot spacing between the lights. The lighting will be designed to current standards to maintain required foot-candles along the trail.

3.1.2 Impact Assessment

A scenic vista is generally regarded as a viewpoint that provides a distant view of highly valued natural or man-made landscape features for the benefit of the general public. Scenic resources include landscapes and features that are visually or aesthetically pleasing. Scenic resources contribute positively to a distinct community or region and may infer a visual benefit upon communities. Typical scenic resources within the planning area include landscaped open spaces such as parks.

For purposes of this analysis, and as defined in CEQA, "Urban area" includes either an incorporated city or an unincorporated area that is completely surrounded by one or more incorporated cities that meets both of the following criteria: (A) The population of the unincorporated area and the population of the surrounding incorporated cities equal a population of 100,000 or more. (B) The population density of the unincorporated area is equal to, or greater than, the population density of the surrounding cities. As the population density of the unincorporated area is *not* equal to, or greater, the population density of the adjacent City of Patterson that surrounds it, the Project site would be considered to be in an urbanized area.

a) Would the project have a substantial adverse effect on a scenic vista?

No Impact. The area is currently a trail. The Project does not propose significant impediments to the general public or obstructions to the view of natural features. The project will improve the aesthetics of the area and plant additional trees. There are no scenic vistas in the project area. Accordingly, there is no adverse impact.

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. There are no identified scenic resources, trees, rock outcroppings, or historic buildings on or near the subject site. There are no state scenic highways within the Project's vicinity[1]. Therefore, there is no impact.

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

No Impact. The Project is located in an urbanized area. There are no applicable zoning regulations or other regulations governing scenic quality. There is no impact.

d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less than Significant Impact. The Project will introduce new sources of light and glare. However, the site is within an urbanized area, and has existing sources of light and glare. Lighting sources within the Project's vicinity provide for direction and security, as well as contributing visually to the developing landscape. Existing light sources within the Project's vicinity currently affect day and nighttime views in the Project area to a degree equal to or greater than the light sources proposed by the Project. Compliance with California Building Code

[1] (CalTrans, 2019)

(Title 24, California Code of Regulations) standards would ensure that light and glare impacts from the proposed project would be less than significant. In addition lights will be hooded and directed away from nearby residential neighborhoods. Therefore, new sources of light and glare generated by the Project would be consistent with existing lighting in the area and would be considered less than significant new sources of light and glare.

3.2 Agriculture and Forestry Resources

Table 3-2. Agriculture and Forestry Resources

Agriculture and Forest Resources				
Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐

3.2.1 Environmental Setting and Baseline Conditions

The entirety of the Project site proposed for construction is currently vacant graded land that is an existing trail site. The entre APE does not contain land t in agriculture production. The Project site is currently not held under Williamson Act contract. The subject property is deemed Urban and Built-Up Land by the FMMP.

3.2.1.1 Local Setting

There are no local regulations, plans, programs, or guidelines associated with agriculture and forestry resources that are applicable to the proposed Project.

3.2.2 Impact Assessment

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

No Impact. The Project site is not designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) by the FMMP. Directly south of the Project site are parcels designated Prime Farmland. The Project would not directly convert Prime Farmland. Therefore, there is no impact.

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

No Impact. The Project site is not under a Williamson Act contract. The Project site consists primarily of existing right-of-way and land zoned for parks and educational facilities. Therefore, the proposed Project will not affect existing agriculturally zoned or Williamson Act contract parcels. There would be no impact.

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

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

No Impact. The Project is not within the vicinity of a forest as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)). Therefore, the Project will not conflict with existing zoning for, or cause rezoning of, forest land nor result in the loss of forest land or conversion of forest land to non-forest use.

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

Less than Significant Impact. The Project consists of making improvements to and filling in gaps of an existing trail. As the trail runs south to City limits, the Project may result in changes in the existing environment that due to both location and nature would result in the conversion of adjacent lands to non-agricultural uses. Directly south of the Project site are parcels designated Prime Farmland. While the Project would not directly convert Prime Farmland, it is possible that its development could encourage the conversion of the adjacent parcel. However, because the Project does not include the provision of major infrastructure improvements such as roads, water or sewer mains, impacts to Farmland would be less than significant.

3.3 Air Quality

Table 3-3. Air Quality

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

3.3.1 Environmental Setting and Baseline Conditions

The Project is located in the San Joaquin Valley Air Basin (SJVAB or air basin). The San Joaquin Valley Air Pollution Control District (SJVAPCD) provides Guidelines for Assessing and Mitigating Air Quality Impacts (GAMAQI) for quantification of emissions and evaluation of potential impacts to air resources[2] and Guidance for Land-Use Agencies in Addressing greenhouse gas (GHG) Emission Impacts for New Projects under CEQA.[3]

3.3.1.1 Regulatory Attainment Designations

Under the California Clean Air Act (CCAA), the California Air Resources Board (CARB) is required to designate areas of the State as attainment, non-attainment, or unclassified with respect to applicable standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "non-attainment" designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. Depending on the frequency and severity of pollutants exceeding applicable standards, the non-attainment designation can be further classified as serious non-attainment, severe non-attainment, or extreme non-attainment, with extreme non-attainment being the most severe of the classifications. An "unclassified" designation signifies that the data does not support either an attainment or non-attainment designation. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The Environmental Protection Agency (EPA) designates areas for ozone, Carbon Monoxide (CO), and Nitrogen Dioxide (NO_2) as "does not meet the primary standards," "cannot be classified," or "better than

[2] (San Joaquin Valley Air Pollution Control District, 2015)
[3] (San Joaquin Valley Air Pollution Control District, 2009)

national standards." For Sulfur Dioxide (SO_2), areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, the CARB terminology of attainment, non-attainment, and unclassified is more frequently used. The EPA uses the same sub-categories for non-attainment status: serious, severe, and extreme. In 1991, EPA assigned new non-attainment designations to areas that had previously been classified as Group I, II, or III for PM_{10} based on the likelihood that they would violate national PM_{10} standards. All other areas are designated "unclassified."

The State and national attainment status designations pertaining to the SJVAB are summarized in **Table 3-4**. The SJVAB is currently designated as a non-attainment area with respect to the State PM_{10} standard, ozone, and $PM_{2.5}$ standards. The air basin has historically been in non-attainment for the PM_{10} National Ambient Air Quality Standards (NAAQS), however, on September 25, 2008, the EPA re-designated the San Joaquin Valley air basin to attainment status for the particulate matter 10 microns in size (PM_{10}) NAAQS and approved its PM_{10} Maintenance Plan. The SJVAB is currently designated non-attainment for the NAAQS 8-hour ozone and particulate matter 2.5 microns in size ($PM_{2.5}$) standards.

Table 3-4. Summary of Ambient Air Quality Standards and Attainment Designation

Summary of Ambient Air Quality Standards & Attainment Designation					
Pollutant	**Averaging Time**	**California Standards***		**National Standards***	
		Concentration*	**Attainment Status**	**Primary**	**Attainment Status**
Ozone (O_3)	1-hour	0.09 ppm	Nonattainment/ Severe	–	No Federal Standard
	8-hour	0.070 ppm	Nonattainment	0.075 ppm	Nonattainment (Extreme)**
Particulate Matter (PM_{10})	AAM	20 µg/m^3	Nonattainment	–	Attainment
	24-hour	50 µg/m^3		150 µg/m^3	
Fine Particulate Matter ($PM_{2.5}$)	AAM	12 µg/m^3	Nonattainment	12 µg/m^3	Nonattainment
	24-hour	No Standard		35 µg/m^3	
Carbon Monoxide (CO)	1-hour	20 ppm	Attainment/ Unclassified	35 ppm	Attainment/ Unclassified
	8-hour	9 ppm		9 ppm	
	8-hour (Lake Tahoe)	6 ppm		–	
Nitrogen Dioxide (NO_2)	AAM	0.030 ppm	Attainment	53 ppb	Attainment/ Unclassified
	1-hour	0.18 ppm		100 ppb	
Sulfur Dioxide (SO_2)	AAM	–	Attainment	--	Attainment/ Unclassified
	24-hour	0.04 ppm		--	
	3-hour	–		0.5 ppm	
	1-hour	0.25 ppm		75 ppb	
Lead (Pb)	30-day Average	1.5 µg/m^3	Attainment	–	No Designation/ Classification
	Calendar Quarter	–		--	
	Rolling 3-Month Average	–		0.15 µg/m^3	
Sulfates (SO_4)	24-hour	25 µg/m^3	Attainment	No Federal Standards	
Hydrogen Sulfide (H_2S)	1-hour	0.03 ppm (42 µg/m^3)	Unclassified		
Vinyl Chloride (C_2H_3Cl)	24-hour	0.01 ppm (26 µg/m^3)	Attainment		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/km-visibility of 10 miles or more due to particles when the relative humidity is less than 70%.	Unclassified		

** For more information on standards visit: http//www.arb.ca.gov.research/aaqs/aaqs2.pdf*
*** No Federal 1-hour standard. Reclassified extreme nonattainment for the Federal 8-hour standard May 5, 2010.*
****Secondary Standard*
Source: CARB 2015; SJVAPCD 2019

3.3.2 Impact Assessment

Conclusions in this Air Quality Impact assessment rely on information and findings found in the CalEEMod Report (**Appendix A**). The sections below detail these conclusions and recommendations and utilize its conclusions in the determinations.

To assist local jurisdictions in the evaluation of air quality impacts, the SJVAPCD published the *Guide for Assessing and Mitigating Air Quality Impacts*. This guidance document includes recommended thresholds of significance to be used for the evaluation of short-term construction, long-term operational, odor, toxic air contaminant, and cumulative air quality impacts. Accordingly, the SJVAPCD-recommended thresholds of significance are used to determine whether implementation of the proposed Project would result in a significant air quality impact. Projects that exceed these recommended thresholds would be considered to have a potentially significant impact to human health and welfare. The thresholds of significance are included in **Table 3-5** through **Table 3-8** to provide for a comparative significance determination.

Assessment of the significance of project air quality impacts may be considered on a regional or localized level. Determination of project impacts on achieving the goal of air quality plans and evaluating impacts related to emissions of criteria pollutants are considered on both regional and localized levels in this analysis. Evaluation of impacts to sensitive receptors considers the project's localized criteria pollutant emissions in this analysis. Sources of the project's localized criteria pollutant emissions would include: reactive organic gases (ROG), Nitrogen oxides (NO_x), $PM_{2.5}$, PM_{10}, CO, NO_2, and Toxic Air Contaminants (TACs) which include acetaldehyde, benzene, 1.3 butadiene, carbon tetrachloride, hexavalent chromium, paradichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter a complex mixture of substances.

3.3.3 Methodology of Determining the Significance of Air Quality Impacts

3.3.3.1 Short-Term Construction-Generated Emissions

Short-term construction emissions associated with the Project were modeled using CalEEMod version 2016.3.2. The emissions modeling includes emissions generated by construction and grading associated with the development, equipment delivery, and vehicle, equipment, and worker fuel usage. Emissions were quantified based on anticipated construction schedules and construction equipment requirements that would occur during Calendar Year 2021. All remaining assumptions were based on the default parameters contained in the model. Modeling assumptions and output files are included in **Appendix A**.

The SJVAPCD is responsible for controlling emissions primarily from stationary sources. The SJVAPCD in coordination with the eight countywide transportation agencies, is responsible for developing, updating, and implementing air quality attainment plans for the air basin. The SJVAPCD has adopted ozone plans and particulate matter plans for purposes of controlling harmful emissions and achieving attainment of state and national attainment standards. A project that would exceed established thresholds for criteria pollutants would be considered to have a significant impact on the implementation of air quality plans and would also constitute a cumulatively considerable net increase of criteria pollutants for which the air basin is in non-attainment.

Construction of the Project is expected to begin after Project approval with full buildout within six months. A crew of 15 will expected to be needed. Construction equipment will be as follows:

- Three (3) crew trucks
- Two (2) excavators
- One (1) backhoe or skip loader
- Two (2) 2-ton smooth drum rollers
- Three (3) end dumps
- One (1) front loader

The site will be watered to reduce dust. The results of the modeling for the Project are presented in **Table 3-5.**

Table 3-5. Short-Term - Construction-Generated Emissions of Criteria Air Pollutants

Short-Term Construction-Generated Emissions of Criteria Air Pollutants						
	Annual Emissions (Tons/Year)					
Year	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
2021	0.0.3225	3.1613	2.2962	0.0046	0.2443	0.1749
SJVAPCD Significance Thresholds:	***10***	***10***	***100***	***27***	***15***	***15***
Exceed SJVAPCD Thresholds?	***No***	***No***	***No***	***No***	***No***	***No***

3.3.3.2 Long-Term - Operational Emissions

Operational emissions occur over the lifetime of the Project and are from two main sources: energy usage (lights), and motor vehicles (operations and maintenance crew) usage known as mobile sources. Area source emissions include emissions from landscaping and painting. Completion of the Project is expected as early as June 2021 and was used as the Project buildout modeling year as a conservative assumption. The SJVAPCD considers construction and operational assumptions separately when making significance determinations. Modeling assumptions and output files are included in **Appendix A**. The unmitigated long-term operational emissions for the Project are listed in **Table 3-6**.

Table 3-6. Unmitigated Long-Term Operational Emissions

Long-Term Operational Emissions of Criteria Air Pollutants						
	Annual Emissions (Tons/Year)					
Source	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Area	0.0022	0.0000	0.0000	0.0000	0.0000	0.0000
Energy:	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0120	0.1107	0.1155	0.0005	0.0311	0.0087
Total	***0.0143***	***0.1107***	***0.1155***	***0.0005***	***0.0311***	***0.0087***
SJVAPCD Significance Thresholds:	***10***	***10***	***100***	***27***	***15***	***15***
Exceed SJVAPCD Thresholds?	***No***	***No***	***No***	***No***	***No***	***No***

3.3.4 Screening Thresholds for Determining Impacts to Sensitive Receptors

Impacts to sensitive receptors would occur primarily during Project construction. Construction activities could produce short-term emissions that have the potential in large concentrations to contribute to cancer risk over a 70-year exposure period. The CalEEMod report (**Appendix A**) provides technical information on the types of pollutants that have the potential to affect sensitive receptors.

The SJVAB includes screening thresholds for identifying projects that need detailed analysis for localized impacts. Projects with on-site emission increases from construction activities that exceed the 100 pounds per day screening level of any criteria pollutant after compliance with Rule 9510 and implementation of all applicable mitigation measures would require preparation of an ambient air quality analysis. The criteria pollutants of concern are NO_x, CO, PM_{10}, and $PM_{2.5}$. There is no localized emission standard for ROG and most types of ROG are not toxic and have no health-based standard, however, ROG was included for informational purposes only.

Table 3-7 lists the maximum daily air pollutant emissions generated by the Project during construction.

Table 3-7. Maximum Daily Air Pollutant Emissions During Construction

Maximum Daily Air Pollutant Emissions during Construction						
	Emissions (Pounds/Daily)					
Maximum Daily Emissions	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Construction	5.2959	50.8722	37.5555	0.0772	8.0359	4.8478
SJVAPCD Screening Thresholds	***100***	***100***	***100***	***100***	***100***	***100***

Operational emission would occur upon completion of the project. The Project is anticipated to be completed June 2021.

Table 3-8 lists the maximum daily air pollutant emissions generated by the Project during its operation.

Table 3-8. Maximum Daily Air Pollutant Emissions During Operation

Maximum Daily Air Pollutant Emissions during Operation						
	Emissions (Pounds/Daily)					
Maximum Daily Emissions	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Area	0.0122	0.0001	0.0005	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.2602	1.9523	2.2294	0.0086	0.5711	0.1587
Total Daily Emissions	***0.2724***	***1.9523***	***2.2300***	***0.0094***	***0.5709***	***0.1585***
SJVAPCD Screening Thresholds	***100***	***100***	***100***	***100***	***100***	***100***
Exceed SJVAPCD Thresholds?	***No***	***No***	***No***	***No***	***No***	***No***

Table 3-7 and Table 3-8 demonstrate the Project's impacts as evaluated against SJVAPCD screening thresholds for criteria pollutant emissions used to determine significance in accordance with health-based standards.

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

Less than Significant Impact. The CEQA Guidelines indicate that a significant impact would occur if the Project would conflict with or obstruct implementation of the applicable air quality plan. The GAMAQI does not provide specific guidance on analyzing conformity with the Air Quality Plan (AQP). Therefore, the Air Quality and GHG report assumed the following criteria for determining Project consistency with the current AQPs:

1. Will the project result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQPs? This measure is determined by comparison to the regional and localized thresholds identified by the SJVAPCD for regional and local air pollutants.
2. Will the project comply with applicable control measures in the AQPs? The primary control measures applicable to development projects is Regulation VII-*Fugitive PM_{10} Prohibitions* and Rule 9510 *Indirect Source Review*.

Regional air quality impacts and attainment of standards are the result of cumulative impacts of all emission sources within the air basin. Individual projects are generally not large enough to contribute measurably to an existing violation of air quality standards. Therefore, the cumulative impact of the Project is based on its cumulative contribution. Because of the region's non-attainment status for ozone, $PM_{2.5}$, and $PM_{10,}$ if Project generated emission of either of the ozone precursor pollutants ROG, NO_x, PM_{10}, or $PM_{2.5}$ would exceed the SJVAPCD's significance thresholds, then the Project would be considered to contribute to violations of the applicable standards and conflict with the attainment plans. As demonstrated in **Table 3-5** for construction-generated emissions, and in **Table 3-6**, operational emissions, project emissions of criteria pollutants would not exceed the SJVAPCD's significance thresholds. Therefore, the Project will not contribute to air quality violations in conflict with attainment plans.

The AQP contains a number of control measures, including *Regulation VII*-Fugitive PM_{10} Prohibitions *and Rule 9510* Indirect Source Review which are applicable to the Project. *Regulation VII*-Fugitive PM_{10} Prohibitions *and Rule 9510* Indirect Source Review are adopted rules and regulations that constitute enforceable requirements with which the project must comply. The Project would comply with all applicable SJVAPCD rules and regulations; therefore, the Project complies with the criterion and would not conflict with or obstruct implementation of the applicable air quality attainment plans.

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

Less than Significant Impact. To result in a less than significant impact, the following criteria must be true:

1. Regional analysis: emission of non-attainment pollutants must be below the SJVAPCD's regional significance thresholds. This is an approach recommended by the SJVAPCD in its GAMAQI.
2. Summary of projections: the project must be consistent with current air quality attainment plans including control measures and regulations. This is an approach consistent with Section 15130(b) of the CEQA Guidelines.
3. Cumulative health impacts: the project must result in less than significant cumulative health effects from the non-attainment pollutants. This approach correlates the significance of the regional analysis with health effects, consistent with the court decision in Bakersfield Citizens for Local Control v. City of Bakersfield (2004) 124 Cal.App.4th 1184, 1219-20.

As discussed in Item a, Project generated emissions are below the SJVAPCD's regional significance thresholds and the Project is consistent with current air quality attainment plans including control measures and regulations.

With respect to cumulative health impacts, the air basin is in non-attainment for ozone, $PM_{2.5}$, and PM_{10} (state only), which means that the background levels of those pollutants are at times higher than the ambient air quality standards. The air quality standards were set to protect public health, including the health of sensitive individuals (such as children, the elderly, and persons with pre-existing respiratory or cardiovascular illnesses (the infirm)). Therefore, when the concentration of those pollutants exceeds the standard, it is likely that some sensitive individuals in the population would experience adverse health effects. Since the air basin is already in non-attainment, it is considered to have an existing significant cumulative health impact without the Project. The issue is whether the Project's contribution to the existing violation of air quality standards is cumulatively considerable.

The SJVAPCD through its GAMAQI has determined that projects that exceed regional thresholds would have a cumulatively considerable health impact. As demonstrated in **Table 3-5 and Table 3-6,** the project would not exceed the SJVAPCD's significance thresholds and its cumulatively considerable impacts would be less than significant.

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

Less than Significant Impact. Sensitive receptors are those who are sensitive to air pollution, including children, the elderly, and the infirm. The SJVAPCD considers a sensitive receptor a location that houses or attracts children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Examples of sensitive receptors include hospitals, residences, convalescent facilities, and schools. The closest existing off-site sensitive receptors are single-family homes located on adjacent properties. Sensitive receptors, including schools and residences, are located adjacent to the project site on the east and west sides.

As demonstrated in **Table 3-7** and **Table 3-8**, the Project would not exceed the SJVAPCD's thresholds established in accordance with health-based standard for determining significance of criteria pollutant emissions. Therefore, in accordance with these standards, the Project would have a less than significant impact related to exposure of sensitive receptors to substantial pollutant concentrations.

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

No Impact. Land uses that are typically identified as sources of objectionable odors include landfills, transfer stations, sewage treatment plants, wastewater pump stations, composting facilities, feed lots, coffee roaster, asphalt batch plants, and rendering plants, among other uses. The Project does not include any of these activities or land uses. The Project would therefore have no impact with respect to generation of emissions leading to odors or other adverse or objectionable emissions.

3.4 Biological Resources

Table 3-9. Biological Resources

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

3.4.1 Environmental Setting and Baseline Conditions

The Project site is located within the City of Patterson in Stanislaus County, California. Patterson is situated on the valley floor near the base of the Diablo Range in the upper San Joaquin Valley, part of the Great Valley of California. The Valley is bordered by the Sierra Nevada Mountain Ranges to the east, the Coast Ranges to the west, the Klamath Mountains and Cascade Range to the north, and the Transverse Ranges and Mojave Desert to the south.

Like most of California, the San Joaquin Valley experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. Summer temperatures often reach above 90 degrees Fahrenheit, and the humidity is generally low. Winter temperatures are often below 60 degrees Fahrenheit during the day and rarely

exceed 70 degrees Fahrenheit. On average, the City of Patterson and surrounding Stanislaus County receives approximately 12 inches of precipitation in the form of rainfall yearly, most of which occurs between October and April.

Salado Creek originates as an intermittent stream in the mountains of the Diablo Range west of the City and flows easterly through a natural channel until it reaches the California Aqueduct. After crossing the California Aqueduct, Salado Creek flows in a general northerly direction through a man-made channel then crosses the Delta Mendota Canal in a flume. After crossing the Delta Mendota Canal, Salado Creek continues north and then northeast in a channelized earthen canal until it reaches Cliff Swallow Drive where it is piped underground for approximately 1,000 feet before emerging once again into a channelized earthen canal. It travels in a northeasterly direction until it reaches Highway 33 where the natural creek has been filled and replaced with large pipes that carry the water to the San Joaquin River.

The Project is located within the Salado Creek sub-watershed; Hydrologic Unit Code (HUC): 180400020402, which is part of the Salado Creek-San Joaquin River watershed; HUC: 1804000204. The principal drainage in the vicinity is Salado Creek, also known as Hirshfield Lateral, which runs along the entire length of the proposed Salado Creek Trail Project. The Project area includes the channelized Salado Creek and adjacent lands from Sweet Briar Drive to Cliff Swallow Drive in the City of Patterson. Two land uses/biological communities were identified within the Project area, including ruderal/developed and intermittent drainage. Lands south of Sweet Briar Drive are developed into orchards and vineyards, and the remaining surrounding uses bordering the APE are developed into urban residences and City parks.

3.4.2 Regulatory Setting

3.4.2.1 Federal

Federal projects are subject to the provisions of NEPA. The purpose of NEPA is to assess the effects of a proposed action on the human environment, assess the significance of those effects, and recommend measures that if implemented would mitigate those effects. As used in NEPA, a determination that certain effects on the human environment are "significant" requires considerations of both context and intensity (CFR 1508.27).

Context means that the significance of an action must be analyzed in terms of the affected environment in which a proposed action would occur. For the purposes of assessing effects of an action on biological resources, the relevant context is often local, which means the analysis requires a comparison of the action area's biological resources to the biological resources of the local area. However, the analysis may also require a comparison of the action area's biological resources with the biological resources of an entire region.

Intensity refers to the severity of impact. In considering intensity of impact to biological resources, it is necessary to address the unique qualities of wetlands and ecologically critical areas that may be affected, the degree to which the action will be controversial, the degree to which the effects will be controversial, the degree to which the effects will be uncertain, the degree to which the action will establish a precedent for future actions with potentially significant effects, and the potential for the action to result in cumulatively significant effects.

The effects of an action on some biological resources are generally considered to be "significant." An action that adversely affects federally listed threatened or endangered species, waters of the U.S., or migratory movements of fish and wildlife are some examples of significant effects.

NEPA requires disclosure of feasible mitigation measures for the effects of an action on the environment. Suitable measures include the following:

- Avoidance of the effect by not taking a certain action or parts of an action;
- Mitigation of the effect by limiting the degree or magnitude of the action and its implementation;

- Rectifying the effect by repairing, rehabilitating, or restoring the affected environment;
- Reducing or eliminating the effect over time by preservation and maintenance operations throughout the life of the action; and/or
- Compensating for the effect by replacing or providing substitute resources or environments.

3.4.2.2 State

General plans, area plans, and specific projects are subject to the provisions of CEQA. The purpose of CEQA is to assess the impacts of proposed projects on the environment prior to project implementation. Impacts to biological resources are just one type of environmental impact assessed under CEQA and can vary from project to project in terms of scope and magnitude. Projects requiring removal of vegetation may result in the mortality or displacement of animals associated with this vegetation. Animals adapted to humans, roads, buildings, and pets may replace those species formerly occurring on a site. Plants and animals that are State and/or federally listed as threatened or endangered may be destroyed or displaced. Sensitive habitats such as wetlands and riparian woodlands may be altered or destroyed. Such impacts may be considered either "significant" or "less-than-significant" under CEQA. According to *California Environmental Quality Act, Statute and Guidelines* (AEP 2012), "significant effect on the environment" means a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest. Specific project impacts to biological resources may be considered "significant" if they would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

Furthermore, CEQA Guidelines Section 15065(a) states that a project may trigger the requirement to make a "mandatory finding of significance" if the project has the potential to:

> "Substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species cause a fish or wildlife population to drop below self-sustaining levels threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory."

3.4.2.3 Local

The City of Patterson General Plan contains the following policies related to the preservation of biological resources that may be considered relevant to the Project's environmental review.

- NR-1.4 Sedimentation. The City shall continue to support local, regional, and statewide efforts to minimize the discharge of sediment into waterways, including Salado Creek, Del Puerto Creek and the San Joaquin River.
- NR-3.2 Protection of sensitive species. A project with the potential to adversely impact special status species or their habitat, shall provide evidence of compliance with the relevant provisions of State and federal laws relating to the preservation of rare, threatened, or endangered species and their habitat prior to project approval and/or prior to construction as determined by the requirements set forth in the federal and State Endangered Species Acts, the federal Clean Water Act, the federal Rivers and Harbors Act and the Implementation Measures provided in Appendix NR.[4]
- NR-3.3 On-site resource preservation. The City shall encourage new development to preserve on-site natural elements that contribute to the community's native plant and wildlife species value and to its aesthetic character.
- NR-3.7 Riparian habitat protection. The City shall preserve the ecological integrity of creek corridors, canals, and drainage ditches that support riparian resources by preserving native riparian plants and, to the extent feasible, removing invasive nonnative plants. If preservation of the ecological integrity of existing resources is found to be infeasible, adverse impacts to riparian resources shall be fully mitigated consistent with the requirements of applicable State and federal regulations. (see also Implementation Measures and Appendix NR)
- NR-3.8 Wetland protection. The City shall preserve and protect wetland resources including creeks, rivers, ponds, marshes, vernal pools, and other seasonal wetland areas, to the extent feasible. If preservation of the ecological integrity of existing wetland resources is found to be infeasible, adverse impacts to such resources shall be fully mitigated consistent with the requirements of applicable State and federal regulations.

3.4.3 Methodology

Biological Reconnaissance Survey: The biological reconnaissance survey was conducted on May 16, 2020. The survey consisted of walking through the Project area while identifying and noting land uses, biological habitats and communities, and plant and animal species encountered. Furthermore, the site and surrounding areas were assessed for suitable habitats utilized by various wildlife species. A Biological Habitat Assessment prepared in June 2020 can be found in **Appendix B**. Concurrent with the biological reconnaissance survey, field work was conducted to delineate potential jurisdictional waters of the Project area. A separate Aquatic Resources Delineation (ARD) report was subsequently prepared in June 2020. Both reports are summarized below.

Prior to conducting the biological reconnaissance survey, a review of the California Natural Diversity Database/RareFind (CNDDB/RareFind) and the United States Fish and Wildlife (USFWS) Information for Planning and Consultation database was performed to determine the presence of special status species in the vicinity of the Project site. These species, and their potential to occur within the Project area are listed in **Table 3-10** and **Table 3-11** on the following pages.

[4] Natural Resources Element. Patterson General Plan. https://www.ci.patterson.ca.us/DocumentCenter/View/160/Natural-Resources-Element-PDF?bidId=. Accessed September 2020.

Table 3-10. List of Special Status Animals with Potential to Occur Onsite and/or in the Vicinity

List of Special Status Animals with Potential to Occur Onsite and/or in the Vicinity[5]			
Species	**Status**	**Habitat**	**Occurrence on Project Site**
American badger *(Taxidea taxus)*	CSC	Grasslands, savannas, and mountain meadows near timberline are preferred. Most abundant in drier open spaces of shrub and grassland. Burrows in soil.	**Unlikely.** Ground squirrel burrows of suitable dimensions for American badger were observed along the banks of Salado Creek at the time of the biological survey; however, open grassland habitat was absent. Furthermore, the Project area and surrounding cultivated agricultural fields are unsuitable for this species due to frequent disturbance. The nearest suitable habitat, which also coincides with the nearest recorded observations of this species, occurs west of Interstate 5 and the California Aqueduct.
bald eagle *(Haliaeetus leucocephalus)*	CE, CFP	Resides in old growth forests as well as lower montane coniferous forests. Nests are generally found in large, old-growth trees within a mile of water. Nests and winters along ocean shores, lake margins, and rivers.	**Absent.** Suitable nesting and foraging habitat are absent from the Project area.
blunt-nosed leopard lizard *(Gambelia sila)*	FE, CE, CFP	Inhabits semi-arid grasslands, alkali flats, low foothills, canyon floors, large washes, and arroyos, usually on sandy, gravelly, or loamy substrate, sometimes on hardpan. Often found where there are abundant rodent burrows in dense vegetation or tall grass. Cannot survive on lands under cultivation. Known to bask on kangaroo rat mounds and often seeks shelter at the base of shrubs, in small mammal burrows, or in rock piles. Adults may excavate shallow burrows but rely on deeper pre-existing rodent burrows for hibernation and reproduction.	**Absent.** Suitable habitat is absent, and the Project area is outside of the known distribution range of this species.
burrowing owl *(Athene cunicularia)*	CSC	Resides in open, dry annual or perennial grasslands, deserts, and scrublands with low growing vegetation. Nests underground in existing burrows created by mammals, most often ground squirrels.	**Possible.** Typical suitable habitat is absent from the Project area. However, this species has been known to nest and forage in urbanized sites such as golf courses, airports, and canal banks. An abundance of ground squirrels and burrows of sufficient dimensions were observed along the banks of Salado Creek at the time of the biological survey.
cackling (=Aleutian Canada) goose (*Branta hutchinsii leucopareia*)	CWL	Inhabits areas with standing water, including lakes, reservoirs, and ponds, while foraging on natural pasture and cultivated grain fields. Winters on lakes and inland prairies.	**Unlikely.** Typical suitable habitat is absent from the Project area and surrounding lands. However, this species could potentially pass over the site while wintering or during migratory movements.
California horned lark (*Eremophila alpestris actia*)	CWL	Frequents open habitats, including short-grass prairie, mountain meadows, open coastal plains, fallow grain fields, and alkali flats. Found primarily in coastal regions, including Sonoma and San Diego Counties.	**Absent.** Suitable habitat is absent from the Project area and surrounding lands.
California red-legged frog *(Rana draytonii)*	FT, CSC	Inhabits perennial rivers, creeks, and stock ponds with vegetative cover within the Coast Range and northern Sierra foothills.	**Absent.** Suitable habitat is absent, and the Project area is outside of the known distribution range of this species.
California tiger salamander *(Ambystoma californiense)*	FT, CT, CWL	Requires vernal pools or seasonal ponds for breeding and small mammal burrows for aestivation. Generally found in grassland and oak savannah plant communities in	**Absent.** Suitable grassland habitat and breeding pools are absent from the Project area.

[5] (Provost & Pritchard Consulting Group)

List of Special Status Animals with Potential to Occur Onsite and/or in the Vicinity[5]			
Species	**Status**	**Habitat**	**Occurrence on Project Site**
		central California from sea level to 1500 feet in elevation.	
Crotch bumble bee (*Bombus crotchii*)	CCE	Occurs throughout coastal California, as well as east to the Sierra-Cascade crest, and south in to Mexico. Food plant genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia*, and *Eriogonum*.	**Absent.** Suitable grassland habitat is absent from the Project area and surrounding lands.
Delta smelt *(Hypomesus transpacificus)*	FT, CE	This pelagic and euryhaline species is Endemic to the Sacramento-San Joaquin River Delta, upstream through Contra Costa, Sacramento, San Joaquin, and Solano Counties.	**Absent.** Suitable perennial aquatic habitat is absent, and the Project area is outside of the known distribution range of this species.
foothill yellow-legged frog *(Rana boylii)*	CCT, CSC	Frequents rocky streams and rivers with rocky substrate and open, sunny banks in forests, chaparral, and woodlands. Occasionally found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools.	**Absent.** Suitable habitat is absent from the Project area.
giant gartersnake *(Thamnophis gigas)*	FT, CT	Occurs in marshes, sloughs, drainage canals, irrigation ditches, rice fields, and adjacent uplands. Prefers locations with emergent vegetation for cover and open areas for basking. This species uses small mammal burrows adjacent to aquatic habitats for hibernation in the winter and to escape from excessive heat in the summer.	**Absent.** The small (approximately 700 square-foot) area within Salado Creek that contains emergent vegetation is not large enough to support a giant gartersnake individual or population. Typically, at least one acre of aquatic habitat and two acres of contiguous upland habitat is necessary to support one pair of giant gartersnakes. While suitable habitat may exist several miles away in the San Joaquin River, portions of Salado Creek pass through control structures and pipes underground which creates a movement barrier for aquatic species. Furthermore, while the Project is located within the presumed historic range of this species, giant garternsake has never been recorded in Stanislaus County and is thought to be extirpated from this region.
golden eagle (Aquila chrysaetod)	CFP	This species typically nests on cliff ledges or large trees, rarely on the ground. They prefer an expanse of open terrain and are found over tundra, prairie, rangeland, desert, and grasslands.	**Absent.** Suitable nesting and foraging habitat are absent from the Project area.
hardhead *(Mylopharodon conocephalus)*	CSC	Occurs in low- to mid-elevation streams in the Sacramento-San Joaquin drainage. Clear, deep pools with sand-gravel-boulder bottoms and slow-moving water is required. This species is often sympatric with Sacramento pikeminnow and Sacramento sucker. Hardhead are typically absent form streams occupied by centrarchids and from heavily altered habitats.	**Absent.** Suitable perennial aquatic habitat is absent from the Project area.
least Bell's vireo *(Vireo bellii pusillus)*	FE, CE	This migratory species typically winters in Mexico and breeds in southern California. Breeding habitat consists of willow-dominated riparian habitat.	**Absent.** Suitable riparian habitat is absent from the Project area.
loggerhead shrike *(Lanius ludovicianus)*	CSC	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low herbaceous cover. In the Central Valley, nests in riparian areas, desert scrub, and agricultural hedgerows.	**Absent.** Suitable nesting and foraging habitat are absent from the Project area.

List of Special Status Animals with Potential to Occur Onsite and/or in the Vicinity[5]			
Species	**Status**	**Habitat**	**Occurrence on Project Site**
northern California legless lizard *(Anniella pulchra)*	CSC	Found primarily underground, burrowing in loose, sandy soil. Forages in loose soil and leaf litter during the day. Occasionally observed on the surface at dusk and night.	**Absent.** The disturbed and developed habitats of the Project area are unsuitable for this species.
prairie falcon (*Falco mexicanus*)	CWL	Inhabits dry, open terrain, either level or hilly, in a variety of scrublands and grasslands. Breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores.	**Absent.** Suitable nesting and foraging habitat are absent from the Project area.
riparian brush rabbit (*Sylvilagus bachmani riparius*)	FE, CE	Found in the understory of riparian forests adjacent to the San Joaquin River in northern Stanislaus County. Prefers dense vegetation, including wild rose, willows, and blackberries.	**Absent.** Suitable riparian habitat is absent from the Project area.
Sacramento splittail (*Pogonichthys macrolepidotus*)	CSC	Endemic to the lakes and rivers of the Central Valley, but now confined to the Delta, Suisun Bay and associated marshes. Occupies slow moving river sections, dead end sloughs. Requires flooded vegetation for spawning and foraging for young.	**Absent.** Suitable perennial aquatic habitat is absent from the Project area.
San Joaquin coachwhip *(Masticophis flagellum ruddocki)*	CSC	Found in open dry habitats with little or no tree cover in valley grassland and saltbush scrub communities in the San Joaquin Valley. Relies on mammal burrows for refuge and oviposition sites.	**Absent.** Suitable grassland and scrub habitat is absent from the Project area This species has never been recorded east of Interstate-5 in this region.
San Joaquin kit fox *(Vulpes macrotis mutica)*	FE, CT	Underground dens with multiple entrances in alkali sink, valley grassland, and woodland in valleys and adjacent foothills.	**Unlikely.** Typical suitable habitat is absent within the Project area, although an abundance of ground squirrels and burrows with suitable dimensions were observed along the Salado Creek banks at the time of the biological survey. There are nine CNDDB records of this species in the vicinity of the Project. All of the sightings occurred west of Interstate 5 and the California Aqueduct, and only one of the observations was reported within the past 25 years. The Project area is located approximately 50 miles north of the nearest core population of San Joaquin kit fox in the Panoche Valley.
San Joaquin roach (*Lavinia symmetricus ssp. 1*)	CSC	Adaptable to a variety of riverine aquatic habitats and tolerant of a wide range of temperatures, this minnow occupies tributaries to the San Joaquin River south of the Cosumnes River.	**Unlikely.** Frequent human disturbance, water quality degradation, and introduced fish and bullfrogs make the channelized Salado Creek generally unsuitable for this species.
song sparrow ("Modesto" population) (*Melospiza melodia*)	CSC	This population is endemic to the north-central portion of the Central valley of California. This species has an affinity for emergent freshwater marshes and is associated with *Scirpus spp.* and *Typha spp.* Known to nest in riparian oak forests.	**Unlikely.** Typical suitable habitat for this species is absent from the Project area. However, this species could potentially pass over the site.
Steelhead – Central Valley DPS *(Oncorhynchus mykiss irideus pop.11)*	FT	This winter-run fish begins migration to fresh water during peak flows during December and February. Spawning season is typically from February to April. After hatching, fry move to deeper, mid-channel habitats in late summer and fall. In general, both juveniles and adults prefer complex habitat boulders, submerged clay and undercut banks, and large woody debris.	**Absent.** Suitable perennial aquatic habitat is absent from the Project area.
Swainson's hawk *(Buteo swainsoni)*	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock	**Possible.** Typical suitable nesting and foraging habitat associated with this species are absent

List of Special Status Animals with Potential to Occur Onsite and/or in the Vicinity[5]			
Species	**Status**	**Habitat**	**Occurrence on Project Site**
		pastures suitable for supporting rodent populations.	from the Project area. However, this species could potentially nest in some of the larger ornamental trees in the vicinity and could conceivably forage onsite. Furthermore, Swainson's hawks are known to occur along the San Joaquin River and Orestimba Creek in the vicinity, and therefore may occasionally pass over the Project area.
tricolored blackbird *(Agelaius tricolor)*	CT, CSC	Nests colonially near fresh water in dense cattails or tules, or in thickets of riparian shrubs. Forages in grassland and cropland. Large colonies are often found on dairy farm forage fields.	**Absent.** Suitable nesting habitat is absent from the Project area and surrounding lands.
valley elderberry longhorn beetle *(Desmocerus californicus dimorphus)*	FT	Lives in mature elderberry shrubs of the Central Valley and foothills. Adults are active March to June.	**Absent.** Suitable elderberry habitat is absent from the Project area.
vernal pool fairy shrimp *(Branchinecta lynchi)*	FT	Occupies vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** Suitable vernal pool habitat is absent from the Project area.
vernal pool tadpole shrimp *(Lepidurus packardi)*	FE	Occurs in vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** Suitable vernal pool habitat is absent from the Project area.
western pond turtle *(Emys marmorata)*	CSC	An aquatic turtle of ponds, marshes, slow-moving rivers, streams, and irrigation ditches with riparian vegetation. Requires adequate basking sites and sandy banks or grassy open fields to deposit eggs.	**Unlikely.** Typical suitable habitat and basking sites are absent from the Project area. Furthermore, the open grassy fields of the adjacent parks are unsuitable for use as upland habitat due to frequent disturbance associated with mowing and landscaping.
western spadefoot *(Spea hammondii)*	CSC	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Vernal pools or temporary wetlands, lasting a minimum of three weeks, which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	**Absent.** Suitable habitat is absent from the Project area and surrounding lands.

Table 3-11. List of Special Status Plants with Potential to Occur Onsite and/or in the Vicinity

List of Special Status Plants with Potential to Occur Onsite and/or in the Vicinity[6]			
Species	**Status**	**Habitat**	**Occurrence on Project Site**
alkali milk-vetch (*Astragalus tener var. tener)*	CNPS 1B	Found growing in alkali soils in the San Joaquin Valley and throughout the Delta-Bay region of California in low and flooded areas at elevation below 196 feet. Blooms March – June.	**Absent.** The disturbed habitats of the Project area are unsuitable for this species.
big tarplant (*Blepharizonia plumose*)	CNPS 1B	Found on dry slopes in the valley and foothill grasslands of the San Joaquin Valley and the San Francisco Bay area at elevations below 1657 feet. Blooms July – November.	**Absent.** Suitable habitat is absent from the Project area.
California alkali grass *(Puccinellia simplex)*	CNPS 1B	Found in the San Joaquin Valley and other parts of California in saline flats and mineral springs within valley grassland and wetland-riparian communities at elevations below 3000 feet. Blooms March–May.	**Absent.** Suitable habitat is absent from the Project area.
Chaparral harebell (*Campanula exigua*)	CNPS 1B	Grows on rocky terrain in serpentine soils within the chaparral of the San Francisco bay area and inner coastal range to the south at elevations between 295 and 4511 feet. Blooms May – June.	**Absent.** Suitable habitat is absent from the Project area.
Delta button-celery *(Eryngium racemosum)*	CE, CNPS 1B	Found in riparian scrublands in floodplains near the California Delta at elevations between 10 and 100 feet. Blooms June – August.	**Absent.** Suitable habitat is absent from the project area.
Diamond petaled California poppy (*Eschscholzia rhombipetala*)	CNPS 1B	Found growing in alkaline and clay soils on slopes and flats in valley and foothill grasslands. The range of this specie includes the southern portion of the San Joaquin valley and the inner coastal range, as well as portions of the San Francisco Bay area at elevations below 2050 feet. Blooms March – April.	**Absent.** Suitable habitat is absent from the project area.
Hall's bush-mallow (*Malacothamnus hallii*)	CNPS 1B	Generally found in chaparral and coastal scrub habitats throughout northern coastal California, the San Joaquin Valley, and the Sierra Nevada foothills. Some populations of this species have been found to grow in serpentine soils. Occurs at elevations below 2410 feet. Blooms May – July.	**Absent.** Suitable habitat is absent from the Project area.
heartscale *(Atriplex cordulata var. cordulata)*	CNPS 1B	Found in the San Joaquin Valley and Sacramento Valley in saline or alkaline soils within shadescale scrub, valley grassland, and wetland-riparian communities at elevations below 230 feet. Blooms June–July.	**Absent.** Suitable habitat is absent from the Project area.
Lemmon's jewelflower (*Caulanthus lemmonii*)	CNPS 1B	Grows in the Coastal range and Mojave woodlands and grasslands at elevations between 260 and 3,610 feet. Often associated with pinyon pines and junipers. Blooms March – May.	**Absent.** Suitable habitat is absent from the Project area.
lesser saltscale *(Atriplex minuscula)*	CNPS 1B	Found in the San Joaquin Valley in sandy, alkaline soils in alkali scrub, valley and foothill grassland, and alkali sink communities at elevations below 750 feet. Blooms April–October.	**Absent.** Suitable habitat is absent from the Project area.
Mt. Diablo phacelia (*Phacelia phacelioides*)	CNPS 1B	Occurs in open and rocky habitats in chaparral and cismontane woodlands at elevations between 1640 and 4600 feet. Found in the inner	**Absent.** Suitable habitat is absent, and the Project area is located outside of the accepted altitudinal range of this species.

[6] (Provost & Pritchard Consulting Group)

List of Special Status Plants with Potential to Occur Onsite and/or in the Vicinity[6]			
Species	**Status**	**Habitat**	**Occurrence on Project Site**
		coastal range of California and the San Francisco Bay area. Blooms April-June.	
Mt. Hamilton coreopsis (*Leptosyne hamiltonii*)	CNPS 1B	Found in cismontane woodlands on dry, exposed slopes in the San Francisco Bay area at elevations between 1755 and 4265 feet. Blooms March – May.	**Absent.** Suitable habitat is absent from the Project area.
prairie wedge grass (*Sphenopholis obtusata*)	CNPS 2B	Found in a variety of regions in California, but primarily in the Sierra Nevada mountains. Grows in moist areas in woodlands, meadows, seeps, as well as wetlands, at elevations between 240 feet and 9,416 feet. Blooms April – June.	**Absent.** Typical suitable habitat is absent, and the developed/disturbed nature of the site is generally unsuitable for this species.
red-flowered bird's-foot trefoil (Acmispon rubriflorus)	CNPS 1B	Found in oak woodlands and valley and foothill grasslands at elevations between 640 and 1605 feet. Range includes the northern inner coastal range of California and the San Francisco Bay area. Has been found growing in volcanic mudflow deposits. Blooms April – May.	**Absent.** Suitable habitat is absent, and the Project area is located outside of the accepted altitudinal range of this species.
shining navarretia *(Navarretia nigelliformis ssp. radians)*	CNPS 1B	Found in cismontane woodland and valley and foothill grassland communities, sometimes in vernal pools. Occurs at elevations between 200 feet and 3200 feet. Blooms May – July.	**Absent.** Suitable habitat is absent from the Project area.
showy golden madia *(Madia radiata)*	CNPS 1B	Found primarily in grasslands and shrublands growing in adobe clay at elevations between 65–3937 feet. Blooms March–May.	**Absent.** Suitable habitat is absent from the Project area.
spiny-sepaled button-celery *(Eryngium spinosepalum)*	CNPS 1B	Found in the Sierra Nevada Foothills and the San Joaquin Valley. Occurs in vernal pools, swales, and roadside ditches. Often associated with clay soils in vernal pools within grassland communities. Occurs at elevations between 50 feet and 4160 feet. Blooms April–July.	**Absent.** Suitable habitat is absent from the Project area.
Talus fritillary (*Fritillaria falcata*)	CNPS 1B	Grows primarily on serpentine talus in chaparral and coniferous forests at elevations between 1395 and 4705 feet. Found in the southern inner coastal range of California as well as the San Francisco bay area. Blooms March – May.	**Absent.** Suitable habitat is absent, and the project area is located outside of the accepted altitudinal range of this species.
Tracy's eriastrum (*Eriastrum tracyi*)	CR	Often found in open sections of chaparral, woodland, and valley-foothill grassland habitats. Grows in gravelly shale or clay at elevations between 1,035 and 7,875 feet. Blooms May – August.	**Absent.** Suitable habitat is absent, and the project area is located outside of the accepted altitudinal range of this species.
vernal pool smallscale *(Atriplex persistens)*	CNPS 1B	Occurs in the San Joaquin Valley and Sacramento Valley in alkaline vernal pools at elevations below 375 feet. Blooms June–September.	**Absent.** Suitable habitat is absent from the Project area.

EXPLANATION OF OCCURRENCE DESIGNATIONS AND STATUS CODES

Present: Species observed on the site at time of field surveys or during recent past
Likely: Species not observed on the site, but it may reasonably be expected to occur there on a regular basis
Possible: Species not observed on the site, but it could occur there from time to time
Unlikely: Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient
Absent: Species not observed on the site, and precluded from occurring there due to absence of suitable habitat

STATUS CODES

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
FPE	Federally Endangered (Proposed)	CCT	California Threatened (Candidate)
FPT	Federally Threatened (Proposed)	CFP	California Fully Protected
FC	Federal Candidate	CSC	California Species of Special Concern

CWL	California Watch List
CCE	California Endangered (Candidate)
CR	California Rare

CNPS LISTING

1A	Plants Presumed Extinct in California
1B	Plants Rare, Threatened, or Endangered in California and elsewhere
2	Plants Rare, Threatened, or Endangered in California, but more common elsewhere

3.4.4 Impact Assessment

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

Less than Significant Impact with Mitigation Incorporated.

Project-Related Mortality and/or Disturbance of Nesting Raptors, Migratory Birds, and Special Status Birds

There are 11 regionally occurring special status bird species that appeared in the database query for the APE, and the following two species were declared possible or likely to occur in the area, and therefore could potentially be impacted by Project activities: Swainson's hawk and burrowing owl.

The developed and ruderal nature of the Project area provides sub-optimal nesting and foraging habitat for raptors, resident and migratory birds, and special status birds. Canary Island date palms and valley oak trees were observed along the top of the banks of Salado Creek in the Project area. Adjacent parks and residences also contained ornamental trees and shrubs typically associated within urban landscaping. The majority of the valley oak trees in the Project area are on the eastern bank, and therefore would not be expected to be impacted by trail construction on the western bank of Salado Creek. However, a few oaks are present along the top of the western bank in the northern portion of the APE near Cliff Swallow Drive. The Project could potentially impact or remove trees within the proposed trail alignment. Project activities include planting approximately 273 additional native trees which would serve as future nesting and foraging habitat. Nesting bird season is generally accepted as February 1 through August 31; however, Swainson's hawk nesting season is generally accepted as March 1 through September 15. For simplicity, these timeframes have been combined.

Swainson's Hawk

Suitable raptor nest trees and optimal foraging habitat associated with Swainson's hawk were not observed within the Project area at the time of the field survey. Swainson's hawks are fairly common in this portion of the San Joaquin Valley and are known to nest along the riparian corridor of the San Joaquin River, approximately five miles east of the Project area. While typical Swainson's hawk nesting and foraging habitat was not observed within the Project area at the time of the field survey, this species could conceivably nest or forage in the vicinity in the absence of higher quality habitat.

Burrowing Owl

At the time of the biological survey, ground squirrels and burrows of suitable dimensions for burrowing owl were observed along the banks of Salado Creek. While no owl sign were observed, there is at least some potential for burrowing owls to inhabit the burrows in the Project area and forage over agricultural lands to the south. It is not uncommon for burrowing owls to inhabit urban areas such as canal banks, golf courses, and

airports as their natural grassland habitat is converted to urban and agricultural uses. However, typical suitable breeding and foraging habitat associated with burrowing owl was not present within the APE at the time of the survey.

The Project involves excavation and ground-disturbance and removal of some trees. If Swainson's hawk and burrowing owl were nesting at the time of project activities resulting in injury or mortality of burrowing owl individuals or that adversely affect nesting success of the Swainson's hawk, therefore Project activities would be considered a significant impact under CEQA and NEPA.

Implementation of the following measures prior to construction, , will reduce potential impacts to nesting birds, Swainson's hawk, and burrowing owls to a less-than-significant level, and will ensure compliance with State and federal laws protecting this species.

Mitigation Measures

> **BIO-1 (Pre-construction Survey):** A qualified biologist shall conduct pre-construction surveys and provide guidance and further mitigation measure based on the results of the survey specific to each species:
>
> > **BIO -1a Nesting Birds:** If activities must occur within nesting bird season (February 1 to September 15), The survey shall include the proposed work area and surrounding lands within 500 feet. If no active nests are observed, no further mitigation is required. Raptor nests are considered "active" upon the nest-building stage. All other nests are considered "active" by the presence of eggs or young.
> >
> > **BIO -1b (Establish Buffers):** On discovery of any active nests or listed species near work areas, the biologist shall determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Construction buffers shall be identified with flagging, fencing, or other easily visible means, and shall be maintained until the biologist has determined that the nestlings have fledged, or construction has finished in that area.
>
> **BIO-2 (Formal Consultation):** If species are detected within Project work areas during the survey, the Project proponent shall initiate consultation with CDFW and/or USFWS. If CDFW and/or USFWS determines that "take" cannot be avoided, the Project proponent may be required to obtain an Incidental Take Permit (ITP).

Project-Related Impacts to Special Status Plant Species

Twenty special status plant species have been documented in the Project vicinity, including alkali milk-vetch, big tarplant, California alkali grass, Chaparral harebell, Delta button-celery, Diamond petaled California poppy, Hall's bush-mallow, heartscale, Lemmon's jewelflower, lesser saltscale, Mt. Diablo phacelia, Mt. Hamilton coreopsis, prairie wedge grass, red-flowered bird's-foot trefoil, shining navarretia, showy golden madia, spiny-sepaled button-celery, Talus fritillary, Tracy's eriastrum, and vernal pool smallscale. As explained in **Table 2** all of the aforementioned plant species are absent from the Project area due to past and ongoing disturbance and/or the absence of suitable habitat. Therefore, implementation of the Project will have no effect on individual plants or regional populations of these special status plant species. Additional mitigation is not warranted.

Project-Related Impacts to Special Status Animal Species Absent From, or Unlikely to Occur on, the Project *Site*

Of the 32 regionally occurring special status species, 30 are considered absent or unlikely to occur within the Project area due to past or ongoing disturbance and/or absence of suitable habitat. As explained in **Table 1**, the following species were deemed absent from the Project area: bald eagle, western spadefoot, Crotch bumble bee, California tiger salamander, giant gartersnake, California red-legged frog, foothill yellow-legged frog, golden eagle, blunt-nosed leopard lizard, California horned lark, least Bell's vireo, loggerhead shrike, prairie falcon, northern California legless lizard, hardhead, vernal pool tadpole shrimp, riparian brush rabbit, Sacramento splittail, San Joaquin coachwhip, valley elderberry longhorn beetle, tricolored blackbird, Steelhead Central Valley DPS, vernal pool fairy shrimp, and Delta smelt; and the following species were deemed unlikely to occur within the Project area: American badger, cackling (=Aleutian Canada) goose, San Joaquin kit fox, San Joaquin roach, song sparrow ("Modesto" population), and western pond turtle. Since there is little to no potential for these species to occur onsite, implementation of the Project will have no impact on these 30 special status species through construction, mortality, disturbance, or loss of habitat. Additional mitigation is not warranted.

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

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

No Impact. The Project involves the construction of a bicycle and pedestrian trail system along the top of the western bank of Salado Creek. Salado Creek is a tributary to the San Joaquin River and historically has been considered a Water of the U.S. within USACE's jurisdiction. Therefore, it is reasonable to assume that USACE would continue to claim jurisdiction over this stream system. An Aquatic Resources Delineation was conducted on May 16, 2020 to evaluate the site for potential waters of the United States and delineate potential jurisdictional boundaries of these features. The investigation and delineation were conducted in accordance with the 1987 Corps of Engineers Wetland Delineation Manual, and the Arid West Regional Supplement. The field work revealed one small (approximately 700 square feet) area on the north side of the Sperry Avenue crossing that met all three criteria of a wetland: hydric soils, hydrophytic vegetation, and wetland hydrology. Since all three wetland criteria were met, this section of Salado Creek met the criteria of a wetland; however, the wetland boundaries were entirely contained within the boundaries of ordinary high-water. Therefore, hydrologic indicators of ordinary high water such as erosion patterns, scour, vegetation, and drift were used to map the limits of potential USACE jurisdiction.

Salado Creek, below the ordinary high-water mark (OHWM), would fall under the jurisdiction of USACE and construction activities in this area would be subject to USACE permit requirements pursuant to Section 404 of the Clean Water Act. This Project will likely be authorized under a Nationwide Permit. In addition, a Section 401 Water Quality Certification from the RWQCB is required for construction within Salado Creek to verify that the activities will meet State water quality standards. These permits and certifications are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions or values.

If the Project's construction work at the Sperry Avenue crossing will result in impacts to waters of the United States or waters of the State, the Project proponent will be required to secure permits from USACE and RWQCB. Compliance with each permit's required avoidance, minimization, and mitigation measures will ensure that Project-related impacts to these potentially jurisdictional waters are less-than-significant in nature or are fully mitigated.

Project activities with potential to alter a river, stream, or lake, including the floodplain and associated riparian habitat, would be within CDFW's jurisdiction, pursuant to Section 1602 of the California Fish and Game Code. The Project proponent is required to notify CDFW if the Project's activities have potential to impact rivers, streams, or the riparian corridor of any aquatic features onsite that may be beneficial to fish or wildlife resources. If CDFW determines that the Project could potentially adversely affect fish and wildlife resources, a LSA will be issued prior to construction. LSA Agreements are typically issued with mandatory avoidance and minimization measures, protective measures for special status species, and required compensatory mitigation for removal of riparian trees, shrubs, and herbaceous cover along the banks. Compliance with measures of the LSA Agreement will ensure that the Project's impacts to aquatic features and riparian habitat within CDFW's jurisdiction remain less-than-significant or are fully mitigated.

There are no designated wild and scenic rivers within the Project area, and none of the aquatic features onsite are included on USACE Sacramento District's list of navigable waters. Compliance with USACE, RWQCB, and CDFW permits, certifications, and agreements will ensure there are no indirect downstream effects to water quality. Therefore, there would be no impacts to federal or State protected waters and habitat and no mitigation is warranted.

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

No Impact. The Project area does not contain features that would be likely to function as important wildlife movement corridors. Furthermore, the Project is located in a region often disturbed by intensive agricultural cultivation practices and human disturbance which would discourage dispersal and migration. Furthermore, the Project does not propose the placement of permanent fencing or any type of barrier that would impede movement of native wildlife. Therefore, implementation of the Project will have no impact on wildlife movement corridors and mitigation is not warranted.

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

Less than Significant Impact. The City adopted a street tree preservation ordinance in 2004, as found in PMC Chapter 12.16. Approximately 273 trees are proposed to be planted as part of the Project. In the event any trees need to be removed, tree removals will be done in accordance with the street tree removal policy approved by the city council and mitigation is not warranted.

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

No Impact. The Proposed Project design is consistent with the goals and policies of the City of Patterson General Plan. There are no known habitat conservation plans in the Project vicinity. There would be no impact and mitigation is not warranted.

3.5 Cultural Resources

Table 3-12. Cultural Resources

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

3.5.1 Environmental Setting and Baseline Conditions

The proposed Project is located along Salado Creek from just south of Sweet Briar Drive to Cliff Swallow Drive in the western part of the city's main suburban residential areas, with residential properties and city parks adjacent to the APE, on the Patterson, California 7.5-minute United States Geological Survey (USGS) topographic quadrangle in Township 5 South, Range 7 East, Sections 25 and 36 (USGS 1978). Residential neighborhoods comprised predominately of single-family homes are located to the east and west. State Route 33 (SR 33, also known as North 2nd Street within the city of Patterson) runs north-south approximately 1.25 miles east of the APE and Interstate 5 (I-5) runs north-south approximately 1.5 miles west of the APE.

A Cultural Resources field survey was conducted by Garcia and Associates on the Project site on April 28, 2020. A report entitled *Archaeological Survey Report for the Patterson Urban Bicycle Trail Project at Salado Creek* dated August 2020 (**Appendix C**) included a record search conducted through the Central California Information Center (CCIC) of the California Historical Resources Information at California State University Stanislaus (CSUS). The records search determined there are no known or recorded sites within a 0.25-mile radius of the Project area.

A records search was prepared on April 10, 2020, a at the CCIC of CHRIS, housed at California State University, Stanislaus, Turlock (File No. 11358N). The CCIC is a repository of all cultural resources site records, previously conducted cultural resources investigations, and information concerning cultural resources for seven counties including Stanislaus County. The purpose of this records search was to compile information pertaining to the locations of previously recorded cultural resources and prior cultural resources studies within a 0.25-mile radius of the APE that inform the cultural resources sensitivity of the APE. The following sources were consulted during the records search:

- CCIC base map: USGS's 7.5-minute series topographic quadrangles of Patterson, California (1978).
- Survey reports from previous cultural resources investigations and cultural resources site records to identify recorded archaeological and built environmental resources (i.e., buildings, structures, and objects) located within a 0.25-mile radius of the APE.
- OHP sources, including the California Inventory of Historic Resources (1976), California Archaeological Determinations of Eligibility (2012a), and the Historic Properties Directory (2012b), which combines cultural resources listed as California Points of Historical Interest and California

Historical Landmarks and those that are listed in or determined eligible for listing in the NRHP or the CRHR.

The segment of Salado Creek within the APE does not appear eligible for inclusion in the NRHP based on the four criteria outlined in 36 CFR 60.4. The creek segment cannot be associated with events that contributed to broad patterns of American history (Criterion A). The creek segment cannot be associated with the lives of significant persons, and there is no indication that channelizing Salado Creek was implemented by a person of note, or that any persons significant to American history resided along or utilized the segment of Salado Creek within the APE (Criterion B). The creek segment does not embody the distinctive characteristics of design that would distinguish it from any of the other hundreds of channelized creeks running through the region (Criterion C). Finally, the creek segment does not have potential to yield information important to prehistory or history (Criterion D). Therefore, the channelized segment of Salado Creek within the APE is recommended ineligible for inclusion in the NRHP under all criteria.

Additionally, the segment of Salado Creek within the APE does not meet the NRHP's seven aspects of integrity per 36 CFR 60.4 as the channelized creek has not retained historic integrity, particularly due to the expansion of the Sperry Avenue overcrossing and culvert and the construction of the culvert at Cliff Swallow Drive between 1998 and 2005 (NETR 1998, 2005). Another factor is the change in use from agricultural irrigation to a residential water feature, a shift which began in 1998 with the construction of the residential neighborhoods adjacent to the creek segment.

Based on a review of historic maps and aerial photographs, the channelized segment of Salado Creek within the APE, was identified as a historic-period resource and will be impacted by the proposed Project at its intersection with Sperry Avenue due proposed modifications to the existing culvert structure. However, the creek segment is recommended ineligible for inclusion in the NRHP. No additional historic-period resources were identified within the APE during the investigation.

The archaeological resources investigation did not result in the identification of any newly or previously documented prehistoric archaeological resources within the APE. Geoarchaeological analysis indicates a relatively low potential to encounter buried prehistoric resources due to the old age of the soils underlying the APE and the amount of previous ground disturbance associated with the historic and modern agricultural activities prevalent throughout the APE. There is likely very limited amounts of intact native soils that have sensitivity for prehistoric deposits.

3.5.1.1 Federal Regulatory Setting

Section 106 of the National Historic Preservation Act (NHPA)

Section 106 of the NHPA (36 CFR §800) requires that projects undertaken by federal agencies (and/or federally funded projects or projects requiring federal approval) consider the effects of their actions on properties that may be eligible for listing or are listed in the NRHP. To determine whether an undertaking could affect NRHP-eligible properties, cultural resources (including archaeological and architectural properties) must be inventoried and evaluated for listing in the NRHP. Although compliance with Section 106 is the responsibility of the lead federal agency, in this case the USACE, others may undertake the work necessary to comply with Section 106. The Section 106 process entails four primary steps, listed below.

1. Initiation of consultation with consulting parties (36 CFR §800.3).
2. Identification and evaluation of historic properties within the APE (36 CFR §800.4).
3. Assessment of adverse effects on historic properties within the APE (36 CFR §800.5).
    a. If there are historic properties that will be affected, consult with the California State Historic Preservation Officer (SHPO) regarding adverse effects on historic properties.
    b. If there are no historic properties that will be affected, implementation of the project in accordance with the findings of no adverse effect shall proceed (36 CFR 36 §800.5[d][1]).

4. Resolution of adverse effects and proceeds in accordance with the Memorandum of Agreement (MOA), if determined appropriate (36 CFR §800.6).

NRHP Criteria for Evaluation

The significance of cultural resources is determined using the NRHP's four Criteria for Evaluation (Criteria A-D) per 36 CFR 60.4, which state that a historic property is any site, building, structure, or object that:

A. Is associated with events that made a significant contribution to the broad patterns of our history (Criterion A);
B. Is associated with the lives of persons significant to our past (Criterion B);
C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represents the work of a master, or that possesses high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction (Criterion C); and/or,
D. Has yielded, or may be likely to yield, information important in prehistory or history (Criterion D).

If the SHPO determines that a cultural resource is eligible for inclusion in the NRHP, then it is automatically eligible for the California Register of Historical Resources (CRHR). If a resource does not have the level of integrity necessitated by the NRHP, it may still be eligible for the CRHR, which allows for a lower level of integrity (see below).

NRHP Seven Aspects of Integrity

Cultural resources integrity is determined using the NRHP's seven aspects of integrity per 36 CFR 60.4, which state that a historic property must not only be shown to be significant under the NRHP criteria, but it also must retain historic integrity. The seven aspects of integrity include location, design, setting, materials, workmanship, feeling, and association. A property must meet one or more of the Criteria for Evaluation before a determination can be made about its integrity.

3.5.2 Impact Assessment

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

No Impact. Field surveys were conducted on April 28, 2020 and a cultural resources records search dated April 10, 2020 was provided by the CCIC at CSUS. No historical resources were identified during the field search. The records search determined that there are no recorded historical resources within the Project area. Therefore, there is no impact that has the potential to cause a substantial adverse change in the significance of a historical resource.

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

Less than Significant Impact with Mitigation Incorporated. Field surveys were conducted on April 28, 2020 and a records search dated April 10, 2020 was provided by the CCIC at CSUS. No prehistoric sites were found during the field survey. The survey determined there is a slight possibility that a site may be unearthed during Project activities. The records search determined that there are no recorded prehistorical resources within the Project area. Therefore, with incorporation of **CUL-1**, impacts to archaeological resources that may potentially exist on site will be less than significant.

Mitigation Measures

CUL-1: If there is an unanticipated discovery of archaeological deposits or remains during Project implementation, construction crews shall stop all work within 100 feet of the discovery until a qualified archaeologist can assess the discovery and provide recommendations. Resources could include buried historic features such as artifact deposits and concentrations of ceramic, glass, or metal materials. Native American archaeological materials could include obsidian and chert flaked stone tools (such as projectile points and knives), midden (darkened soil created from decomposing organic materials and containing fire-affected rock, artifacts, animal bones, or shellfish remains), and/or groundstone implements (such as mortars and pestles).

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

Less than Significant Impact with Mitigation Incorporated. There is no evidence or record that the Project has the potential to be an unknown burial site or the site of buried human remains. In the unlikely event of such a discovery, mitigation shall be implemented. With incorporation of **CUL-2**, impacts resulting from the discovery of remains interred on the Project site would be less than significant.

Mitigation Measures

CUL-2: In the event that any human remains are discovered on the Project site, the Stanislaus County Coroner must be notified of the discovery (California Health and Safety Code, Section 7050.5) and all activities in the immediate area of the find or in any nearby area reasonably suspected to overlie adjacent human remains must cease until appropriate and lawful measures have been implemented. If the Coroner determines that the remains are not recent, but rather of Native American origin, the Coroner shall notify the Native American Heritage Commission (NAHC) in Sacramento within 24 hours to permit the NAHC to determine the Most Likely Descendent of the deceased Native American.

3.6 Energy

Table 3-13. Energy

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

3.6.1 Environmental Setting and Baseline Conditions

Turlock Irrigation District (TID) supplies electricity to the Project area. TID obtains its power through hydroelectric, thermal (natural gas), wind, and solar generation of purchases. TID continually produces new electric generation and natural gas sources and implements continuous improvements to gas lines throughput its service areas to ensure the provision of services to customers. New construction would be subject to Titles 20 and 24 of the California Code of Regulations (CCR) which each serve to reduce demand for electrical energy by implementing energy-efficient standards for residential, as well as non-residential buildings.

3.6.2 Regulatory Setting

3.6.2.1 State

Assembly Bill 32 (AB 32), known as the Global warming Solutions Act of 2006 was signed into law in September 2006. AB 32 established a comprehensive program to reduce GHGs from all sources resulting in energy reduction among other benefits.

The California Building Standards Code (CCR, Title 24, Part 2), establishes building codes in California. CCR Title 24, Part 6 herein referred to as Title 24, establishes the standards for building energy in California. Title 24 applies to all buildings that are heated and/or mechanically cooled and are defined under the California Building Code as A, B, E, H, N, R, or S occupancies. Title 24, the Building Energy Efficiency Standards, which became effective on January 1, 2017 are applicable to residential construction.

California's Renewables Portfolio Standard was established in 2002 by Senate Bill 1078 with the initial requirement that 20 percent of electricity retail sales must be served by renewable sources by 2017. The program was accelerated by Senate Bill 350 (SB 350) and Senate Bill 100 (SB 100).

SB 350, signed into law in October 2015 established new clean energy, clean air, and GHG reduction goals for 2030. It established tiered increases to the Renewable Portfolio Standard, increasing the goal to 40 percent renewable energy usage by 2024, 45 percent by 2027, and 50 percent by 2030.

SB 100, signed into law in September 2018 increased the required Renewable Energy Portfolio Standard. SB 100 requires the total kilowatt-hours of energy sold by electricity retailers to their end-use customers to consist

of at least 50 percent renewable resources by 2026, 60 percent renewable resources by 2030, and 100 percent renewable resources by 2045. In addition, SB 100 includes a state policy that eligible renewable resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers. Under SB 100, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

3.6.2.2 Local

The City of Patterson implements the following policies that are applicable to the Project related to energy consumption:

- Goal NR-6: To incorporate sustainable building practices into the City's development regulations and fleet vehicle use.
    - NR-6.5 Renewable energy systems for City facilities. The City shall install renewable energy systems at its facilities where feasible, including solar collection systems at municipal properties and waste-to-energy (methane recovery) systems at the waste water treatment plant.

3.6.3 Impact Assessment

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

Less than Significant Impact. The Project would comply with Building Energy Efficiency Standards included in Title 24 of the California Code of Regulations, which requires new lighting to incorporate energy efficiency standards into Project designs. In addition, the Project would implement the above General Plan policy. The Project proposes the construction of a trail to both increase recreational opportunities but also to reduce vehicle-miles traveled.

Current regulations for construction equipment, heavy-duty equipment, and earthmoving equipment used in construction contributes to reductions in energy as well as reduction in pollutant emissions. California implemented its In-Use Off-Road Diesel Fueled Fleets regulations (off-road regulation) which applies to all self-propelled off-road diesel vehicles 25 horsepower or greater and most two-engine vehicles. The Small Off-Road Engines program was implemented by California to apply to categories of outdoor powered equipment and specialty vehicles often used in construction.

Through compliance with energy reduction standards and regulations aimed at reducing consumption of transportation related energy consumption, as well as the energy provider's energy reduction programs, the Project will have less than significant impacts related to energy usage during Project operations and construction and its impacts related to wasteful, inefficient, or unnecessary energy consumption overall, would be less than significant.

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

Less than Significant Impact. The existing trail lighting system consists of grid-connected light fixtures spaced approximately. As the Project area runs north-south, there is ample sunlight availability year round.

3.7 Geology and Soils

Table 3-14. Geology and Soils

Geology and Soils				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the most recently adopted Uniform Building Code creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

3.7.1 Environmental Setting and Baseline Conditions

3.7.1.1 Geology and Soils

The Project is located in western Stanislaus County, in the central section of California's Great Valley Geomorphic Province, or Central Valley. The Sacramento Valley makes up the northern third and the San Joaquin Valley makes up the southern two-thirds of the geomorphic province. Both valleys are watered by large rivers flowing west from the Sierra Nevada Range, with smaller tributaries flowing east from the Coast Ranges. Most of the surface of the Great Valley is covered by Quaternary (present day to 1.6 million years ago) alluvium.

The sedimentary formations are steeply upturned along the western margin due to the uplifted Sierra Nevada Range.[7] From the time the Valley first began to form, sediments derived from erosion of igneous and metamorphic rocks and consolidated marine sediments in the surrounding mountains have been transported into the Valley by streams.

Project specific soils characteristics are described in **Table 3-15**.

Table 3-15. Project Soil Characteristics

Project Soil Characteristics			
Map unit name	**Rating**	**Acres in AOI**	**Percent of AOI**
Capay clay, 0 percent slopes, rarely flooded, MLRA 17	Moderately Well drained	1.1	3.8
Vernalis loam, 0 to 2 percent slopes, rarely flooded	Well drained	26.1	91.8
Stomar clay loam, 0 to 2 percent slopes	Well drained	1.2	4.4
	Totals for Project Area	**28.4**	**100**

3.7.1.2 Faults and Seismicity

Most of Patterson is situated within an area of relatively low seismic activity and is not located within a known active earthquake fault zone. The Project is not located within an Alquist-Priolo Earthquake Fault Zone and there are no known active faults within the City of Patterson. The nearest major fault is the San Andreas Fault, located approximately 72 miles southwest of the Project site. The San Andreas fault is the dominant active tectonic feature of the Coast Ranges and represents the boundary of the North American and Pacific plates. An unnamed fault is located approximately 55 miles west/southwest of the Project and the Nunez Fault is approximately 56.7 miles southwest.

3.7.1.3 Liquefaction

The potential for liquefaction, which is the loss of soil strength due to seismic forces, is dependent on soil types and density, the groundwater table, and the duration and intensity of ground shaking. Although no specific liquefaction hazard areas have been identified in Stanislaus County, this potential is recognized throughout the San Joaquin Valley where unconsolidated sediments and a high-water table coincide. Soil types along the Valley floor are not generally conducive to liquefaction because they are generally too course. Furthermore, the average depth to groundwater within the City of Patterson is approximately 100 to 500 feet which also minimizes liquefaction potential.

3.7.1.4 Soil Subsidence

Subsidence occurs when a large land area settles due to over-saturation or extensive withdrawal of groundwater, oil, or natural gas. These areas are typically composed of open-textured soils, high in silt or clay content, that become saturated. Although areas in the have experienced subsidence due to groundwater overdraft, the City of Patterson's elevation has remained relatively unchanged. Soils of the Project site are listed in **Table 3-15**. Soils onsite represent a low risk of subsidence.

3.7.1.5 Dam and Levee Failure

The Stanislaus County Local Hazard Mitigation Plan identifies six (6) dams that could potentially cause inundation: Don Pedro, New Exchequer, New Melones, Pine Flat, San Luis, and Tulloch Dams. The dam inundation areas do not span into the City of Patterson.

[7] (Harden, 1998)

3.7.2 Impact Assessment

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

a-i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

a-ii) Strong seismic ground shaking?

Less than Significant Impact. The Project site and its vicinity are located in an area traditionally characterized by relatively low seismic activity. The site is not located in an Alquist-Priolo Earthquake Fault Zone as established by the Alquist-Priolo Fault Zoning Act (Section 2622 of Chapter 7.5, Division 2 of the California Public Resources Code). The nearest fault of any kind to the Project is located 1 mile west of the Project site, with an unknown slip rate. The Ortigalita Fault section is approximately 15.72 miles southwest and the San Andreas Fault, creeping section is approximately 29 miles southwest.

Although there are no known earthquake faults within the vicinity of the Project, and strong ground shaking is unlikely, construction of the proposed trail would comply with the most recent seismic standards as set forth in the California Building Standards Code. Compliance with these standards would ensure potential impacts related to strong seismic ground shaking would be less than significant.

a-iii) Seismic-related ground failure, including liquefaction?

Less than Significant Impact. Liquefaction occurs when loose, water-saturated sediments lose strength and fail during strong ground shaking. Although no specific liquefaction hazard areas have been identified in the City of Patterson, nor in Stanislaus County, this potential is recognized throughout the San Joaquin Valley where unconsolidated sediments and a high-water table coincide. Soil data and site characteristics were obtained from the United States Department of Agriculture Natural Resources Conservation Service soil survey of the Project area. A listing of Project soil characteristics is provided in **Table 3-15**. Soils within the Project area are well drained, representing a low risk for liquefaction or seismic-related ground failure. In addition, the average depth to groundwater within the City of Patterson is approximately 100 to 500 feet, which further reduces potential for liquefaction. Furthermore, as mentioned above in Impact Assessments a-i and a-ii, strong seismic ground shaking is unlikely to occur. Any impacts related to seismic-related ground failure, including liquefaction, would be less than significant.

a-iv) Landslides?

No Impact. Landslides usually occur in locations with steep slopes and unstable soils. The Project is located on the Valley floor where no major geologic landforms exist, and the topography is essentially flat and level. The nearest foothills are approximately 15 miles west. Therefore, the Project site has minimal-to-no landslide susceptibility, and there will be no impact.

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

Less than Significant Impact. Earthmoving activities associated with the Project would include excavation, trenching, grading, and paving over an area of approximately 5.4 acres. These activities could expose soils to erosion processes however, the extent of erosion would vary depending on slope steepness/stability, vegetation/cover, concentration of runoff, and weather conditions. Dischargers whose projects disturb one (1) or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the Statewide General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General

Permit Order 2009-0009-DWQ). Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation, and construction of linear underground or overhead facilities associated with residential construction, but does not include regular maintenance activities performed to restore the original lines, grade, or capacity of the overhead or underground facilities. The Construction General Permit requires the development of a Storm Water Pollution Prevention Plan (SWPPP).Since the Project site has relatively flat terrain with a low potential for soil erosion and would comply with the State Water Resources Control Board (SWRCB) requirements, the Project's impacts would be less than significant.

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

Less than Significant Impact. As discussed in Section a-ii and a-iv above, the potential for landslide or liquefaction is considered unlikely. Lateral spreading, subsidence, and collapse both on-site and off-site are also considered unlikely or less than significant for reasons previously discussed in these sections. Furthermore, the aforementioned physical properties of these soils make subsidence, liquefaction, lateral spreading, or other ground failure unlikely. Any impacts would be less than significant.

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

No Impact. The soils types within the Project area consist of approximately two soils types as listed in **Table 3-15**. These soils types can be described as visually silty/sandy silt and are characterized as being well-drained and have a low shrink-swell potential and a low plasticity index characteristics. These soils types are not classified as expansive soil types in Chapter 18 of the California Building Code, the most recently adopted building code that replaced the Uniform Building Code in California. Therefore, the soils within the Project area would have no impact related to expansive soils.

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

No Impact. The Project will not require connection to a septic tank, nor sewer system, as the Project does not generate wastewater. There will be no impact.

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

Less than Significant Impact. No known paleontological resources exist within the Project area. The Project site is an existing trail in the City of Patterson. Construction activities associated with the Project are not expected to be conducted significantly below grade, at a level where they would have the potential to disturb any previously unknown paleontological resources or geologic features. Impacts would be less than significant.

3.8 Greenhouse Gas Emissions

Table 3-16. Greenhouse Gas Emissions

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

3.8.1 Environmental Setting and Baseline Conditions

The Project is located in the San Joaquin Valley Air Basin (SJVAB or air basin). The San Joaquin Valley Air Pollution Control District (SJVAPCD) provides *Guidance for Land-Use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA*.[8] The Project seeks funding from , and thus the Project has been designed to reduce GHG emissions by encouraging active forms of transportation.

The Air Quality and Greenhouse Gas Analysis Report (**Appendix A**) was prepared by Provost & Pritchard Consulting Group. The report was prepared in order to evaluate whether GHG emissions generated by the development of the Project would cause significant impacts in our ability to achieve goals to reduce climate change. The report, included as **Appendix A**, provide an in-depth discussion detailing the effects of climate change and commonly identified GHG emissions and sources of the emissions that form the Project's environmental setting and establish its baseline conditions. The reports also provide detail of the framework under which GHG emissions are regulated and by which its impacts are assessed. The essential conclusions of the report is summarized in this analysis.

An individual project cannot generate enough GHG emissions to cause a discernible change in global climate. However, the Project would participate in the potential for global climate change by its incremental contribution of GHGs. When combined with the cumulative increase of all other sources of GHGs the Project's incremental contributions constitute potential influences on global climate change.

The reference gas for global warming potential is carbon dioxide (CO_2). To describe how much global warming a given type of GHG may cause, the carbon dioxide equivalent (CO_2e) is used and quantified in metric tons ($MTCO_2e$). A carbon dioxide equivalent is the mass emissions of an individual GHG, multiplied by its global warming potential.

3.8.1.1 Short-Term Construction-Generated Emissions

Methodology utilized by Provost & Pritchard Consulting Group assumed that Project construction would commence in 2021 or thereafter, with full buildout completed in six months. The Project was assumed to be completed in a single phase. Total GHG emissions generated during all phases of construction are presented in **Table 3-17** below:

[8] (San Joaquin Valley Air Pollution Control District, 2009)

Table 3-17. Construction Greenhouse Gas Emissions

Construction Greenhouse Gas Emissions	
Year	Annual Emissions ($MTCO_2e$)
2021	409.4802
Amortized over 30 years	**13.65**

3.8.2 Impact Assessment

3.8.2.1 Thresholds of Significance

A project would be considered to have a significant impact to climate change if it would:

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or,
b. Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

In accordance with SJVAPCD's *CEQA Greenhouse Gas Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects*[9], proposed projects complying with Best Performance Standards (BPS) would be determined to have a less-than-significant impact. Projects not complying with BPS would be considered less than significant if operational GHG emissions would be reduced or mitigated by a minimum of 29 percent, in comparison to BAU (year 2004) conditions. In addition, project-generated emissions complying with an approved plan or mitigation program would also be determined to have a less-than-significant impact.

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

Less than Significant Impact. The Scoping Plan implemented to enact the requirements of the CARB's California Global Warming Solutions Act (Assembly Bill 32) (hereafter referenced as Scoping Plan), called for reductions from BAU in excess of 29 percent in 2020. The Project's year 2021 emissions, that include reductions gained from both regulation and Project design features are quantified in **Appendix A**. The Project generated emissions would be 11.84 $MTCO_2e$ for year 2021, more than 52.6% reduction from BAU.

Using the quantification method, the SJVAPCD, *Guidance for Valley Land Use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* states that projects determined to have reduced or mitigated GHG emissions by 29%, consistent with targets established in the Scoping Plan would be considered to have a less than significant impact.[10] As such, the Project, which represents reductions of 52.6 percent, would have less than significant impacts.

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

Less than Significant Impact. Numerous plans, policies, and regulations have been adopted as a result of the enactment of AB 32. The most relative plans within the City of Patterson include: the SJVAPCD, Climate Change Action Plan (CCAP); and City of Patterson General Plan Regionally, the SJVAPCD adopted its CCAP in August 2008 to assist the district in achieving the AB 32 targets. As demonstrated in this report, the Project is consistent with the reduction targets set forth in the Scoping Plan. Therefore, the Project as proposed is in

[9] (San Joaquin Valley Air Pollution Control District, 2009)
[10] (San Joaquin Valley Air Pollution Control District, 2009)

compliance with the CCAP as well as Patterson's adopted plans and will not conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

3.9 Hazards and Hazardous Materials

Table 3-18. Hazards and Hazardous Materials

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

3.9.1 Environmental Setting and Baseline Conditions

3.9.1.1 Hazardous Materials

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies, and developers to comply with CEQA requirements in providing information about the location of hazardous materials release sites. Government Code (GC) Section 65962.5 requires the California Environmental Protection Agency (CalEPA) to develop at least annually an updated Cortese List. The Department of Toxic Substances Control (DTSC) is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List. DTSC's EnviroStor database provides DTSC's component of

Cortese List data (DTSC, 2010). In addition to the EnviroStor database, the SWRCB Geotracker database provides information on regulated hazardous waste facilities in California, including underground storage tank cases and non- underground storage tank cleanup programs, including Spills-Leaks-Investigations-Cleanups sites, Department of Defense sites, and Land Disposal program. A search of the DTSC EnviroStor database and the SWRCB GeoTracker performed on April 22, 2020 determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project site or immediate surrounding vicinity.

3.9.1.2 Airports

The closest active airport is Harry Sham Field in Modesto, approximately 14 miles northeast.

3.9.1.3 Sensitive Receptors

Sensitive receptors within the Project's vicinity consist of single-family residential development, parks and school sites that surrounds the Project site. No other identified concentrations of sensitive receptors, such as hospitals or nursing homes are within the Project's vicinity.

3.9.2 Impact Assessment

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

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

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

Less than Significant Impact. The Project site is adjacent to several schools. In addition, the Project is adjacent to existing residential development. Construction of the Project may involve the use of hazardous materials associated with construction equipment, such as diesel fuel, lubricants, and solvents. However, the contractor will implement a SWPPP and will comply with all California Occupational Safety and Health Administration (Cal/OSHA) regulations regarding regular maintenance and inspection of equipment, spill prevention, and spill remediation in order to reduce the potential for incidental release of pollutants or hazardous substances onsite. Furthermore, any potential accidental hazardous materials spills during construction are the responsibility of the contractor to remediate in accordance with industry best management practices and State and county regulations. The project site is currently a trail that will be upgraded by implementation of this project. The operational phase of the Project will not involve the use or transport of hazardous materials. Impacts will be less than significant.

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

No Impact. The Project does not involve land that is listed as a hazardous materials site pursuant to Government Code Section 65962.5 and is not included on a list compiled by the Department of Toxic Substances Control. A search of the DTSC EnviroStor database and the SWRCB Geotracker performed on April 22, 2020 determined that there are no known active hazardous waste generators or known hazardous material spill sites within the Project site. There will be no impact.

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

No Impact. The Project is more than two miles away from the nearest airport, and is not in an Airport Land Use Plan. Therefore, there is no impact.

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

Less than Significant Impact. The Project proposes to construct additional segments to an existing trail and a pedestrian undercrossing. All potential disturbances to roadways during construction will be temporary and repaired. Road closures and detours will affect a small portion of the Project area. Partial access will occur during the construction phase of the Project. There will be alternate routes available for emergency vehicles. Therefore, overall potential Project-related impacts to emergency response and evacuation plans would be considered less than significant.

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

No Impact. According to CAL FIRE's Fire Hazard Safety Zone Maps[11] the nearest wildland, which has a moderate fire risk, is located approximately three miles west of the Project site. Given the absence of wildlands in the vicinity and that there are no habitable structures proposed, implementation of the Project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. There would be no impact.

[11] (California Department of Forestry & Fire Protection, 2007)

3.10 Hydrology and Water Quality

Table 3-19. Hydrology and Water Quality

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

3.10.1 Environmental Setting and Baseline Conditions

The City's service area is a mix of residential, commercial, and industrial land use embedded in a rich agricultural area. Since agriculture is the primary economic base, orchards of apricots, almonds and walnuts, as well as row crops of dry beans, tomatoes, broccoli, spinach, peas and melons have and continue to play an important role in the City's prosperity. Further proof of this comes from the city's other name, the "Apricot Capital of the World."

The City's existing potable well field is located in the eastern portion of the city between East Las Palmas Avenue, South 2nd Street and the Patterson Irrigation District Canal. The City supplies potable groundwater for residential, industrial, and commercial uses through a combination of these wells, storage tanks, and a

network of piping. Each water service is equipped with a water meter for accounting and billing. The City is responsible to operate and maintain the water system up to the water meter.

In 2008 the City approved a non-potable water program to use lower quality, fit-for-purpose water for irrigation of public and commercial landscaping. Similar to other California cities, public and commercial landscaping is estimated to account for as much as 25% of the City's total annual water use, and over 40% of the peak month demands. The City's Non Potable Water Program (NPWP) is ongoing. The NPWP is currently using lower quality groundwater for irrigation, but is being designed and constructed to receive recycled/reclaimed water at some point in the future. Several thousand feet of pipe have been installed, and irrigating some of the City's largest landscapes.

3.10.1.1 Hydrology

Patterson, located in Stanislaus County between Interstate 5 and the San Joaquin River, relies on groundwater from the Delta-Mendota Subbasin (in the San Joaquin Valley Basin) as its sole source of water. The City's groundwater has Hexavalent Chromium (Chromium VI or Chrome 6) concentrations above a recently established Maximum Contaminant Level (MCL) standard, and has a Corrective Action Plan (CAP) in place with the California Division of Drinking Water (DDW) to get the City's supply back in compliance with all standards. As part of the City's current master planning efforts, its future demands have been estimated and various new water supplies have been evaluated. The City has indicated a preferred future water supply portfolio which includes additional groundwater pumping, recycled water use, stormwater capture and recharge and additional conservation. This diverse water portfolio will ensure the City's future water supply.

3.10.1.2 Water Quality

As reported in the City's 2015 Urban Water Management Plan (UWMP), water quality above the clay (reachable within about 25 feet of the land surface) is suitable for non-potable use, though recent monitoring suggests that total dissolved solids (TDS) and Nitrate levels are on the rise. Water quality below the clay is generally suitable for potable use, however there are some instances of high TDS and Chrome 6 levels. Chrome 6 levels in the Subbasin had been compliant with State and Federal regulations until the California Department of Public Health (now the Division of Drinking Water) implemented stricter standards in 2014 (reducing the acceptable limit from 50 micrograms per liter to 10 micrograms per liter). The City has coordinated with the Division of Drinking Water and prepared a CAP to address Chrome 6 levels.

The City of Patterson, Water Division's summary report included in the 2017 Consumer Confidence Report indicates that no violations of maximum contaminate levels were found in samples conducted in 2017. The 2017 Water Quality Monitoring Program sampled constituents for the California Primary Standards for Unregulated Contaminants, Micro Biological Contaminants, and Lead and Copper.[12]

3.10.1.3 General Plan Policies

The City of Patterson General Plan contains the following goals and policies related to hydrology that may be considered relevant to the Project's environmental review.

- NR-1.4 Sedimentation. The City shall continue to support local, regional, and statewide efforts to minimize the discharge of sediment into waterways, including Salado Creek, Del Puerto Creek and the San Joaquin River.
- NR-1.5 New development. The City shall require new development to protect the quality of water bodies and drainage systems through adaptive site design, stormwater management, and the implementation of best management practices (BMPs). The City shall apply the following principles of Low Impact

[12] (City of Patterson, 2017)

Development in the review of development projects for purposes of minimizing runoff and potential water quality impacts:

- a. Make Sensitive Choices in Site Layout. Identify the most sensitive natural areas and, where possible, leave undeveloped. To the extent possible, set back development from creeks, wetlands, and riparian habitats. Preserve significant trees. Conform the site along natural landforms, avoid excessive grading and disturbance of vegetation and soils, and mimic the site's natural drainage patterns. Where possible, concentrate development on portions of the site with less permeable soils, and preserve areas that can promote infiltration. To the extent possible, limit overall coverage of paving and roofs by designing compact structures, narrower and shorter streets and sidewalks, smaller parking lots, and indoor or underground parking. Where possible, detain and retain runoff throughout the site. Use drainage design elements such as depressed landscape areas, vegetated buffers, and bioretention facilities (consisting of a shallow surface reservoir, a layer of imported planting medium, and a gravel underlayer with perforated pipe underdrains) as amenities and focal points within the site and landscape design.

- NR-6.6 Landscaping options. The City shall evaluate existing landscaping and options to convert reflective and impervious surfaces to landscaping, and shall, as feasible, install or replace vegetation with drought-tolerant, low maintenance native species that can also provide shade and reduce heat-island effects.

3.10.2 Impact Assessment

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

Less than Significant Impact. In compliance with state regulations, all development within the Project area would be required to comply with state regulations adopted to reduce groundwater degradation. The RWQCB requires the preparation of a SWPPP for projects that exceed specified size limits. The Project would be required to obtain RWQCB approval of its SWPPP prior to construction. Therefore, the Project would have a less than significant impact through implementation of planned Project design features, compliance with the requirements of the SWPPP, and through compliance with adopted SWPPP regulations.

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

Less than Significant Impact. The proposed Project is within the City's water service area. According to the 2015 Urban Water Management Plan (UWMP), the 2020 target per capita water consumption is 164 gallons per capita per day (gpcd). In 2015, actual consumption was measured at 135 gpcd. The Project would be expected to use approximately 4,000 gallons of water per day under normal operation. This equates to approximately 4.5-acre feet per year (AFY). Although the Project will utilize non-potable groundwater for irrigation purposes, the amount of water use is not considered significant and will not significantly lower the groundwater table of the aquifer or interfere substantially with the recharge of the underground aquifer. Therefore, according to the City's UWMP the Project will not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project would impede sustainable groundwater management of the basin.

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

(i) result in substantial erosion or siltation on- or off-site;
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or offsite;
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
(iv) impede or redirect flood flows?

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

Less than Significant Impact. The project is to upgrade an existing recreational trail in the city. In order to minimize erosion and run-off during construction activities, a SWPPP will be implemented, and the contractor shall be required to comply with all Cal/OSHA regulations regarding regular maintenance and inspection of equipment, spill prevention, and spill remediation in order to reduce the potential for incidental release of pollutants or hazardous substances onsite. The existing creek flow has historically been minimal and consist only of stormwater. The culvert will be designed to accommodate these historical water flows. Part of the Project area is within a designated flood zone. See **Figure 3-1**. Impacts resulting from alterations to drainage patterns or the potential for inundation by seiche, tsunami, or mudflow will be less than significant.

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

Less than Significant Impact. Applicable water quality control plans for the City of Patterson are included within the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins. The City is currently in compliance with all facets of the water quality control plan.

The City is a member of the Northern & Central Delta-Mendota Region. In accordance with the Sustainable Groundwater Management Act (SGMA) GSAs, located in areas in critical overdraft are required to adopt Groundwater Sustainability Plans by 2020. The GSA has adopted its plan on December 19, 2019. The City of Patterson has a Tier 1 projects in the Groundwater Sustainability Plan, as follows:

Table 3-20. City of Patterson Groundwater Projects

City of Patterson Groundwater Projects			
Project	**Description**	**Benefit**	**Milestone Year**
City of Patterson Percolation Ponds for Stormwater Capture and Recharge	The City of Patterson Percolation Ponds for Stormwater Capture and Recharge project consists of constructing percolation ponds to capture and infiltrate stormwater from Del Puerto Creek. The ponds will cover roughly 14 acres. Sizing of the percolation ponds is based on existing infiltration rate data and will be updated when field investigations are completed. Implementation of this project may be phased such that the ponds are constructed over a number of years. The project is anticipated to result in 1,700 AFY of direct groundwater recharge using stormwater runoff captured within the City and conveyed to recharge locations beginning in 2020. At present, the project is in the conceptual stage and environmental (CEQA) documentation has not yet started; however, project design and associated environmental documentation can be completed within a two-year period pending available funding.	1,700 AF/yr	2020

A project would obstruct implementation of a Sustainable Groundwater Management Plan if it prevented the development of identified projects to sustainably maintain groundwater. As the proposed Project does not seek to develop on property identified for these groundwater management projects, the Project will therefore have a less than significant impact.

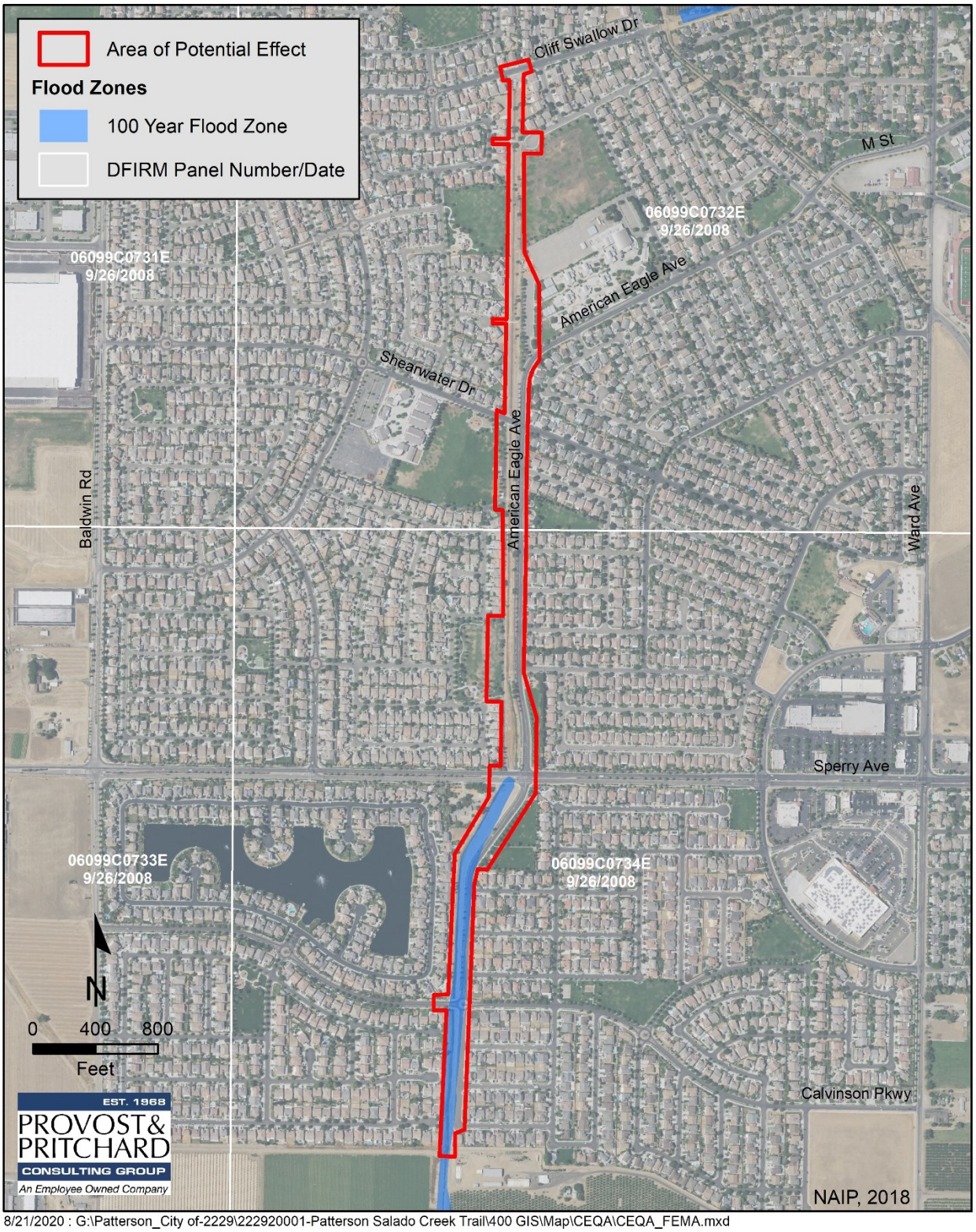


Figure 3-1. FEMA Flood Map

3.11 Land Use and Planning

Table 3-21. Land Use and Planning

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

3.11.1 Environmental Setting and Baseline Conditions

The Project proposes to extend the existing Salado Creek trail, which bisects most of the City. Trail crossings already exist in several locations.

3.11.2 Impact Assessment

a) Would the project physically divide an established community?

No Impact. Recreational trails are a key part of our community. The proposed Project would allow for the development of a new trail and associated infrastructure to connect existing subdivisions, schools and parks in the City of Patterson. The Project involves the construction of additional trail sections along the existing Salado Creek. Existing creek crossings will be maintained, and a pedestrian undercrossing will be constructed. Therefore, existing conditions will be improved, and there will be no impact.

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

Less than Significant Impact. The Project proposes to extend the existing Salado Creek trail, which supports General Plan Policy PR-1.10. All General Plan policies that serve to reduce, avoid, or mitigate an environmental effect from the General Plan have been identified. The Project is consistent with applicable General Plan policies and will not conflict with any applicable land use plan, nor any specific plan, community plan, policy, or City regulations adopted for the purpose of avoiding or mitigating environmental effects and will have a less than significant impact.

3.12 Mineral Resources

Table 3-22. Mineral Resources

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

3.12.1 Environmental Setting and Baseline Conditions

The California Geological Survey, previously known as California Department of Conservation Division of Mines and Geology, analyzed this region for the presence of aggregate resources in a 1977 mineral land classification report[13]and a subsequent 1994 update.[14] In each of these reports CGS classified the Stanislaus River area according to the presence or absence of significant aggregate deposits. The land classification is presented in the form of Aggregate Resource Areas (ARAs). The City of Patterson is not located in an ARA.

3.12.2 Impact Assessment

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

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

Less than Significant Impact. The Project is not located in an ARA. Locally important mineral resources are generally located in the Hospital Creek Fan, Orestimba Creek Fan, Garza Creek Fan, Calaveras River Terrace, Stanislaus River, and Tuolumne River Resource Areas. The nearest area designated MRZ-2, where significant mineral resources are known or very likely, is between Interstate 5 and State Route 33 abutting the Stanislaus-San Joaquin County line, approximately 12.3 miles northwest of the Project Area. No mineral resource zones and no active or inactive mines mapped by the Office of Mine Reclamation on the Project site. Given that the Project site does not have mineral resource significance, any active or inactive mines, nor any mineral resource sectors, implementation of the proposed project would not cause a loss of availability of known mineral resources. Impacts related to mineral resources would be less than significant.

[13] (California Department of Conservation, 1977)
[14] (California Department of Conservation, 1994)

3.13 Noise

Table 3-23. Noise

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

3.13.1 Environmental Setting and Baseline Conditions

The Project site is adjacent to schools and residential areas. The Project is located approximately 15 miles west of Modesto City-County Airport. The Project site is approximately 4.5 miles northwest of Crow's Landing Airport, however this airport was decommissioned in 1999. The Project site is approximately 15 miles west of Modesto City-County Airport's Airport Land Use Plan.

3.13.1.1 Local Setting

The following General Plan Goal and Policy are applicable to the Project:

- Goal HS-5 To protect city residents from the harmful and undesirable effects of excessive noise.
    - HS-5.2 Noise levels resulting from non-transportation noise sources. Noise levels resulting from non-transportation noise sources shall be mitigated so as not to exceed the noise level standards of Table HS-1 as measured immediately within the property line of lands designated for noise-sensitive uses. This policy does not apply to noise sources associated with agricultural operations on lands zoned for agricultural uses.

Table 3-24. Noise Level Performance Standards For New Projects

Noise Level Performance Standards For New Projects Affected By Or Including Non-Transportation Sources		
Noise Level Descriptor	Daytime (7 a.m. to 10 p.m.)	Nighttime(10 p.m. to 7 a.m.)
Hourly Leq, Db	50	45
Maximum level, Db	70	65

3.13.2 Impact Assessment

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

b) Would the project result in Generation of excessive ground borne vibration or ground borne noise levels?

Less than Significant Impact with Mitigation. The Project site is located adjacent to the backyards of single-family residential lots. Construction of the Project is likely to occur during weekdays during daytime hours. The Federal Highway Administration (FHWA) has compiled noise measurement data regarding the noise-generating characteristics of various types of construction equipment. Typical background vibration decibel (VdB) levels measured from 50 feet away, according to the Federal Transit Administration (FTA) are approximately 50 VdB, with a level of 100 VdB resulting in minor cosmetic damage to fragile buildings. For infrequent events, such as construction, impacts would be significant to residences, the nearest sensitive receptor, if they exceed 80 VdB. Vibration velocity levels are typically not additive.[15] The table below provides a summary of these typical noise levels of construction equipment as measured at a distance of 50 feet from the operating equipment.

Table 3-25. Typical Noise Levels Of Construction Equipment

Type of Equipment	Impact Device?	Specification Maximum Sound Levels for Analysis (50 feet)
Auger Drill Rig	No	85
Backhoe	No	80
Compactor	No	80
Dozer	No	85
Excavator	No	85
Grader	No	85
Jackhammer	Yes	85

Jackhammers, according to the FTA, have a velocity level of 79 VdB, and thus they will not cause damage to buildings, nor cause annoyances to residences. As the Project is likely to use construction equipment whose sound levels exceed the General Plan standard, the implementation of General Plan EIR Mitigation Measure HS-10 will cause the impact to noise levels and vibration will be less than significant.

Mitigation Measures

HS-10: The City shall require the following as a condition of project approval to mitigate the adverse noise effects of construction-related activities:

- Construction activities shall be restricted to the hours between 7:00 a.m. and 7:00 p.m., Monday through Friday, and between 9:00 a.m. and 7:00 p.m. on Saturday, with no construction on Sundays or federal and state holidays; minor construction equipment servicing and maintenance shall be exempted from this restriction.
- During construction, mufflers shall be provided for all heavy construction equipment and all stationary noise sources in accordance with the manufacturers' recommendations.
- Stationary noise sources and staging areas shall be located as far as is feasible from existing residences, or contractors shall be required to provide additional noise reducing engine enclosures (with the goal of achieving approximately 10 dBA of reduction compared to uncontrolled engines).

[15] (Federal Transit Administration, n.d.) Accessed October 2020.

- Air compressors and pneumatic equipment should be equipped with mufflers, and impact tools should be equipped with shrouds or shields.
- If for construction purposes, locating stationary construction equipment near existing residential uses is required, an eight-foot-tall sound rated fence should be erected between the equipment and the sensitive receptor. The fence should be located as close to the equipment as is feasible.
- Construction vehicle access routes shall be designed to minimize the impact on existing residences and occupied hospital facilities.
- A "construction liaison" shall be designated to ensure coordination between construction staff and neighbors to minimize disruptions due to construction noise. Occupants and property owners of residences within 400 feet of construction activity shall be notified in writing of the construction schedule and the contact information for the construction liaison.

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

No Impact. The Project site is not located within two miles of a public airport, nor within an airport land use plan. Therefore, there is no impact.

3.14 Population and Housing

Table 3-26. Population and Housing

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

3.14.1 Environmental Setting and Baseline Conditions

As reported in the City's Housing Element, California Department of Finance population estimates indicate that the City had an average growth rate of 1.3 percent between the years 2000-2013. The Housing Element determined that recent development trends in the City reflect a high demand for residential development, which has resulted in developments that emphasize residential development over exclusively non-residential developments.[16] The City's Regional Housing Needs Assessment identified a need for 653 residential units of varying sizes, densities, and affordability types.[17]

3.14.2 Impact Assessment

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

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

No Impact. The proposed Project involves construction of a new trail, and associated infrastructure. The goal of the Project is not to induce population growth, but rather to provide a recreational trail for the existing population. The Project would not encourage population growth directly or indirectly beyond that previously analyzed by the Patterson General Plan. No housing or habitable structures would be built, nor will any be removed. Implementation of the Project will not result in displacement of people or existing housing. Therefore, there will be no impact.

[16] Patterson Housing Element, 2009-2014.
[17] Ibid.

3.15 Public Services

Table 3-27. Public Services

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

3.15.1 Impact Assessment

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

Less than Significant Impact. The Project proposes to extend an existing recreational trail. Neither its construction nor operation of the facility would generate additional need for services that would worsen existing ratios, response times, or other performance objectives.

3.16 Recreation

Table 3-28. Recreation

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

3.16.1 Environmental Setting and Baseline Conditions

The Project is within a quarter-mile of several parks: Goldbar, Ambercot, Floragold, Sun Glow, Blenheim, Camas Lily, and Mustang Clover Park. The Project itself is improvements to the existing Salado Creek trail.

3.16.1.1 Local

The following General Plan policies are applicable to the proposed Project:

- Goal LU-1: To provide for orderly, well-planned, and balanced growth consistent with the limits imposed by the city's infrastructure and environmental constraints.
    - LU-1.1 Development strategy. The development strategy embodied in the Patterson General Plan is based on the premise that the outward urban expansion of the City will occur through the incremental annexation and development of "complete" neighborhoods, incorporating the following characteristics:
        - A mix of housing products and densities serving the broadest range of households, incomes and ages;
        - A neighborhood center containing higher density residential development, retail, restaurants, entertainment, office, and public uses within a short walk or bicycle ride of surrounding residences;
        - Parks, schools and other public/quasi-public uses within a short walk or bicycle ride;
        - A complete and interconnected system of mobility consisting of roadways, bicycle and pedestrian paths, and transit stops;
        - Short blocks with a substantial tree canopy shading the street and sidewalk;
        - Connectivity to surrounding neighborhoods, regional retail centers and employment;
        - A sense of personal safety;
        - Elements that foster the sustainable use of scarce or non-renewable resources.

    - Mixed-use development in which complementary uses are placed on a single building site one above the other (vertically) or in close proximity (horizontally).

- Goal T-7: To promote pedestrian, bicycle and rail travel as alternatives to automobile use.
    - T-7.1 Safe pedestrian and bike pathways. The City shall create and maintain a safe and convenient system of pedestrian and bicycle pathways that encourages walking and bicycling as an alternative to driving. New development shall be required to pay its fair share of the costs for development of this pathway system.
    - T-7.3 Bike routes. The City shall establish a safe and convenient network of identified bicycle routes connecting new residential areas by the shortest possible routes with recreation, shopping, and employment areas within the city. The City shall cooperate with surrounding jurisdictions in designing and implementing an area-wide bikeway system.
    - T-7.5 Include pathways in open space. To the extent practicable, bicycle and pedestrian pathways shall be included within open space areas.
- Goal PS-9: To promote efficiency, convenience, and harmony in the siting of public facilities.
    - PS-9.2 Recreational use of rights-of-way. Utility company rights-of-way shall be considered for use as public or private open space, trails, parkland, or other compatible passive recreational uses.
- Goal PR-1 To establish and maintain a public park system and recreation facilities suited to the needs of Patterson residents and visitors.
    - PR-1.14 Pedestrian/bicycle network. The City shall pursue the development of a citywide network of pedestrian and bicycle pathways to integrate with existing and future regional, community, neighborhood, and, to the extent possible, pocket parks. (See the Circulation Element for more policies).

3.16.2 Impact Assessment

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

No Impact. The proposed Project would allow for the development of a new trail and associated infrastructure to connect existing subdivisions, schools and parks in the City of Patterson. The City maintains a parks standard of five (5) acres of parkland for each 1,000 residents. The Project is located less than a quarter-mile from seven (7) existing public community or regional parks. As the Project includes construction of trail facilities, the Project will have no adverse impact on the physical deterioration of park and recreational facilities and would not contribute to the acceleration of such deterioration.

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

Less than Significant Impact. The proposed Project is construction of a pedestrian trail to improve connectivity of an existing recreational trail system. The environmental impacts of the Project are examined throughout this initial study. No significant environmental impacts were identified; although mitigation was required for certain impacts that would otherwise be potentially significant. With implementation of the mitigation measures outlined in this document, expansion of recreational facilities would have a less than significant impact.

3.17 Transportation

Table 3-29. Transportation

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

3.17.1 Environmental Settings and Baseline Conditions

The Project area consists of a partially developed trail system. No trail, nor underground crossing, exists from Sperry Avenue south.

3.17.1.1 Local

The following transportation-related General Plan policies are applicable to the proposed Project:

- Goal LU-1: To provide for orderly, well-planned, and balanced growth consistent with the limits imposed by the city's infrastructure and environmental constraints.
    - LU-1.1 Development strategy. The development strategy embodied in the Patterson General Plan is based on the premise that the outward urban expansion of the City will occur through the incremental annexation and development of "complete" neighborhoods, incorporating the following characteristics:
        - A mix of housing products and densities serving the broadest range of households, incomes and ages;
        - A neighborhood center containing higher density residential development, retail, restaurants, entertainment, office, and public uses within a short walk or bicycle ride of surrounding residences;
        - Parks, schools and other public/quasi-public uses within a short walk or bicycle ride;
        - A complete and interconnected system of mobility consisting of roadways, bicycle and pedestrian paths, and transit stops;
        - Short blocks with a substantial tree canopy shading the street and sidewalk;
        - Connectivity to surrounding neighborhoods, regional retail centers and employment;

  - A sense of personal safety;
  - Elements that foster the sustainable use of scarce or non-renewable resources.
  - Mixed-use development in which complementary uses are placed on a single building site one above the other (vertically) or in close proximity (horizontally).

- Goal T-7: To promote pedestrian, bicycle and rail travel as alternatives to automobile use.
  - T-7.1 Safe pedestrian and bike pathways. The City shall create and maintain a safe and convenient system of pedestrian and bicycle pathways that encourages walking and bicycling as an alternative to driving. New development shall be required to pay its fair share of the costs for development of this pathway system.
  - T-7.3 Bike routes. The City shall establish a safe and convenient network of identified bicycle routes connecting new residential areas by the shortest possible routes with recreation, shopping, and employment areas within the city. The City shall cooperate with surrounding jurisdictions in designing and implementing an area-wide bikeway system.
  - T-7.5 Include pathways in open space. To the extent practicable, bicycle and pedestrian pathways shall be included within open space areas.
- Goal PR-1 To establish and maintain a public park system and recreation facilities suited to the needs of Patterson residents and visitors.
  - PR-1.14 Pedestrian/bicycle network. The City shall pursue the development of a citywide network of pedestrian and bicycle pathways to integrate with existing and future regional, community, neighborhood, and, to the extent possible, pocket parks. (See the Circulation Element for more policies).

3.17.2 Impact Assessment

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

No Impact. The Project proposes to implement the Patterson General Plan's Circulation Element by proposing to construct the Salado Creek Trail. There is no impact.

b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3 Subdivision (b)?

No Impact. The Project consists of the construction of a bicycle trail, an active transportation project. The project will serve to reduce vehicle miles traveled as it encourages persons to seek methods of transportation other than vehicle. There is no impact.

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

d) Would the project result in inadequate emergency access?

Less than Significant Impact. The Project has been designed to utilize existing right-of-way and proposes a pedestrian undercrossing at the intersection of Sperry Avenue, an Arterial street. The entire length of the trail including the undercrossing segment will be designed to support the weight of heavy maintenance and emergency response vehicles. The trail is physically separated from vehicular traffic. Impacts are less than significant.

3.18 Tribal Cultural Resources

Table 3-30. Tribal Cultural Resources

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

3.18.1 Environmental Setting

3.18.1.1 Regional Setting

The Yokuts comprised approximately 60 tribelets, each with a few hundred to several thousand members, living throughout the San Joaquin Valley. The tribelets established permanent villages near perennial waterways and subsisted on the rich and diverse flora and fauna found in the environment through fishing, hunting, fowling, and intensive plant collecting (Moratto 1984). The San Joaquin River, and the myriad sloughs and channels that branch from it, was the center of the Northern Yokut territory, representing the northern portion of the Yokut territory that encompassed an estimated population of 31,400 at the time of European contact (Wallace 1978).

Linguistic research regarding the Northern Valley Yokuts suggests that the Yokut people immigrated to the northern San Joaquin Valley relatively recently in prehistory. The Numic-speaking Monache tribe from east of the Sierra Nevada began to enter the San Joaquin Valley, pushing Yokut tribes north up the San Joaquin and Kings rivers. This migration, which likely occurred over a number of centuries, greatly expanded the Yokuts' territory. When the Spaniards first arrived in the valley, they found a population that had flourished, many Northern Valley Yokut villages having been described as being well-stocked with both food and people. The population, however, was not evenly distributed across the valley but instead clustered along the San Joaquin River and its many tributaries (Wallace 1978).

Early travelers and missionaries unfortunately recorded few details of Northern Valley Yokut culture, but what was recorded has been corroborated by the archaeological record. Oval-shaped, tule mat covered dwellings were seen built along the shores of rivers and sloughs in addition to large, earth-covered sweathouses and earth-covered ceremonial assembly chambers (Moratto 1984; Wallace 1978). The earthen ceremonial lodge among the Northern Valley Yokuts may represent a temporary involvement in a specialized cult system that has also been seen among other indigenous groups in California. Early explorers also described tule boats and worn foot paths that cut across the prairie and along the waterways that the Northern Valley Yokuts used to trade with the Salinan in the mountains of the Coast Range, the Costanoan near Monterey Bay, and the Miwok to the east (Wallace 1978).

The name of the specific tribelet that inhabited the region near the APE is unknown. The Lakisamne occupied the lower valley of the Stanislaus River, located approximately 9.77 miles north of the APE, and the Coconoon people occupied the lower valley of the Merced River, located approximately 11.74 miles southeast of the APE, though these populations may have represented a more recent conglomeration of smaller tribelets (Wallace 1978). A headman likely guided the tribe, with a second tribal office held by a messenger, and visitors were often treated with lavish displays of hospitality. Smaller communities of two or three houses unassociated with a larger settlement also existed. Villages and communities were often built on low mounds or terraces near large waterways, elevated out of the seasonal floodplain, though flooding was a primary threat to permanent residences (Moratto 1984; Wallace 1978).

As a result of exploration and Spanish colonial expansion into the Delta and lower San Joaquin Valley in the 1770s, Yokut populations were reduced and their settlement patterns were disrupted (Moratto 1984; Wallace 1978). At first, the Yokuts reportedly greeted Spanish soldiers or Franciscan padres warmly but beginning around 1805, as more people were drawn into the mission system and local populations began to diminish, the Franciscan padres began to forcefully proselytize among the tribes located farther inland and tensions grew. Spanish soldiers began to pursue runaway neophytes, many of whom were likely forced against their will into the missions, and the Yokuts began to launch raiding parties on Franciscan cattle herds and horses. Serval exploration expeditions were launched by the Franciscans to attempt to identify a location for a new inland mission to help quell hostilities in the region, but they were never able to establish a new mission in the Central Valley (Wallace 1978).

An epidemic disease, likely malaria, began to spread in 1833 and had an even more devastating impact on the Yokut people, reducing the population in some places by as much as 75 percent by 1846 and destroying entire communities. The traditional lifeways of the Yokut people was further destroyed by the influx of Americans beginning in 1848; while there was no gold to be had in the San Joaquin Valley, thousands of prospectors passed through it and the rich soil soon attracted farmers, who forced off or killed many indigenous peoples who remained on the land (Moratto 1984; Wallace 1978). All of these factors contributed to a distinct lack of ethnographic information regarding the Northern Valley Yokuts. By the time that intensive academic study of indigenous populations began in California, few of the native groups that made up the Northern Valley Yokuts remained and those which survived had scant information to share regarding their traditional lifeways (Wallace 1978). Today, descendants of the Northern Valley Yokut continue to live in and around the San Joaquin Valley and despite more than a century of adversity, they continue to engage in traditional cultural practices and advocate for the preservation of their heritage.

3.18.1.2 **Methodology**

The information for this section was obtained using the same Methodology in **Section 3.6**.

3.18.2 Regulatory Setting

3.18.2.1 State

Assembly Bill 52 (PRC Section 21080.3.1): The Project is subject to consultation with California Native American Indian Tribes, if required pursuant to California Public Resources Code Section 21080.3.1 (AB 52). The PRC requires the lead agency must, within 14 days of determining that an application for a project is complete, notify any California Native American Tribe in writing that has previously requested such notification about the project from the lead agency and inquire whether the Tribe wishes to initiate formal consultation. Tribes have 30 days from receipt of said notification to request formal consultation; tribal consultation is required only with those tribes that formally request consultation, in writing. The lead agency then has 30 days to initiate the consultation, which then continues until the parties come to an agreement regarding necessary mitigation for impacts to Tribal Cultural Resources or agree that no mitigation is needed, or one or both parties determine that negotiation occurred in good faith, but no agreement will be made.

Patterson has not received any letters from Tribes requesting notification of upcoming projects. As the Project requires a Section 404 permit, the USACE is considered the lead agency for the Project, and thus is responsible for conducting tribal outreach and will contact the Native American Heritage Commission (NAHC) as well as individuals and tribal groups identified by the NAHC in order to initiate consultation.

California Environmental Quality Act and the CEQA Guidelines (PRC 21000, *et seq.*; CCR Title 14, Chapter 3, Section 15000. *et seq.*): CEQA is applicable to discretionary actions by State or local lead agencies. Under CEQA, lead agencies must analyze impacts to cultural resources, generally (see **Section 3.5** and **Section 3.18** Tribal Cultural Resources, specifically. This section discusses impacts to cultural resources directly related to Native American Tribes of the Project area. The distinction for Tribal Cultural Resources is that they are described as a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe.

3.18.2.2 Local

Patterson General Plan. The Patterson General Plan contains policies aimed at preserving and protecting cultural resources. The following policy is relevant to the protection of tribal cultural resources within the Project site and surrounding area:

- Goal PR-5 To protect Patterson's Native American heritage.
    - PR-5.1 Review of development. The City shall refer development proposals that may adversely affect archaeological sites to the California Archaeological Inventory, Central California Information Center, at California State University, Stanislaus, for review and comment.
    - PR-5.2 Native American consultation requirements. The City shall continue to comply with the requirements Government Code Sections 65352.3 and 65352.4 which require the City to consult with Native American tribes with respect to the possible preservation of, or the mitigation of impacts to, specified Native American places, features, and objects.
    - PR-5.3 Mandatory avoidance of impacts. The City shall not knowingly approve any public or private project that may adversely affect an archaeological site without first consulting with applicable State and local agencies and organizations, conducting a site evaluation as may be indicated, and mitigating any adverse impacts according to the recommendations of a qualified archaeologist. City implementation of this policy shall be guided by Appendix K of the State CEQA Guidelines.
    - PR-5.4 Protection of Native American cultural sites. The City shall ensure the protection of archaeological sites that may be culturally significant to Native Americans, even if they have

lost their scientific or archaeological integrity through previous disturbance; sites that may have religious value, even though no artifacts are present; and sites that contain artifacts which may have intrinsic value, even though their archaeological context has been disturbed.

- Goal PR-6 To protect the area's archaeological resources.
    - PR-6.1 Protection of archaeological resources. The City shall provide for the protection of both known and potential archaeological resources. To avoid significant damage to important archaeological sites, all available measures, including purchase of the property in fee or easement, shall be explored at the time of a development proposal. Where such measures are not feasible and development would adversely affect identified archaeological or paleontological resources, mitigation shall be required in accordance with the relevant provisions of federal and State laws.
    - PR-6.2 Archaeologically sensitive areas. Development within an archaeologically sensitive area shall require a preliminary site survey by a qualified archaeologist knowledgeable in Native American cultures, prior to a determination of the potential environmental impacts of the project.
    - PR-6.3 Archaeological resources present. Where a preliminary site survey finds substantial archaeological resources, before permitting construction, the City shall require a mitigation plan to protect the resources. Possible mitigation measures include:
        - Requiring the presence of a qualified professional during initial grading or trenching; project redesign;
        - Covering with a layer of fill; excavation, removal and curation in an appropriate facility under the direction of a qualified professional.
    - PR-6.4 Qualified archaeologist present. Where substantial archaeological resources are discovered during construction or grading activities, all such activities in the immediate area of the find shall cease until a qualified archaeologist knowledgeable in Native American cultures can determine the significance of the resource and recommend alternative mitigation measures.
    - PR-6.5 Archaeological site records. The City shall establish and maintain archaeological site records about known sites. Specific archaeological site information shall be kept confidential to protect the resources. The City shall maintain, for public use, generalized maps showing known areas of archaeological sensitivity.

3.18.3 Consultation with California Native American Tribes

Public Resources Code Section 21080.3.1, et seq. (codification of AB 52, 2013-14) requires that a lead agency, within 14 days of determining that it will undertake a project, must notify in writing any California Native American Tribe traditionally and culturally affiliated with the geographic area of the project if that Tribe has previously requested notification about projects in that geographic area. The notice must briefly describe the project and inquire whether the Tribe wishes to initiate request formal consultation. Tribes have 30 days from receipt of notification to request formal consultation. The lead agency then has 30 days to initiate the consultation, which then continues until the parties come to an agreement regarding necessary mitigation or agree that no mitigation is needed, or one or both parties determine that negotiation occurred in good faith, but no agreement will be made.

3.18.4 Impact Assessment

a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a-i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)

a-ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less than Significant Impact with Mitigation Incorporated. No requests for notification were received by the City. As a result, less than significant impacts to tribal resources are expected. **CUL-1 and CUL-2**, described above in Section 3.5, is recommended in the unlikely event cultural materials or human remains are unearthed during excavation or construction.

Mitigation Measures

Refer to **CUL-1** and **CUL-2.**

3.19 Utilities and Service Systems

Table 3-31. Utilities and Service Systems

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

3.19.1 Environmental Setting and Baseline Conditions

3.19.1.1 Water Supply

As stated in the City of Patterson Water Master Plan, adopted March 2018, the City relies solely on groundwater pumping for its potable water supplies. The City has several wells dedicated to non-potable water supplies. As of 2013, the City's annual potable demand was 3,687 AF. This amount is expected to increase to 9,390 AF in 2030, and 14,231 AF in 2050 as anticipated in the 2010 General Plan. Non-potable demand was 270 AF in 2013.

3.19.1.2 Solid Waste Disposal

Solid waste generated by the Project would be disposed at the Fink Landfill, located in Crows Landing, CA. The landfill has a maximum permitted capacity of 14,640,000 cubic yards, with last reported remaining capacity of 7,184,701 cubic yards. The landfill has an estimated closure date for August 2023.[18] The landfill currently has

[18] (CalRecycle, 2020)

sufficient capacity to serve the Project. The Project is not anticipated to generate solid waste in excess of state or local standards.

3.19.2 Impact Assessment

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

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

Less than Significant Impact. The City implements a City-wide program for completion of incremental expansions to facilities for planned water supply, sewer treatment, and stormwater drainage. While the Project will consume non-potable water for landscaping purposes during operations, the Project will be required to comply with the City's Model Water Efficiency Landscaping Ordinance, and the City has sufficient water supplies available to serve the Project and its existing commitments during normal, dry, and multiple dry years. The Project will not require the relocation of or expansion of existing utility facilities, and thus will not cause significant environment effects.

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

No Impact. The Project will not generate wastewater. There is no impact.

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

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less than Significant Impact. Solid waste generated by the Project would comprise of construction debris and would be disposed at the Fink Road Landfill, located in Crows Landing, CA. The landfill currently has sufficient capacity to serve the Project. The Project is not anticipated to generate solid waste in excess of state or local standards. Consequently, the Project would have a less than significant impact.

3.20 Wildfires

Table 3-32. Wildfire

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

3.20.1 Environmental Setting and Baseline Conditions

The Project is located in the City of Patterson. The California Office of the State Fire Marshall (CAL FIRE) adopted Fire Hazard Severity Zone Maps for State Responsibility Areas in November 2007. In addition, Cal Fire identifies draft Very High Fire Hazard Severity Zone Maps for Local responsibility area lands. Government Code Section 51179 states, "A local agency shall designate, by ordinance, very high fire hazard severity zones in its jurisdiction within 120 days of receiving recommendations from the director pursuant to subdivisions (b) and (c) of Section 51178. A local agency shall be exempt from this requirement if ordinances of the local agency, adopted on or before December 31, 1992, impose standards that are equivalent to, or more restrictive than, the standards imposed by this chapter.

The Project is not designated as a State Responsibility Area. The City of Patterson does not classify the Project site as a Very High Fire Hazard Severity Zone.[19]

[19] (California Department of Forestry & Fire Protection, 2007)

3.20.2 Impact Assessment

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

a) Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

b) Would the project, due to slope, prevailing winds, or other factors exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from wildfire or the uncontrolled spread of wildfire?

c) Would the project Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact. The Project is located in an area of low fire risk, and is not located in or near a State responsibility Area nor near land classified by either CAL FIRE or the City of Patterson as a Very High Fire Hazard Severity Zone.[20] The nearest State Responsibility Area is approximately 1.25 miles west of the Project site. Additionally, the site is approximately 9 miles from the nearest Very High Fire Hazard Severity Zone classification. As the Project is not subject to wildfire, it would have no impact on adopted emergency response plans or emergency evacuation plans relative to the risk of wildfire. The Project area does not generally experience strong prevailing winds and experiences less than 2% slope. As the Project is relatively flat, and not located in or near a State responsibility Area nor land classified by either CAL FIRE or the City of Patterson as a Very High Fire Hazard Severity Zone, it is not subject to the risk of downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes. Therefore, there would be no impacts.

[20] (California Department of Forestry & Fire Protection, 2007)

3.21 CEQA Mandatory Findings of Significance

Table 3-33. Mandatory Findings of Significance

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

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

Less than Significant Impact with Mitigation Incorporated**.** The analysis conducted in this Initial Study/Mitigated Negative Declaration results in a determination that the Project, with incorporation of mitigation measures, will have a less than significant effect on the environment. The potential for impacts to aesthetics, biological resources, cultural resources, energy, hazards and hazardous materials, noise, and tribal cultural resources from the implementation of the proposed Project will be less than significant with the incorporation of the mitigation measures discussed in this analysis. Accordingly, the proposed Project will involve no potential for significant impacts through the degradation of the quality of the environment, the reduction in the habitat or population of fish or wildlife, including endangered plants or animals, the elimination of a plant or animal community or example of a major period of California history or prehistory

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

Less than Significant Impact with Mitigation Incorporated. CEQA Guidelines Section 15064(i) states that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. The proposed Project would allow for the development of a new trail and associated infrastructure to connect existing subdivisions, schools and parks in the City of Patterson. The Project was anticipated for urbanization with the development of the City's General Plan. Therefore, implementation of the Project would not result in significant cumulative impacts and all potential impacts would be reduced to less than significant through the implementation of mitigation measures and basic regulatory requirements incorporated into Project design.

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

Less than Significant Impact. The analysis conducted in this Initial Study results in a determination that the Project would have a less than a substantial adverse effect on human beings, either directly or indirectly.

Chapter 4 Mitigation Monitoring and Reporting Program

This Mitigation Monitoring and Reporting Program (MMRP) has been formulated based upon the findings of the Initial Study/Mitigated Negative Declaration (IS/MND) for the Project. The MMRP lists mitigation measures recommended in the IS/MND for the Project and identifies monitoring and reporting requirements.

Table 4-1 presents the mitigation measures identified for the proposed Project. Each mitigation measure is numbered with a symbol indicating the topical section to which it pertains, a hyphen, and the impact number. For example, AIR-2 would be the second mitigation measure identified in the Air Quality analysis of the IS/MND.

The first column of **Table 4-1** identifies the mitigation measure. The second column, entitled "When Monitoring is to Occur," identifies the time the mitigation measure should be initiated. The third column, "Frequency of Monitoring," identifies the frequency of the monitoring of the mitigation measure. The fourth column, "Agency Responsible for Monitoring," names the party ultimately responsible for ensuring that the mitigation measure is implemented. The last columns will be used by the City to ensure that individual mitigation measures have been complied with and monitored.

Table 4-1. Mitigation Monitoring and Reporting Program

Mitigation Monitoring and Reporting Program					
Mitigation Measure	**When Monitoring is to Occur**	**Frequency of Monitoring**	**Agency Responsible for Monitoring**	**Method to Verify Compliance**	**Verification of Compliance**
Biological Resources					
NEST-1b (Pre-construction Surveys): A qualified biologist shall conduct pre-construction surveys for active nests within 30 days prior to the start of construction. The survey shall include the proposed work area and surrounding lands within 500 feet. If no active nests are observed, no further mitigation is required. Raptor nests are considered "active" upon the nest-building stage.	Prior to start of construction	One time at start of construction	City of Patterson	Submittal of a report	
NEST-1c (Establish Buffers): On discovery of any active nests near work areas, the biologist shall determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Construction buffers shall be identified with flagging, fencing, or other easily visible means, and shall be maintained until the biologist has determined that the nestlings have fledged and are no longer dependent on the nest.	Prior to start of construction	Continuously	City of Patterson	Submittal of a report upon occurrence	
BUOW-1a (Pre-construction Take Avoidance Survey): A qualified biologist shall conduct a pre-construction take avoidance survey for burrowing owls and suitable burrows, in accordance with CDFW's *Staff Report on Burrowing Owl Mitigation* (2012), within 30 days prior to the start of construction activities. The survey shall include the proposed work area and surrounding lands within 500 feet. If no burrowing owl individuals or suitable burrows are observed, no further mitigation is required.	Prior to start of construction	One time at start of construction	City of Patterson	Submittal of a report	

<table>
<tr><th colspan="6">Mitigation Monitoring and Reporting Program</th></tr>
<tr><th>Mitigation Measure</th><th>When Monitoring is to Occur</th><th>Frequency of Monitoring</th><th>Agency Responsible for Monitoring</th><th>Method to Verify Compliance</th><th>Verification of Compliance</th></tr>
<tr><td>BUOW-1b (Avoidance): If an active burrowing owl burrow is detected, the occurrence shall be reported to the local CDFW office and the CNDDB, and disturbance-free buffers shall be implemented in accordance with CDFW's 2012 Staff Report on Burrowing Owl Mitigation, as outlined in the table below:
<table>
<tr><th rowspan="2">Location</th><th rowspan="2">Time of Year</th><th colspan="3">Level of Disturbance (in meters)</th></tr>
<tr><th>Low</th><th>Medium</th><th>High</th></tr>
<tr><td rowspan="3">Nesting sites</td><td>4/1 – 8/15</td><td rowspan="2">200</td><td>500</td><td rowspan="3">500</td></tr>
<tr><td>8/16 – 10/15</td><td>200</td></tr>
<tr><td>10/16 – 3/31</td><td>50</td><td>100</td></tr>
</table></td><td>Prior to start of construction</td><td>One time at start of construction</td><td>City of Patterson</td><td>Submittal of a report</td><td></td></tr>
<tr><td>BUOW-1c (Consultation with CDFW and Passive Relocation): If avoidance of an active burrowing owl burrow is not feasible, CDFW shall be immediately consulted to determine the best course of action, which may include passive relocation during non-breeding season. Passive relocation and/or burrow exclusion shall not take place without coordination with CDFW and preparation of an approved exclusion and relocation plan.</td><td>Prior to start of construction</td><td>One time at start of construction</td><td>City of Patterson</td><td>Submittal of a report</td><td></td></tr>
<tr><td colspan="6">Cultural Resources</td></tr>
<tr><td>CUL-1: If there is an unanticipated discovery of archaeological deposits or remains during Project implementation, construction crews shall stop all work within 100 feet of the discovery until a qualified archaeologist can assess the discovery and provide recommendations. Resources could include buried historic features such as artifact deposits and concentrations of ceramic, glass, or metal materials. Native American archaeological materials could include obsidian and chert flaked stone tools (such as projectile points</td><td>During construction</td><td>Upon occurrence</td><td>City of Patterson</td><td>Submittal of a report</td><td></td></tr>
</table>

Mitigation Monitoring and Reporting Program					
Mitigation Measure	**When Monitoring is to Occur**	**Frequency of Monitoring**	**Agency Responsible for Monitoring**	**Method to Verify Compliance**	**Verification of Compliance**
and knives), midden (darkened soil created from decomposing organic materials and containing fire-affected rock, artifacts, animal bones, or shellfish remains), and/or groundstone implements (such as mortars and pestles).					
CUL-2: In the event that any human remains are discovered on the Project site, the Stanislaus County Coroner must be notified of the discovery (California Health and Safety Code, Section 7050.5) and all activities in the immediate area of the find or in any nearby area reasonably suspected to overlie adjacent human remains must cease until appropriate and lawful measures have been implemented. If the Coroner determines that the remains are not recent, but rather of Native American origin, the Coroner shall notify the Native American Heritage Commission (NAHC) in Sacramento within 24 hours to permit the NAHC to determine the Most Likely Descendent of the deceased Native American.	During construction	Upon occurrence	Stanislaus County Coroner	Submittal of a report upon occurrence	
Noise					
HS-10: The City shall require the following as a condition of project approval to mitigate the adverse noise effects of construction-related activities: • Construction activities shall be restricted to the hours between 7:00 a.m. and 7:00 p.m., Monday through Friday, and between 9:00 a.m. and 7:00 p.m. on Saturday, with no construction on Sundays or federal and state holidays; minor construction equipment servicing and maintenance shall be exempted from this restriction. • During construction, mufflers shall be provided for all heavy construction equipment and all stationary noise sources in accordance with the manufacturers' recommendations. • Stationary noise sources and staging areas shall be located as far as is feasible from existing residences, or contractors shall be required to provide additional noise reducing engine enclosures	During construction	Until construction ends	City of Patterson	Submittal of a report upon occurrence	

Mitigation Monitoring and Reporting Program					
Mitigation Measure	**When Monitoring is to Occur**	**Frequency of Monitoring**	**Agency Responsible for Monitoring**	**Method to Verify Compliance**	**Verification of Compliance**
(with the goal of achieving approximately 10 dBA of reduction compared to uncontrolled engines). • Air compressors and pneumatic equipment should be equipped with mufflers, and impact tools should be equipped with shrouds or shields. • If for construction purposes, locating stationary construction equipment near existing residential uses is required, an eight-foot-tall sound rated fence should be erected between the equipment and the sensitive receptor. The fence should be located as close to the equipment as is feasible. • Construction vehicle access routes shall be designed to minimize the impact on existing residences and occupied hospital facilities. • A "construction liaison" shall be designated to ensure coordination between construction staff and neighbors to minimize disruptions due to construction noise. Occupants and property owners of residences within 400 feet of construction activity shall be notified in writing of the construction schedule and the contact information for the construction liaison.					
Tribal Cultural Resources					
Refer to **CUL-1** and **CUL-2.**	During construction	Upon occurrence	Stanislaus County Coroner	Submittal of a report upon occurrence	

Chapter 5 Works Cited

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Appendix A

Air Quality and Greenhouse Gas Emissions Evaluation Report

Salado Creek Urban Bicycle Trail

Stanislaus County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	5.40	Acre	5.40	235,224.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2022
Utility Company	Turlock Irrigation District				
CO2 Intensity (lb/MWhr)	790	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Construction is expected to occur over the course of 6 months. Default values have been adjusted proportionately.

Off-road Equipment - Two (2) excavators
One (1) backhoe or skip loader
Two (2) 2-ton smooth drum rollers
Three (3) end dumps
One (1) front loader

Off-road Equipment - Assumes same equipment used through all construction phases

Off-road Equipment - Assumes same equipment used through all construction phases

Off-road Equipment - Assumes same equipment used through all construction phases

Grading - 500 CY expected to be removed from site

Energy Use - Assuming 88 lamps at 75 watts each, running from dusk til dawn (PG&E assumes 4,100 hours per year). (88 lamps * 75 watts * 4,100 hours / 1,000 watts per kWh = 27,060 kWh divided by 53,578 square feet is .115 kWh per square foot per year.

Sequestration - 273 trees will be planted

Construction Off-road Equipment Mitigation - Site will be watered

Off-road Equipment - Assumes same equipment used through all construction phases

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	100.00
tblConstructionPhase	NumDays	20.00	9.00
tblConstructionPhase	NumDays	20.00	9.00
tblConstructionPhase	NumDays	20.00	9.00
tblConstructionPhase	NumDays	10.00	4.00
tblConstructionPhase	PhaseEndDate	2/25/2022	7/20/2021
tblConstructionPhase	PhaseEndDate	2/26/2021	2/11/2021
tblConstructionPhase	PhaseEndDate	4/9/2021	3/2/2021
tblConstructionPhase	PhaseEndDate	3/25/2022	8/2/2021
tblConstructionPhase	PhaseEndDate	3/12/2021	2/17/2021

tblConstructionPhase	PhaseStartDate	4/10/2021	3/3/2021
tblConstructionPhase	PhaseStartDate	3/13/2021	2/18/2021
tblConstructionPhase	PhaseStartDate	2/26/2022	7/21/2021
tblConstructionPhase	PhaseStartDate	2/27/2021	2/12/2021
tblEnergyUse	LightingElect	0.00	0.12
tblGrading	AcresOfGrading	4.50	10.00
tblGrading	MaterialExported	0.00	500.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblSequestration	NumberOfNewTrees	0.00	273.00
tblTripsAndVMT	HaulingTripNumber	63.00	62.00
tblTripsAndVMT	WorkerTripNumber	23.00	20.00
tblTripsAndVMT	WorkerTripNumber	23.00	20.00
tblTripsAndVMT	WorkerTripNumber	30.00	20.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.3225	3.1613	2.2962	4.6000e-003	0.1391	0.1512	0.2903	0.0587	0.1402	0.1988	0.0000	407.0448	407.0448	0.0974	0.0000	409.4802
Maximum	**0.3225**	**3.1613**	**2.2962**	**4.6000e-003**	**0.1391**	**0.1512**	**0.2903**	**0.0587**	**0.1402**	**0.1988**	**0.0000**	**407.0448**	**407.0448**	**0.0974**	**0.0000**	**409.4802**

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					
2021	0.3225	3.1613	2.2962	4.6000e-003	0.0931	0.1512	0.2443	0.0347	0.1402	0.1749	0.0000	407.0444	407.0444	0.0974	0.0000	409.4798
Maximum	**0.3225**	**3.1613**	**2.2962**	**4.6000e-003**	**0.0931**	**0.1512**	**0.2443**	**0.0347**	**0.1402**	**0.1749**	**0.0000**	**407.0444**	**407.0444**	**0.0974**	**0.0000**	**409.4798**

	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**	**33.07**	**0.00**	**15.84**	**40.89**	**0.00**	**12.06**	**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	2-1-2021	4-30-2021	1.6361	1.6361
2	5-1-2021	7-31-2021	1.8095	1.8095
3	8-1-2021	9-30-2021	0.0336	0.0336
		Highest	1.8095	1.8095

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	2.2200e-003	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.6933	9.6933	3.6000e-004	7.0000e-005	9.7242
Mobile	0.0120	0.1107	0.1155	5.0000e-004	0.0307	4.5000e-004	0.0311	8.2400e-003	4.2000e-004	8.6600e-003	0.0000	45.9035	45.9035	3.3800e-003	0.0000	45.9880
Waste						0.0000	0.0000		0.0000	0.0000	0.0934	0.0000	0.0934	5.5200e-003	0.0000	0.2313
Water						0.0000	0.0000		0.0000	0.0000	0.0000	8.0694	8.0694	3.0000e-004	6.0000e-005	8.0951
Total	**0.0143**	**0.1107**	**0.1155**	**5.0000e-004**	**0.0307**	**4.5000e-004**	**0.0311**	**8.2400e-003**	**4.2000e-004**	**8.6600e-003**	**0.0934**	**63.6663**	**63.7597**	**9.5600e-003**	**1.3000e-004**	**64.0387**

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	2.2200e-003	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.6933	9.6933	3.6000e-004	7.0000e-005	9.7242
Mobile	0.0120	0.1107	0.1155	5.0000e-004	0.0307	4.5000e-004	0.0311	8.2400e-003	4.2000e-004	8.6600e-003	0.0000	45.9035	45.9035	3.3800e-003	0.0000	45.9880
Waste						0.0000	0.0000		0.0000	0.0000	0.0934	0.0000	0.0934	5.5200e-003	0.0000	0.2313
Water						0.0000	0.0000		0.0000	0.0000	0.0000	8.0694	8.0694	3.0000e-004	6.0000e-005	8.0951
Total	**0.0143**	**0.1107**	**0.1155**	**5.0000e-004**	**0.0307**	**4.5000e-004**	**0.0311**	**8.2400e-003**	**4.2000e-004**	**8.6600e-003**	**0.0934**	**63.6663**	**63.7597**	**9.5600e-003**	**1.3000e-004**	**64.0387**

	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**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	193.2840
Total	**193.2840**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	2/1/2021	2/11/2021	5	9	
2	Site Preparation	Site Preparation	2/12/2021	2/17/2021	5	4	
3	Grading	Grading	2/18/2021	3/2/2021	5	9	
4	Building Construction	Building Construction	3/3/2021	7/20/2021	5	100	
5	Paving	Paving	7/21/2021	8/2/2021	5	9	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; 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
Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Excavators	2	8.00	158	0.38
Site Preparation	Excavators	2	8.00	158	0.38
Grading	Excavators	2	8.00	158	0.38
Paving	Excavators	2	8.00	158	0.38
Paving	Rubber Tired Dozers	2	8.00	247	0.40
Paving	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	2	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Excavators	2	8.00	158	0.38
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Building Construction	Forklifts	3	8.00	89	0.20
Demolition	Rollers	2	8.00	80	0.38
Site Preparation	Rollers	2	8.00	80	0.38
Grading	Rollers	2	8.00	80	0.38
Building Construction	Rubber Tired Dozers	2	8.00	247	0.40
Building Construction	Rollers	2	8.00	80	0.38

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
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	9	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	8	20.00	0.00	62.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	9	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	14	99.00	39.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0166	0.1662	0.1196	2.0000e-004		8.5800e-003	8.5800e-003		7.9500e-003	7.9500e-003	0.0000	17.7897	17.7897	5.1100e-003	0.0000	17.9175
Total	**0.0166**	**0.1662**	**0.1196**	**2.0000e-004**		**8.5800e-003**	**8.5800e-003**		**7.9500e-003**	**7.9500e-003**	**0.0000**	**17.7897**	**17.7897**	**5.1100e-003**	**0.0000**	**17.9175**

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	3.7000e-004	2.4000e-004	2.6400e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6408	0.6408	2.0000e-005	0.0000	0.6412
Total	**3.7000e-004**	**2.4000e-004**	**2.6400e-003**	**1.0000e-005**	**7.2000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.6408**	**0.6408**	**2.0000e-005**	**0.0000**	**0.6412**

3.2 Demolition - 2021

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	0.0166	0.1662	0.1196	2.0000e-004		8.5800e-003	8.5800e-003		7.9500e-003	7.9500e-003	0.0000	17.7897	17.7897	5.1100e-003	0.0000	17.9175
Total	**0.0166**	**0.1662**	**0.1196**	**2.0000e-004**		**8.5800e-003**	**8.5800e-003**		**7.9500e-003**	**7.9500e-003**	**0.0000**	**17.7897**	**17.7897**	**5.1100e-003**	**0.0000**	**17.9175**

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	3.7000e-004	2.4000e-004	2.6400e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6408	0.6408	2.0000e-005	0.0000	0.6412
Total	**3.7000e-004**	**2.4000e-004**	**2.6400e-003**	**1.0000e-005**	**7.2000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.6408**	**0.6408**	**2.0000e-005**	**0.0000**	**0.6412**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0241	0.0000	0.0241	0.0133	0.0000	0.0133	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6100e-003	0.0678	0.0458	8.0000e-005		3.4700e-003	3.4700e-003		3.1900e-003	3.1900e-003	0.0000	6.8312	6.8312	2.2100e-003	0.0000	6.8865
Total	**6.6100e-003**	**0.0678**	**0.0458**	**8.0000e-005**	**0.0241**	**3.4700e-003**	**0.0276**	**0.0133**	**3.1900e-003**	**0.0164**	**0.0000**	**6.8312**	**6.8312**	**2.2100e-003**	**0.0000**	**6.8865**

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	2.3000e-004	7.8700e-003	1.1700e-003	2.0000e-005	5.3000e-004	3.0000e-005	5.5000e-004	1.5000e-004	2.0000e-005	1.7000e-004	0.0000	2.3222	2.3222	1.4000e-004	0.0000	2.3257
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	1.7000e-004	1.1000e-004	1.1700e-003	0.0000	3.2000e-004	0.0000	3.2000e-004	8.0000e-005	0.0000	9.0000e-005	0.0000	0.2848	0.2848	1.0000e-005	0.0000	0.2850
Total	**4.0000e-004**	**7.9800e-003**	**2.3400e-003**	**2.0000e-005**	**8.5000e-004**	**3.0000e-005**	**8.7000e-004**	**2.3000e-004**	**2.0000e-005**	**2.6000e-004**	**0.0000**	**2.6070**	**2.6070**	**1.5000e-004**	**0.0000**	**2.6106**

3.3 Site Preparation - 2021

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					0.0109	0.0000	0.0109	5.9600e-003	0.0000	5.9600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6100e-003	0.0678	0.0458	8.0000e-005		3.4700e-003	3.4700e-003		3.1900e-003	3.1900e-003	0.0000	6.8312	6.8312	2.2100e-003	0.0000	6.8865
Total	**6.6100e-003**	**0.0678**	**0.0458**	**8.0000e-005**	**0.0109**	**3.4700e-003**	**0.0143**	**5.9600e-003**	**3.1900e-003**	**9.1500e-003**	**0.0000**	**6.8312**	**6.8312**	**2.2100e-003**	**0.0000**	**6.8865**

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	2.3000e-004	7.8700e-003	1.1700e-003	2.0000e-005	5.3000e-004	3.0000e-005	5.5000e-004	1.5000e-004	2.0000e-005	1.7000e-004	0.0000	2.3222	2.3222	1.4000e-004	0.0000	2.3257
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	1.7000e-004	1.1000e-004	1.1700e-003	0.0000	3.2000e-004	0.0000	3.2000e-004	8.0000e-005	0.0000	9.0000e-005	0.0000	0.2848	0.2848	1.0000e-005	0.0000	0.2850
Total	**4.0000e-004**	**7.9800e-003**	**2.3400e-003**	**2.0000e-005**	**8.5000e-004**	**3.0000e-005**	**8.7000e-004**	**2.3000e-004**	**2.0000e-005**	**2.6000e-004**	**0.0000**	**2.6070**	**2.6070**	**1.5000e-004**	**0.0000**	**2.6106**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0595	0.0000	0.0595	0.0304	0.0000	0.0304	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0169	0.1792	0.1110	2.0000e-004		8.6400e-003	8.6400e-003		7.9500e-003	7.9500e-003	0.0000	17.9898	17.9898	5.8200e-003	0.0000	18.1353
Total	**0.0169**	**0.1792**	**0.1110**	**2.0000e-004**	**0.0595**	**8.6400e-003**	**0.0681**	**0.0304**	**7.9500e-003**	**0.0383**	**0.0000**	**17.9898**	**17.9898**	**5.8200e-003**	**0.0000**	**18.1353**

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	3.7000e-004	2.4000e-004	2.6400e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6408	0.6408	2.0000e-005	0.0000	0.6412
Total	**3.7000e-004**	**2.4000e-004**	**2.6400e-003**	**1.0000e-005**	**7.2000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.6408**	**0.6408**	**2.0000e-005**	**0.0000**	**0.6412**

3.4 Grading - 2021

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					0.0268	0.0000	0.0268	0.0137	0.0000	0.0137	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0169	0.1792	0.1110	2.0000e-004		8.6400e-003	8.6400e-003		7.9500e-003	7.9500e-003	0.0000	17.9898	17.9898	5.8200e-003	0.0000	18.1353
Total	**0.0169**	**0.1792**	**0.1110**	**2.0000e-004**	**0.0268**	**8.6400e-003**	**0.0354**	**0.0137**	**7.9500e-003**	**0.0216**	**0.0000**	**17.9898**	**17.9898**	**5.8200e-003**	**0.0000**	**18.1353**

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	3.7000e-004	2.4000e-004	2.6400e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6408	0.6408	2.0000e-005	0.0000	0.6412
Total	**3.7000e-004**	**2.4000e-004**	**2.6400e-003**	**1.0000e-005**	**7.2000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.6408**	**0.6408**	**2.0000e-005**	**0.0000**	**0.6412**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2357	2.3173	1.6771	2.8800e-003		0.1199	0.1199		0.1113	0.1113	0.0000	250.7716	250.7716	0.0716	0.0000	252.5613
Total	**0.2357**	**2.3173**	**1.6771**	**2.8800e-003**		**0.1199**	**0.1199**		**0.1113**	**0.1113**	**0.0000**	**250.7716**	**250.7716**	**0.0716**	**0.0000**	**252.5613**

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	5.9500e-003	0.2166	0.0356	5.4000e-004	0.0129	5.8000e-004	0.0135	3.7300e-003	5.6000e-004	4.2800e-003	0.0000	51.6536	51.6536	4.2700e-003	0.0000	51.7603
Worker	0.0205	0.0134	0.1451	3.9000e-004	0.0396	3.0000e-004	0.0398	0.0105	2.7000e-004	0.0108	0.0000	35.2423	35.2423	1.0200e-003	0.0000	35.2679
Total	**0.0265**	**0.2300**	**0.1807**	**9.3000e-004**	**0.0525**	**8.8000e-004**	**0.0533**	**0.0142**	**8.3000e-004**	**0.0151**	**0.0000**	**86.8958**	**86.8958**	**5.2900e-003**	**0.0000**	**87.0282**

3.5 Building Construction - 2021

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	0.2357	2.3173	1.6771	2.8800e-003		0.1199	0.1199		0.1113	0.1113	0.0000	250.7713	250.7713	0.0716	0.0000	252.5610
Total	**0.2357**	**2.3173**	**1.6771**	**2.8800e-003**		**0.1199**	**0.1199**		**0.1113**	**0.1113**	**0.0000**	**250.7713**	**250.7713**	**0.0716**	**0.0000**	**252.5610**

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	5.9500e-003	0.2166	0.0356	5.4000e-004	0.0129	5.8000e-004	0.0135	3.7300e-003	5.6000e-004	4.2800e-003	0.0000	51.6536	51.6536	4.2700e-003	0.0000	51.7603
Worker	0.0205	0.0134	0.1451	3.9000e-004	0.0396	3.0000e-004	0.0398	0.0105	2.7000e-004	0.0108	0.0000	35.2423	35.2423	1.0200e-003	0.0000	35.2679
Total	**0.0265**	**0.2300**	**0.1807**	**9.3000e-004**	**0.0525**	**8.8000e-004**	**0.0533**	**0.0142**	**8.3000e-004**	**0.0151**	**0.0000**	**86.8958**	**86.8958**	**5.2900e-003**	**0.0000**	**87.0282**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0187	0.1922	0.1517	2.5000e-004		9.7300e-003	9.7300e-003		8.9500e-003	8.9500e-003	0.0000	22.2374	22.2374	7.1900e-003	0.0000	22.4172
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0187**	**0.1922**	**0.1517**	**2.5000e-004**		**9.7300e-003**	**9.7300e-003**		**8.9500e-003**	**8.9500e-003**	**0.0000**	**22.2374**	**22.2374**	**7.1900e-003**	**0.0000**	**22.4172**

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	3.7000e-004	2.4000e-004	2.6400e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6408	0.6408	2.0000e-005	0.0000	0.6412
Total	**3.7000e-004**	**2.4000e-004**	**2.6400e-003**	**1.0000e-005**	**7.2000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.6408**	**0.6408**	**2.0000e-005**	**0.0000**	**0.6412**

3.6 Paving - 2021

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	0.0187	0.1922	0.1517	2.5000e-004		9.7300e-003	9.7300e-003		8.9500e-003	8.9500e-003	0.0000	22.2373	22.2373	7.1900e-003	0.0000	22.4171
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0187**	**0.1922**	**0.1517**	**2.5000e-004**		**9.7300e-003**	**9.7300e-003**		**8.9500e-003**	**8.9500e-003**	**0.0000**	**22.2373**	**22.2373**	**7.1900e-003**	**0.0000**	**22.4171**

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	3.7000e-004	2.4000e-004	2.6400e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6408	0.6408	2.0000e-005	0.0000	0.6412
Total	**3.7000e-004**	**2.4000e-004**	**2.6400e-003**	**1.0000e-005**	**7.2000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.6408**	**0.6408**	**2.0000e-005**	**0.0000**	**0.6412**

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	0.0120	0.1107	0.1155	5.0000e-004	0.0307	4.5000e-004	0.0311	8.2400e-003	4.2000e-004	8.6600e-003	0.0000	45.9035	45.9035	3.3800e-003	0.0000	45.9880
Unmitigated	0.0120	0.1107	0.1155	5.0000e-004	0.0307	4.5000e-004	0.0311	8.2400e-003	4.2000e-004	8.6600e-003	0.0000	45.9035	45.9035	3.3800e-003	0.0000	45.9880

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	10.21	122.85	90.40	80,599	80,599
Total	10.21	122.85	90.40	80,599	80,599

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
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.516452	0.033212	0.173817	0.123150	0.022816	0.005352	0.027555	0.088301	0.001837	0.001119	0.004633	0.000845	0.000911

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	9.6933	9.6933	3.6000e-004	7.0000e-005	9.7242
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	9.6933	9.6933	3.6000e-004	7.0000e-005	9.7242
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	27050.8	9.6933	3.6000e-004	7.0000e-005	9.7242
Total		**9.6933**	**3.6000e-004**	**7.0000e-005**	**9.7242**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	27050.8	9.6933	3.6000e-004	7.0000e-005	9.7242
Total		**9.6933**	**3.6000e-004**	**7.0000e-005**	**9.7242**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.2200e-003	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004
Unmitigated	2.2200e-003	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.2100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004
Total	**2.2100e-003**	**0.0000**	**5.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-004**	**1.0000e-004**	**0.0000**	**0.0000**	**1.0000e-004**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.2100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004
Total	**2.2100e-003**	**0.0000**	**5.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-004**	**1.0000e-004**	**0.0000**	**0.0000**	**1.0000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	8.0694	3.0000e-004	6.0000e-005	8.0951
Unmitigated	8.0694	3.0000e-004	6.0000e-005	8.0951

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 6.434	8.0694	3.0000e-004	6.0000e-005	8.0951
Total		**8.0694**	**3.0000e-004**	**6.0000e-005**	**8.0951**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 6.434	8.0694	3.0000e-004	6.0000e-005	8.0951
Total		**8.0694**	**3.0000e-004**	**6.0000e-005**	**8.0951**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0934	5.5200e-003	0.0000	0.2313
Unmitigated	0.0934	5.5200e-003	0.0000	0.2313

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.46	0.0934	5.5200e-003	0.0000	0.2313
Total		**0.0934**	**5.5200e-003**	**0.0000**	**0.2313**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.46	0.0934	5.5200e-003	0.0000	0.2313
Total		**0.0934**	**5.5200e-003**	**0.0000**	**0.2313**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	193.2840	0.0000	0.0000	193.2840

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	273	193.2840	0.0000	0.0000	193.2840
Total		**193.2840**	**0.0000**	**0.0000**	**193.2840**

Appendix B

Biological Evaluation Report

Biological Evaluation

CITY OF PATTERSON

SALADO CREEK TRAIL PROJECT

JUNE 2020

Brooke Fletcher, Biologist
PROVOST & PRITCHARD CONSULTING GROUP | 286 CROMWELL, FRESNO CA 03711

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PROVOST&
PRITCHARD
CONSULTING GROUP
An Employee Owned Compar

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I. Introduction

Project Description

The City of Patterson proposes to fill gaps between existing trail segments to create approximately 6,500 linear feet of a continuous bicycle and pedestrian trail along Salado Creek from Sweet Briar Drive to Cliff Swallow Drive in the City of Patterson, Stanislaus County, California (Salado Creek Trail Project or Project). The Project will include construction of an asphalt trail, installation of new lighting features, planting of approximately 273 trees and a new associated irrigation system. Existing trail segments will be rehabilitated, and a new protected crossing will be created using the existing box culvert at Sperry Avenue. Because of the proposed alterations to Salado Creek at the Sperry Avenue crossing, the City will coordinate with California Department of Fish and Wildlife (CDFW), U.S. Army Corps of Engineers (USACE), and the Regional Water Quality Control Board (RWQCB) to obtain the appropriate permits related to compliance with various environmental regulations to protect fish and wildlife and/or water quality.

The following technical report, prepared by Provost & Pritchard Consulting Group, in compliance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), includes a description of the biological resources present or with potential to occur within the Project site and surrounding areas and evaluates potential Project-related impacts to those resources.

Report Objectives

Creekside trail projects and construction activities proposed by the City of Patterson could potentially damage biological resources or modify habitats that are crucial for sensitive plant and wildlife species. In cases such as these, development may be regulated by State or federal agencies, subject to provisions of CEQA, and/or NEPA, and/or addressed by local regulatory agencies. In the case of The City of Patterson: Salado Creek Trail Project, environmental review under both CEQA and NEPA may be required.

This report addresses issues related to the following:

1) The presence of sensitive biological resources onsite, or with the potential to occur onsite.
2) The federal, State, and local regulations regarding these resources.
3) Mitigation measures that may be required to reduce the magnitude of anticipated impacts and/or comply with permit requirements of State and federal resource agencies.

Therefore, the objectives of this report are:

1) Summarize all site-specific information related to existing biological resources.
2) Make reasonable inferences about the biological resources that could occur onsite based on habitat suitability and the proximity of the site to a species' known range.
3) Summarize all State and federal natural resource protection laws that may be relevant to the Project.
4) Identify and discuss Project impacts to biological resources likely to occur onsite within the context of CEQA or State or federal laws.

Identify and publish a set of avoidance and mitigation measures that would reduce impacts to a less-than-significant level (as identified by CEQA) and are generally consistent with recommendations of the resource agencies for affected biological resources

Study Methodology

A reconnaissance-level field survey of the Project site and surrounding area was conducted on May 16, 2020 by Provost & Pritchard biologist, Brooke Fletcher. The survey consisted of walking through the Project area while identifying and noting land uses, biological habitats and communities, and plant and animal species encountered. Furthermore, the site and surrounding areas were assessed for suitable habitats utilized by various wildlife species. Concurrent with the biological reconnaissance survey, field work was conducted to delineate potential jurisdictional waters of the Project area. A separate Aquatic Resources Delineation (ARD) report was subsequently prepared and the tentative results are summarized within this report.

Provost & Pritchard conducted an analysis of potential Project-related impacts to biological resources based on the resources known to exist or have the potential to exist within the Project site and surrounding areas. Sources of information used in preparation of this analysis included: the CDFW California Natural Diversity Database (CNDDB); the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) system; the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Vascular Plants of California; CalFlora's online database of California native plants; the Jepson Herbarium online database (Jepson eFlora); USFWS Environmental Conservation Online System (ECOS); the NatureServe Explorer online database; the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Plants Database; the CDFW California Wildlife Habitat Relationships (CWHR) database; the California Herps online database; and various manuals, reports, and references related to plants and animals of the San Joaquin Valley region.

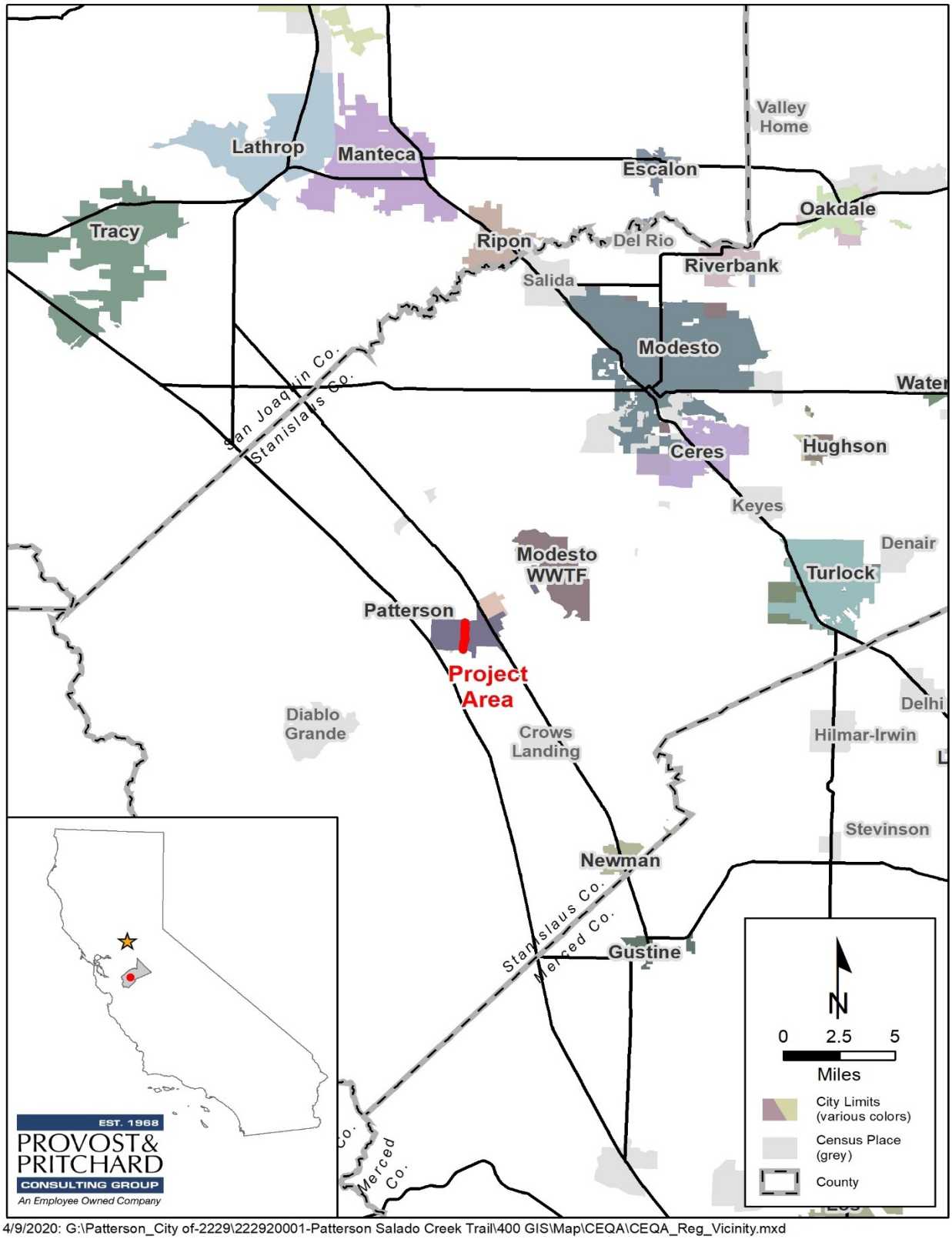


Figure 1. Regional Location Map



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Figure 2. Topographic Quadrangle Map

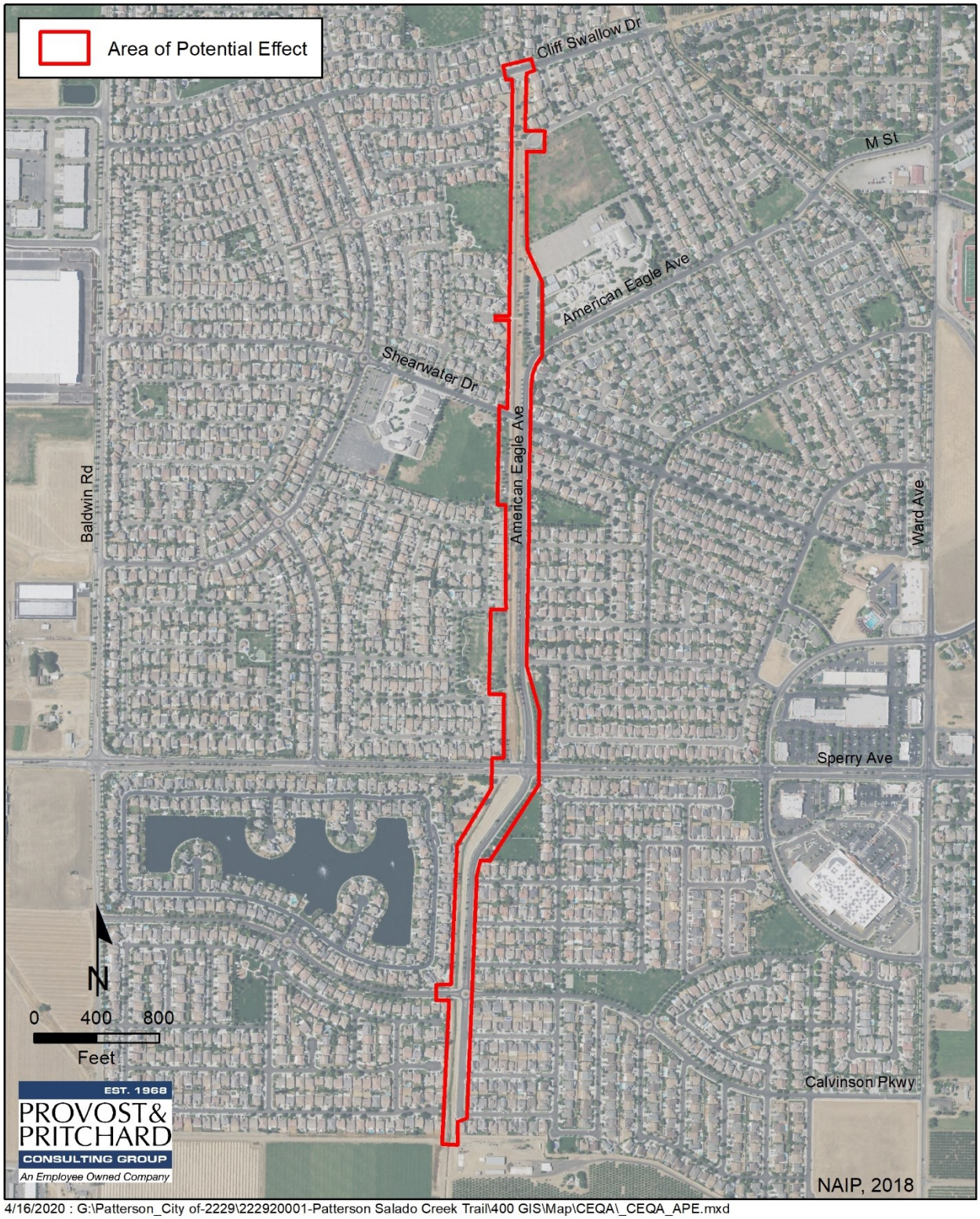


Figure 3. Area of Potential Effect (APE) Map

II. Existing Conditions

Regional Setting

The Project site is located within the City of Patterson in Stanislaus County, California. Patterson is situated on the valley floor near the base of the Diablo Range in the upper San Joaquin Valley, part of the Great Valley of California (See **Figure 1**). The Valley is bordered by the Sierra Nevada Mountain Ranges to the east, the Coast Ranges to the west, the Klamath Mountains and Cascade Range to the north, and the Transverse Ranges and Mojave Desert to the south.

Like most of California, the San Joaquin Valley experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. Summer temperatures often reach above 90 degrees Fahrenheit, and the humidity is generally low. Winter temperatures are often below 60 degrees Fahrenheit during the day and rarely exceed 70 degrees Fahrenheit. On average, the City of Patterson and surrounding Stanislaus County receives approximately 12 inches of precipitation in the form of rainfall yearly, most of which occurs between October and April.

The Project is located within the Salado Creek sub-watershed; Hydrologic Unit Code (HUC): 180400020402, which is part of the Salado Creek-San Joaquin River watershed; HUC: 1804000204. The principal drainage in the vicinity is Salado Creek, also known as Hirshfield Lateral, which runs along the entire length of the proposed Salado Creek Trail Project.

Salado Creek originates as an intermittent stream in the mountains of the Diablo Range west of the City and flows easterly through a natural channel until it reaches the California Aqueduct. After crossing the California Aqueduct, Salado Creek flows in a general northerly direction through a man-made channel then crosses the Delta Mendota Canal in a flume. After crossing the Delta Mendota Canal, Salado Creek continues north and then northeast in a channelized earthen canal (Hirshfield Lateral) until it reaches Cliff Swallow Drive where it is piped underground for approximately 1,000 feet before emerging once again into a channelized earthen canal. It travels in a northeasterly direction until it reaches Highway 33 where the natural creek has been filled and replaced with large pipes that carry the water to the San Joaquin River.

Biological Communities

The Project area includes the channelized Salado Creek (also known as Hirshfield Lateral) and adjacent lands from Sweet Briar Drive to Cliff Swallow Drive in the City of Patterson. Two land uses/biological communities were identified within the Project area, including ruderal/developed and intermittent drainage (Salado Creek/Hirshfield Lateral). Lands south of Sweet Briar Drive are developed into orchards and vineyards, and the remaining surrounding uses bordering the APE are developed into urban residences and City parks.

Photographs of the Project site and surrounding areas are available in **Appendix A** at the end of this document.

Ruderal/Developed

Ruderal habitats are characterized by a high level of human disturbance and absence of vegetation or dominated by non-native plant species. The majority of the proposed Salado Creek Trail alignment is either existing asphalt or compacted dirt walkways. Vegetation along the top of the Salado Creek banks in the vicinity of the Project is dominated by weedy, non-native species commonly associated with disturbed areas. While vegetative cover was

somewhat variable along different portions of the alignment, for the most part, the following species were dominant: wall barley (*Hordeum murinum*), Italian rye-grass (*Festuca perennis*), mustard (*Brassica rapa*), Bermuda grass (*Cynodon dactylon*), horseweed (*Erigeron canadensis*), wild oats (*Avena fatua*), ripgut brome (*Bromus diandrus*), foxtail chess (*Bromus madritensis*), sow thistle (*Sonchus* spp.), big heron bill (*Erodium botrys*), Russian thistle (*Salsola tragus*), prickly lettuce (*Lactuca serriola*), pigweed amaranth (*Amaranthus albus*), and cheeseweed (*Malva parviflora*). In some areas, Canary Island date palms (*Phoenix canariensis*) and valley oak (*Quercus lobata*) trees were observed along the top of the banks of Salado Creek in the Project area.

The wildlife habitat of the ruderal/developed lands of the Project area are of relatively low quality for most native wildlife due to past and ongoing human disturbance. At the time of the field survey, an abundance of ground squirrel and other rodent burrows were observed within ruderal areas along the alignment. The following species were observed within ruderal/developed habitats during the survey: California ground squirrel (*Otospermophilus beecheyi*), desert cottontail (*Sylvilagus audubonii*), San Joaquin fence lizard (*Sceloporus occidentalis biseriatus*), northern mockingbird (*Mimus polyglottos*), American crow (*Corvus brachyrhynchos*), California scrub jay (*Aphelocoma californica*), house finch (*Haemorhous mexicanus*), mourning dove (*Zenaida macroura*), and European starling (*Sturnus vulgaris*). Although not observed during the survey, the disturbance tolerant killdeer (*Charadrius vociferus*) commonly nests on bare ground or within gravel in ruderal and developed areas. Additional reptiles expected to occur within ruderal areas include western side-blotched lizard (*Uta stansburiana elegans*), Pacific gophersnake (*Pituophis catenifer catenifer*), and California kingsnake (*Lampropeltis californiae*). Common native amphibians, such as the California toad (*Anaxyrus boreas halophilus*) or Sierran treefrog (*Pseudacris sierra*) could breed within seasonally inundated areas and disperse into adjacent ruderal habitats.

In addition to the California ground squirrels and desert cottontails observed, the following fossorial and semi-fossorial mammalian species would be expected to occur within ruderal habitats: black-tailed jackrabbit (*Lepus californicus*), Botta's pocket gopher (*Thomomys bottae*), deer mouse (*Peromyscus maniculatus*), and California vole (*Microtus californicus*). The presence of burrowing rodents could attract disturbance tolerant mammalian predators, such as gray fox (*Urocyon cinereoargenteus*), red fox (*Vulpes vulpes*), striped skunk (*Mephitis mephitis*), opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), and coyote (*Canis latrans*).

Intermittent Drainage

Salado Creek is a channelized intermittent drainage that conveys stormwater runoff and agricultural tailwater through the City of Patterson. The entire channel within the APE has been modified into a trapezoidal shape and appears to be subject to frequent vegetation management activities such as mowing, clearing of brush, and application of herbicides. At the time of the field survey, water was present within Salado Creek in the southern half of the APE. A culvert east of Aprigold Park carries water from the creek to an offsite basin. North of the culvert, the channel was dry and hydrophytic vegetation was absent. South of Sperry Ave the channel was dominated by the following upland species of vegetation: mustard, wall barley, Italian rye-grass, and Bermuda grass; however, the following hydrophytes were also observed: Jersey cudweed (*Pseudognaphalium luteoalbum*), flatsedge (*Cyperus eragrostis*), and cocklebur (*Xanthium strumarium*). At the time of the survey, standing water was present within and around the Sperry Avenue box culvert. Numerous American bullfrogs (*Lithobates catesbeianus*) and introduced mosquito fish (*Gambusia affinis*) were observed in this area. The soil was black, mucky, and exuded a sulfuric odor indicated the presence of hydric soils. Sediment had collected on the concrete floor north of Sperry Avenue and was supporting a dense stand of cattails (*Typha domingensis*). This portion of the channel contained characteristics of a freshwater emergent wetland. Downstream from the cement liner the channel floor was incised, and narrowleaf willows (*Salix exigua*), curly dock (*Rumex crispus*),

cocklebur, and more cattails were present within the Ordinary High Watermark (OHWM). Above OHWM, the banks were dominated by Bermuda grass, mustard, and field bindweed (*Convolvulus arvensis*). Approximately 570 feet north of Sperry Avenue, a small rock weir was present that directed flows into a culvert on the west bank by Aprigold Park. Downstream of the weir and culvert, the entire channel was dry to Cliff Swallow Drive. The dry northern portion of channel was perfectly trapezoidal and supported a vegetative cover of weedy upland grasses and forbs. At the time of the survey, it was evident that the vegetation within the channel had recently been mowed.

Since natural perennial water features are absent from the Project area, self-sustaining fish populations are absent and native fish are not expected to occur. Native amphibians and reptiles expected to occur within the intermittent drainage of the Project area include California toad, Sierran treefrog, and valley gartersnake (*Thamnophis sirtalis fitchi*). Some birds expected to use inundated portions of the channel include great egret (*Ardea alba*), great blue heron (*Ardea herodias*), and mallard (*Anas platyrhynchos)*. Bridges and culverts could be utilized by the black phoebe (*Sayornis nigricans*) or cliff swallows (*Petrochelidon pyrrhonota*) as nesting habitat. A variety of native bat species could forage on insects attracted to water in the channel of Salado Creek, and bridges, crossings, and large box culverts could conceivably provide potential roosting sites, although no potential roosts were observed at the time of the field survey.

Many of the animal species occurring within adjacent communities would also be expected to use the aquatic habitat to drink water or forage on other aquatic species. The following mammals are relatively tolerant of human disturbance and are likely to pass through the riverine habitat of the Project site: coyote, opossum, raccoon, striped skunk, and gray fox.

Soils

Three soil mapping units representing three soil series, were identified within the Project area: Capay clay, 0 percent slopes, rarely flooded, MLRA 17; Vernalis loam, 0 to 2 percent slopes, rarely flooded; and Stomar clay loam, 0 to 2 percent slopes. None of these soils are considered hydric.

Nearly 92 percent of the APE is classified as Vernalis loam which is a non-saline to very slightly saline soil that typically occurs on alluvial fans. These soils are well-drained with a medium runoff class and are associated with a rare frequency of flooding and no ponding.

Approximately four percent of the APE is classified as Capay clay which is a fine textured alluvium found on flood basins and alluvial fans. These soils range from moderately well drained to somewhat poorly drained and can be subject to rare, occasional, or frequent flooding.

Stomar clay accounts for about four percent of the APE. These soils occur on old dissected alluvial fans and are well drained with slow permeability.

The site lies within Major Land Resource Area (MLRA) 17, which encompasses the San Joaquin Valley. MLRA 17 supports naturalized annuals and scattered trees. Dominant herbaceous species include wild barley and oats, soft chess, ripgut and red brome, foxtail fescue, burclover, and filaree. Major wildlife species of this region include jackrabbit, coyote, fox, ground squirrel, pocket gopher, and various passerines.

The complete Natural Resources Conservation Service (NRCS) Web Soil Survey report is available in **Appendix D** at the end of this document.

Natural Communities of Special Concern

Natural communities of special concern are those that are of limited distribution, distinguished by significant biological diversity, or home to special status species. CDFW is responsible for the classification and mapping of all natural communities in California. Just like the special status plant and animal species, these natural communities of special concern can be found within the CNDDB.

There are no CNDDB recorded observations of natural communities of special concern within or adjacent to the APE. Additionally, no natural communities of special concern were observed during the biological survey.

Designated Critical Habitat

The USFWS often designates areas of "Critical Habitat" when it lists species as threatened or endangered. Critical Habitat is a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

According to CNDDB and IPaC, designated critical habitat is absent from the Project area and vicinity.

Wildlife Movement Corridors

Wildlife movement corridors are routes that animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements. Movement corridors in California are typically associated with valleys, ridgelines, and rivers and creeks supporting riparian vegetation.

Salado Creek is highly disturbed in the Project area and surrounded by urban and agricultural development. Riparian vegetation is essentially absent, and the canal banks are flanked by residential development, community parks, playgrounds, and paved multi-lane roads. While Salado Creek/Hirshfield Lateral contains appears to provide a hydrologic connection between the Diablo Range and the San Joaquin River, several choke points are present along this stream system which likely serve as barriers that impede migratory and dispersal movements for wildlife. Therefore, the Project area does not contain features that would be likely to function as an important wildlife movement corridor. Furthermore, the Project is located in a region often disturbed by intensive agricultural cultivation practices and human disturbance which would discourage dispersal and migration. At most, some disturbance tolerant species adapted to urban environments, such as the opossum (*Didelphis virginiana*) could occasionally use the canal banks of the Project area.

Special Status Plants and Animals

California contains several "rare" plant and animal species. Rare is defined as species known to have low populations or limited distributions. As the human population grows, resulting in urban expansion which encroaches on the already limited suitable habitat, these sensitive species become increasingly more vulnerable to extirpation. State and federal regulations have provided the CDFW and the USFWS with a mechanism for conserving and protecting the diversity of plant and animal species native to California. Numerous native plants and animals have been formally designated as "threatened" or "endangered" under State and federal endangered species legislation. Other formal designations include "candidate" for listing or "species of special concern" by CDFW. The CNPS has its list of native plants considered rare, threatened, or endangered. Collectively these plants and animals are referred to as "special status species."

A thorough search of the CNDDB for published accounts of special status plant and animal species was conducted for the *Patterson* 7.5-minute quadrangle that contains the Project site in its entirety, and for the 8 surrounding quadrangles: *Solyo, Westley, Brush Lake, Copper Mtn., Crows Landing, Wilcox Ridge, Orestimba Peak,* and *Newman*. An official species list was obtained using the USFWS IPaC system for federally listed species with potential to be affected by the Project. These species, and their potential to occur within the Project area are listed in **Table 1** and **Table 2** on the following pages. Additionally, Section 7 determinations are made in **Table 3**. Raw data obtained from CNDDB and IPaC are available in **Appendix B** and **Appendix C**, respectively, at the end of this document. Other sources of information utilized in the preparation of this analysis were discussed in Section 1: Study Methodology and are listed in Section 4: References. **Figure 2** shows the Project's 7.5-minute quadrangle, according to USGS Topographic Maps.

Table 1. List of Special Status Animals with Potential to Occur Onsite and/or in the Vicinity

Species	Status	Habitat	Occurrence on Project Site
American badger *(Taxidea taxus)*	CSC	Grasslands, savannas, and mountain meadows near timberline are preferred. Most abundant in drier open spaces of shrub and grassland. Burrows in soil.	**Unlikely.** Ground squirrel burrows of suitable dimensions for American badger were observed along the banks of Salado Creek at the time of the biological survey; however, open grassland habitat was absent. Furthermore, the Project area and surrounding cultivated agricultural fields are unsuitable for this species due to frequent disturbance. The nearest suitable habitat, which also coincides with the nearest recorded observations of this species, occurs west of Interstate 5 and the California Aqueduct.
bald eagle *(Haliaeetus leucocephalus)*	CE, CFP	Resides in old growth forests as well as lower montane coniferous forests. Nests are generally found in large, old-growth trees within a mile of water. Nests and winters along ocean shores, lake margins, and rivers.	**Absent.** Suitable nesting and foraging habitat are absent from the Project area.
blunt-nosed leopard lizard *(Gambelia sila)*	FE, CE, CFP	Inhabits semi-arid grasslands, alkali flats, low foothills, canyon floors, large washes, and arroyos, usually on sandy, gravelly, or loamy substrate, sometimes on hardpan. Often found where there are abundant rodent burrows in dense vegetation or tall grass. Cannot survive on lands under cultivation. Known to bask on kangaroo rat mounds and often seeks shelter at the base of shrubs, in small mammal burrows, or in rock piles. Adults may excavate shallow burrows but rely on deeper pre-existing rodent burrows for hibernation and reproduction.	**Absent.** Suitable habitat is absent, and the Project area is outside of the known distribution range of this species.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
burrowing owl *(Athene cunicularia)*	CSC	Resides in open, dry annual or perennial grasslands, deserts, and scrublands with low growing vegetation. Nests underground in existing burrows created by mammals, most often ground squirrels.	**Possible.** Typical suitable habitat is absent from the Project area. However, this species has been known to nest and forage in urbanized sites such as golf courses, airports, and canal banks. An abundance of ground squirrels and burrows of sufficient dimensions were observed along the banks of Salado Creek at the time of the biological survey.
cackling (=Aleutian Canada) goose (*Branta hutchinsii leucopareia*)	CWL	Inhabits areas with standing water, including lakes, reservoirs, and ponds, while foraging on natural pasture and cultivated grain fields. Winters on lakes and inland prairies.	**Unlikely.** Typical suitable habitat is absent from the Project area and surrounding lands. However, this species could potentially pass over the site while wintering or during migratory movements.
California horned lark (*Eremophila alpestris actia*)	CWL	Frequents open habitats, including short-grass prairie, mountain meadows, open coastal plains, fallow grain fields, and alkali flats. Found primarily in coastal regions, including Sonoma and San Diego Counties.	**Absent.** Suitable habitat is absent from the Project area and surrounding lands.
California red-legged frog *(Rana draytonii)*	FT, CSC	Inhabits perennial rivers, creeks, and stock ponds with vegetative cover within the Coast Range and northern Sierra foothills.	**Absent.** Suitable habitat is absent, and the Project area is outside of the known distribution range of this species.
California tiger salamander *(Ambystoma californiense)*	FT, CT, CWL	Requires vernal pools or seasonal ponds for breeding and small mammal burrows for aestivation. Generally found in grassland and oak savannah plant communities in central California from sea level to 1500 feet in elevation.	**Absent.** Suitable grassland habitat and breeding pools are absent from the Project area.

Species	Status	Habitat	Occurrence on Project Site
Crotch bumble bee (*Bombus crotchii*)	CCE	Occurs throughout coastal California, as well as east to the Sierra-Cascade crest, and south in to Mexico. Food plant genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia*, and *Eriogonum*.	**Absent.** Suitable grassland habitat is absent from the Project area and surrounding lands.
Delta smelt *(Hypomesus transpacificus)*	FT, CE	This pelagic and euryhaline species is Endemic to the Sacramento-San Joaquin River Delta, upstream through Contra Costa, Sacramento, San Joaquin, and Solano Counties.	**Absent.** Suitable perennial aquatic habitat is absent, and the Project area is outside of the known distribution range of this species.
foothill yellow-legged frog *(Rana boylii)*	CCT, CSC	Frequents rocky streams and rivers with rocky substrate and open, sunny banks in forests, chaparral, and woodlands. Occasionally found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools.	**Absent.** Suitable habitat is absent from the Project area.
giant gartersnake *(Thamnophis gigas)*	FT, CT	Occurs in marshes, sloughs, drainage canals, irrigation ditches, rice fields, and adjacent uplands. Prefers locations with emergent vegetation for cover and open areas for basking. This species uses small mammal burrows adjacent to aquatic habitats for hibernation in the winter and to escape from excessive heat in the summer.	**Absent.** The small (approximately 700 square-foot) area within Salado Creek that contains emergent vegetation is not large enough to support a giant gartersnake individual or population. Typically, at least one acre of aquatic habitat and two acres of contiguous upland habitat is necessary to support one pair of giant gartersnakes. While suitable habitat may exist several miles away in the San Joaquin River, portions of Salado Creek pass through control structures and pipes underground which creates a movement barrier for aquatic species. Furthermore, while the Project is located within the presumed historic range of this species, giant garternsake has never been recorded in Stanislaus County and is thought to be extirpated from this region.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
golden eagle (Aquila chrysaetod)	CFP	This species typically nests on cliff ledges or large trees, rarely on the ground. They prefer an expanse of open terrain and are found over tundra, prairie, rangeland, desert, and grasslands.	**Absent.** Suitable nesting and foraging habitat are absent from the Project area.
hardhead *(Mylopharodon conocephalus)*	CSC	Occurs in low- to mid-elevation streams in the Sacramento-San Joaquin drainage. Clear, deep pools with sand-gravel-boulder bottoms and slow-moving water is required. This species is often sympatric with Sacramento pikeminnow and Sacramento sucker. Hardhead are typically absent form streams occupied by centrarchids and from heavily altered habitats.	**Absent.** Suitable perennial aquatic habitat is absent from the Project area.
least Bell's vireo *(Vireo bellii pusillus)*	FE, CE	This migratory species typically winters in Mexico and breeds in southern California. Breeding habitat consists of willow-dominated riparian habitat.	**Absent.** Suitable riparian habitat is absent from the Project area.
loggerhead shrike *(Lanius ludovicianus)*	CSC	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low herbaceous cover. In the Central Valley, nests in riparian areas, desert scrub, and agricultural hedgerows.	**Absent.** Suitable nesting and foraging habitat are absent from the Project area.
northern California legless lizard *(Anniella pulchra)*	CSC	Found primarily underground, burrowing in loose, sandy soil. Forages in loose soil and leaf litter during the day. Occasionally observed on the surface at dusk and night.	**Absent.** The disturbed and developed habitats of the Project area are unsuitable for this species.

Species	Status	Habitat	Occurrence on Project Site
prairie falcon (*Falco mexicanus*)	CWL	Inhabits dry, open terrain, either level or hilly, in a variety of scrublands and grasslands. Breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores.	**Absent.** Suitable nesting and foraging habitat are absent from the Project area.
riparian brush rabbit (*Sylvilagus bachmani riparius*)	FE, CE	Found in the understory of riparian forests adjacent to the San Joaquin River in northern Stanislaus County. Prefers dense vegetation, including wild rose, willows, and blackberries.	**Absent.** Suitable riparian habitat is absent from the Project area.
Sacramento splittail (*Pogonichthys macrolepidotus*)	CSC	Endemic to the lakes and rivers of the Central Valley, but now confined to the Delta, Suisun Bay and associated marshes. Occupies slow moving river sections, dead end sloughs. Requires flooded vegetation for spawning and foraging for young.	**Absent.** Suitable perennial aquatic habitat is absent from the Project area.
San Joaquin coachwhip *(Masticophis flagellum ruddocki)*	CSC	Found in open dry habitats with little or no tree cover in valley grassland and saltbush scrub communities in the San Joaquin Valley. Relies on mammal burrows for refuge and oviposition sites.	**Absent.** Suitable grassland and scrub habitat is absent from the Project area This species has never been recorded east of Interstate-5 in this region.
San Joaquin kit fox *(Vulpes macrotis mutica)*	FE, CT	Underground dens with multiple entrances in alkali sink, valley grassland, and woodland in valleys and adjacent foothills.	**Unlikely.** Typical suitable habitat is absent within the Project area, although an abundance of ground squirrels and burrows with suitable dimensions were observed along the Salado Creek banks at the time of the biological survey. There are nine CNDDB records of this species in the vicinity of the Project. All of the sightings occurred west of Interstate 5 and the California Aqueduct, and only one of the observations was reported within the past 25 years. The Project area is located approximately 50 miles north of the nearest core population of San Joaquin kit fox in the Panoche Valley.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
San Joaquin roach (*Lavinia symmetricus ssp. 1*)	CSC	Adaptable to a variety of riverine aquatic habitats and tolerant of a wide range of temperatures, this minnow occupies tributaries to the San Joaquin River south of the Cosumnes River.	**Unlikely.** Frequent human disturbance, water quality degradation, and introduced fish and bullfrogs make the channelized Salado Creek generally unsuitable for this species.
song sparrow ("Modesto" population) (*Melospiza melodia*)	CSC	This population is endemic to the north-central portion of the Central valley of California. This species has an affinity for emergent freshwater marshes and is associated with *Scirpus spp*. and *Typha spp*. Known to nest in riparian oak forests (Shuford & Gardali, 2008).	**Unlikely.** Typical suitable habitat for this species is absent from the Project area. However, this species could potentially pass over the site.
Steelhead – Central Valley DPS *(Oncorhynchus mykiss irideus pop.11)*	FT	This winter-run fish begins migration to fresh water during peak flows during December and February. Spawning season is typically from February to April. After hatching, fry move to deeper, mid-channel habitats in late summer and fall. In general, both juveniles and adults prefer complex habitat boulders, submerged clay and undercut banks, and large woody debris.	**Absent.** Suitable perennial aquatic habitat is absent from the Project area.
Swainson's hawk *(Buteo swainsoni)*	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.	**Possible.** Typical suitable nesting and foraging habitat associated with this species are absent from the Project area. However, this species could potentially nest in some of the larger ornamental trees in the vicinity and could conceivably forage onsite. Furthermore, Swainson's hawks are known to occur along the San Joaquin River and Orestimba Creek in the vicinity, and therefore may occasionally pass over the Project area.

Species	Status	Habitat	Occurrence on Project Site
tricolored blackbird *(Agelaius tricolor)*	CT, CSC	Nests colonially near fresh water in dense cattails or tules, or in thickets of riparian shrubs. Forages in grassland and cropland. Large colonies are often found on dairy farm forage fields.	**Absent.** Suitable nesting habitat is absent from the Project area and surrounding lands.
valley elderberry longhorn beetle *(Desmocerus californicus dimorphus)*	FT	Lives in mature elderberry shrubs of the Central Valley and foothills. Adults are active March to June.	**Absent.** Suitable elderberry habitat is absent from the Project area.
vernal pool fairy shrimp *(Branchinecta lynchi)*	FT	Occupies vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** Suitable vernal pool habitat is absent from the Project area.
vernal pool tadpole shrimp *(Lepidurus packardi)*	FE	Occurs in vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** Suitable vernal pool habitat is absent from the Project area.
western pond turtle *(Emys marmorata)*	CSC	An aquatic turtle of ponds, marshes, slow-moving rivers, streams, and irrigation ditches with riparian vegetation. Requires adequate basking sites and sandy banks or grassy open fields to deposit eggs.	**Unlikely.** Typical suitable habitat and basking sites are absent from the Project area. Furthermore, the open grassy fields of the adjacent parks are unsuitable for use as upland habitat due to frequent disturbance associated with mowing and landscaping.
western spadefoot *(Spea hammondii)*	CSC	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Vernal pools or temporary wetlands, lasting a minimum of three weeks, which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	**Absent.** Suitable habitat is absent from the Project area and surrounding lands.

Table 2. List of Special Status Plants with Potential to Occur Onsite and/or in the Vicinity

Species	Status	Habitat	Occurrence on Project Site
alkali milk-vetch (*Astragalus tener var. tener*)	CNPS 1B	Found growing in alkali soils in the San Joaquin Valley and throughout the Delta-Bay region of California in low and flooded areas at elevation below 196 feet. Blooms March – June.	**Absent.** The disturbed habitats of the Project area are unsuitable for this species.
big tarplant (*Blepharizonia plumose*)	CNPS 1B	Found on dry slopes in the valley and foothill grasslands of the San Joaquin Valley and the San Francisco Bay area at elevations below 1657 feet. Blooms July – November.	**Absent.** Suitable habitat is absent from the Project area.
California alkali grass *(Puccinellia simplex)*	CNPS 1B	Found in the San Joaquin Valley and other parts of California in saline flats and mineral springs within valley grassland and wetland-riparian communities at elevations below 3000 feet. Blooms March–May.	**Absent.** Suitable habitat is absent from the Project area.
Chaparral harebell (*Campanula exigua*)	CNPS 1B	Grows on rocky terrain in serpentine soils within the chaparral of the San Francisco bay area and inner coastal range to the south at elevations between 295 and 4511 feet. Blooms May – June.	**Absent.** Suitable habitat is absent from the Project area.
Delta button-celery *(Eryngium racemosum)*	CE, CNPS 1B	Found in riparian scrublands in floodplains near the California Delta at elevations between 10 and 100 feet. Blooms June – August.	**Absent.** Suitable habitat is absent from the project area.
Diamond petaled California poppy (*Eschscholzia rhombipetala*)	CNPS 1B	Found growing in alkaline and clay soils on slopes and flats in valley and foothill grasslands. The range of this specie includes the southern portion of the San Joaquin valley and the inner coastal range, as well as portions of the San Francisco Bay area at elevations below 2050 feet. Blooms March – April.	**Absent.** Suitable habitat is absent from the project area.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
Hall's bush-mallow (*Malacothamnus hallii*)	CNPS 1B	Generally found in chaparral and coastal scrub habitats throughout northern coastal California, the San Joaquin Valley, and the Sierra Nevada foothills. Some populations of this species have been found to grow in serpentine soils. Occurs at elevations below 2410 feet. Blooms May – July.	**Absent.** Suitable habitat is absent from the Project area.
heartscale *(Atriplex cordulata var. cordulata)*	CNPS 1B	Found in the San Joaquin Valley and Sacramento Valley in saline or alkaline soils within shadescale scrub, valley grassland, and wetland-riparian communities at elevations below 230 feet. Blooms June–July.	**Absent.** Suitable habitat is absent from the Project area.
Lemmon's jewelflower (*Caulanthus lemmonii*)	CNPS 1B	Grows in the Coastal range and Mojave woodlands and grasslands at elevations between 260 and 3,610 feet. Often associated with pinyon pines and junipers. Blooms March – May.	**Absent.** Suitable habitat is absent from the Project area.
lesser saltscale *(Atriplex minuscula)*	CNPS 1B	Found in the San Joaquin Valley in sandy, alkaline soils in alkali scrub, valley and foothill grassland, and alkali sink communities at elevations below 750 feet. Blooms April–October.	**Absent.** Suitable habitat is absent from the Project area.
Mt. Diablo phacelia (*Phacelia phacelioides*)	CNPS 1B	Occurs in open and rocky habitats in chaparral and cismontane woodlands at elevations between 1640 and 4600 feet. Found in the inner coastal range of California and the San Francisco Bay area. Blooms April-June.	**Absent.** Suitable habitat is absent, and the Project area is located outside of the accepted altitudinal range of this species.

Species	Status	Habitat	Occurrence on Project Site
Mt. Hamilton coreopsis (*Leptosyne hamiltonii*)	CNPS 1B	Found in cismontane woodlands on dry, exposed slopes in the San Francisco Bay area at elevations between 1755 and 4265 feet. Blooms March – May.	**Absent.** Suitable habitat is absent from the Project area.
prairie wedge grass (*Sphenopholis obtusata*)	CNPS 2B	Found in a variety of regions in California, but primarily in the Sierra Nevada mountains. Grows in moist areas in woodlands, meadows, seeps, as well as wetlands, at elevations between 240 feet and 9,416 feet. Blooms April – June.	**Absent.** Typical suitable habitat is absent, and the developed/disturbed nature of the site is generally unsuitable for this species.
red-flowered bird's-foot trefoil (Acmispon rubriflorus)	CNPS 1B	Found in oak woodlands and valley and foothill grasslands at elevations between 640 and 1605 feet. Range includes the northern inner coastal range of California and the San Francisco Bay area. Has been found growing in volcanic mudflow deposits. Blooms April – May.	**Absent.** Suitable habitat is absent, and the Project area is located outside of the accepted altitudinal range of this species.
shining navarretia *(Navarretia nigelliformis ssp. radians)*	CNPS 1B	Found in cismontane woodland and valley and foothill grassland communities, sometimes in vernal pools. Occurs at elevations between 200 feet and 3200 feet. Blooms May – July.	**Absent.** Suitable habitat is absent from the Project area.
showy golden madia *(Madia radiata)*	CNPS 1B	Found primarily in grasslands and shrublands growing in adobe clay at elevations between 65–3937 feet. Blooms March–May.	**Absent.** Suitable habitat is absent from the Project area.
spiny-sepaled button-celery *(Eryngium spinosepalum)*	CNPS 1B	Found in the Sierra Nevada Foothills and the San Joaquin Valley. Occurs in vernal pools, swales, and roadside ditches. Often associated with clay soils in vernal pools within grassland communities. Occurs at elevations	**Absent.** Suitable habitat is absent from the Project area.

Species	Status	Habitat	Occurrence on Project Site
		between 50 feet and 4160 feet. Blooms April–July.	
Talus fritillary (*Fritillaria falcata*)	CNPS 1B	Grows primarily on serpentine talus in chaparral and coniferous forests at elevations between 1395 and 4705 feet. Found in the southern inner coastal range of California as well as the San Francisco bay area. Blooms March – May.	**Absent.** Suitable habitat is absent, and the project area is located outside of the accepted altitudinal range of this species.
Tracy's eriastrum (*Eriastrum tracyi*)	CR	Often found in open sections of chaparral, woodland, and valley-foothill grassland habitats. Grows in gravelly shale or clay at elevations between 1,035 and 7,875 feet. Blooms May – August.	**Absent.** Suitable habitat is absent, and the project area is located outside of the accepted altitudinal range of this species.
vernal pool smallscale *(Atriplex persistens)*	CNPS 1B	Occurs in the San Joaquin Valley and Sacramento Valley in alkaline vernal pools at elevations below 375 feet. Blooms June–September.	**Absent.** Suitable habitat is absent from the Project area.

EXPLANATION OF OCCURRENCE DESIGNATIONS

Present:	Species observed on the site at time of field surveys or during recent past
Likely:	Species not observed on the site, but it may reasonably be expected to occur there on a regular basis
Possible:	Species not observed on the site, but it could occur there from time to time
Unlikely:	Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient
Absent:	Species not observed on the site, and precluded from occurring there due to absence of suitable habitat

STATUS CODES

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
CCT	California Threatened (Candidate)	CFP	California Fully Protected
CSC	California Species of Special Concern	CWL	California Watch List
CR	California Rare		

CNPS RARE PLANT RANKS

1B	Plants Rare, Threatened, or Endangered in California and elsewhere
2B	Plants Rare, Threatened, or Endangered in California but more common elsewhere

III. Impacts and Mitigation

Significance Criteria

CEQA

General plans, area plans, and specific projects are subject to the provisions of CEQA. The purpose of CEQA is to assess the impacts of proposed projects on the environment prior to project implementation. Impacts to biological resources are just one type of environmental impact assessed under CEQA, and can vary from project to project in terms of scope and magnitude. Projects requiring removal of vegetation may result in the mortality or displacement of animals associated with this vegetation. Animals adapted to humans, roads, buildings, and pets may replace those species formerly occurring on a site. Plants and animals that are State and/or federally listed as threatened or endangered may be destroyed or displaced. Sensitive habitats such as wetlands and riparian woodlands may be altered or destroyed. Such impacts may be considered either "significant" or "less-than-significant" under CEQA. According to *California Environmental Quality Act, Statute and Guidelines* (AEP 2012), "significant effect on the environment" means a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest. Specific project impacts to biological resources may be considered "significant" if they would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

Furthermore, CEQA Guidelines Section 15065(a) states that a project may trigger the requirement to make a "mandatory finding of significance" if the project has the potential to:

> "Substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species cause a fish or wildlife population to drop below self-sustaining levels threaten to eliminate a plant or animal community,

> reduce the number or restrict the range of an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory."

NEPA

Federal projects are subject to the provisions of NEPA. The purpose of NEPA is to assess the effects of a proposed action on the human environment, assess the significance of those effects, and recommend measures that if implemented would mitigate those effects. As used in NEPA, a determination that certain effects on the human environment are "significant" requires considerations of both context and intensity (CFR 1508.27).

Context means that the significance of an action must be analyzed in terms of the affected environment in which a proposed action would occur. For the purposes of assessing effects of an action on biological resources, the relevant context is often local, which means the analysis requires a comparison of the action area's biological resources to the biological resources of the local area. However, the analysis may also require a comparison of the action area's biological resources with the biological resources of an entire region.

Intensity refers to the severity of impact. In considering intensity of impact to biological resources, it is necessary to address the unique qualities of wetlands and ecologically critical areas that may be affected, the degree to which the action will be controversial, the degree to which the effects will be controversial, the degree to which the effects will be uncertain, the degree to which the action will establish a precedent for future actions with potentially significant effects, and the potential for the action to result in cumulatively significant effects.

The effects of an action on some biological resources are generally considered to be "significant." An action that adversely affects federally listed threatened or endangered species, waters of the U.S., or migratory movements of fish and wildlife are some examples of significant effects.

NEPA requires disclosure of feasible mitigation measures for the effects of an action on the environment. Suitable measures include the following:

- Avoidance of the effect by not taking a certain action or parts of an action;
- Mitigation of the effect by limiting the degree or magnitude of the action and its implementation;
- Rectifying the effect by repairing, rehabilitating, or restoring the affected environment;
- Reducing or eliminating the effect over time by preservation and maintenance operations throughout the life of the action; and/or
- Compensating for the effect by replacing or providing substitute resources or environments.

This report identifies likely effects of an action, identifies those that may be considered significant pursuant to the provisions of NEPA, and provides mitigation measures to avoid adverse effects to biological resources.

Relevant Goals, Policies, and Laws

City of Patterson General Plan

The City of Patterson General Plan contains the following goals and policies related to the preservation of biological resources that may be considered relevant to the Project's environmental review.

- Goal NR-1 To protect and preserve the quality of water from local watersheds, groundwater resources, and water bodies including creeks, reservoirs, and the San Joaquin River.

  Policies:
  - NR-1.4 Sedimentation. The City shall continue to support local, regional, and statewide efforts to minimize the discharge of sediment into waterways, including Salado Creek, Del Puerto Creek and the San Joaquin River.

  - NR-1.5 New development. The City shall require new development to protect the quality of water bodies and drainage systems through adaptive site design, stormwater management, and the implementation of best management practices (BMPs). The City shall apply the following principles of Low Impact Development in the review of development projects for purposes of minimizing runoff and potential water quality impacts:
    - a. Make Sensitive Choices in Site Layout. Identify the most sensitive natural areas and, where possible, leave undeveloped. To the extent possible, set back development from creeks, wetlands, and riparian habitats. Preserve significant trees. Conform the site along natural landforms, avoid excessive grading and disturbance of vegetation and soils, and mimic the site's natural drainage patterns. Where possible, concentrate development on portions of the site with less permeable soils, and preserve areas that can promote infiltration. To the extent possible, limit overall coverage of paving and roofs by designing compact structures, narrower and shorter streets and sidewalks, smaller parking lots, and indoor or underground parking. Where possible, detain and retain runoff throughout the site. Use drainage design elements such as depressed landscape areas, vegetated buffers, and bioretention facilities (consisting of a shallow surface reservoir, a layer of imported planting medium, and a gravel underlayer with perforated pipe underdrains) as amenities and focal points within the site and landscape design.

- Goal NR-3 To protect natural open space areas, sensitive native vegetation, and wildlife communities and habitat.

  Policies:
  - NR-3.2 Protection of sensitive species. A project with the potential to adversely impact special status species or their habitat, shall provide evidence of compliance with the relevant provisions of State and federal laws relating to the preservation of rare, threatened, or endangered species and their habitat prior to project approval and/or prior to construction as determined by the requirements set forth in the federal and State Endangered Species Acts, the federal Clean Water Act, the federal Rivers and Harbors Act and the Implementation Measures provided in Appendix NR.

  - NR-3.3 On-site resource preservation. The City shall encourage new development to preserve on-site natural elements that contribute to the community's native plant and wildlife species value and to its aesthetic character.

- NR-3.7 Riparian habitat protection. The City shall preserve the ecological integrity of creek corridors, canals, and drainage ditches that support riparian resources by preserving native riparian plants and, to the extent feasible, removing invasive nonnative plants. If preservation of the ecological integrity of existing resources is found to be infeasible, adverse impacts to riparian resources shall be fully mitigated consistent with the requirements of applicable State and federal regulations. (see also Implementation Measures and Appendix NR)

- NR-3.8 Wetland protection. The City shall preserve and protect wetland resources including creeks, rivers, ponds, marshes, vernal pools, and other seasonal wetland areas, to the extent feasible. If preservation of the ecological integrity of existing wetland resources is found to be infeasible, adverse impacts to such resources shall be fully mitigated consistent with the requirements of applicable State and federal regulations.

- Goal NR-6 To incorporate sustainable building practices into the City's development regulations and fleet vehicle use.

  Policies:
  - NR-6.6 Landscaping options. The City shall evaluate existing landscaping and options to convert reflective and impervious surfaces to landscaping, and shall, as feasible, install or replace vegetation with drought-tolerant, low maintenance native species that can also provide shade and reduce heat-island effects.

Threatened and Endangered Species

Permits may be required from the USFWS and/or CDFW if activities associated with a Project have the potential to result in the "Take" of a species listed as threatened or endangered under the federal and/or State Endangered Species Acts. Take is defined by the state of California as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill" (California Fish and Game Code, Section 86). Take is more broadly defined by the federal Endangered Species Act to include "harm" (16 USC, Section 1532(19), 50 CFR, Section 17.3). The CDFW and the USFWS are responsible agencies under CEQA and NEPA. Both agencies review CEQA and NEPA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.

Designated Critical Habitat

When species are listed as threatened or endangered, the USFWS often designates areas of "Critical Habitat" as defined by section 3(5)(A) of the federal Endangered Species Act (ESA). Critical Habitat is a term defined in the ESA as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical Habitat is a tool that supports the continued conservation of imperiled species by guiding cooperation with the federal government. Designations only affect federal agency actions or federally funded or permitted activities. Critical Habitat does not prevent activities that occur within the designated area. Only activities that involve a federal permit, license, or funding and are likely to destroy or adversely modify Critical Habitat will be affected.

Migratory Birds

The Federal Migratory Bird Treaty Act ((MBTA): 16 USC 703-712) prohibits killing, possessing, or trading in any bird species covered in one of four international conventions to which the U.S. is a party, except in accordance with regulations prescribed by the Secretary of the Interior. The name of the act is misleading, as it actually covers almost all bird's native to the U.S., even those that are non-migratory. The MBTA encompasses

whole birds, parts of birds, and bird nests and eggs. Additionally, California Fish and Game Code makes it unlawful to take or possess any non-game bird covered by the MBTA (Section 3513), as well as any other native non-game bird (Section 3800).

Birds of Prey

Birds of prey are protected in California under provisions of Fish and Game Code (Section 3503.5), which states that it is unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks and eagles) or Strigiformes (owls), as well as their nests and eggs. The bald eagle and golden eagle are afforded additional protection under the federal Bald and Golden Eagle Protection Act (16 USC 668), which makes it unlawful to kill birds or their eggs.

Nesting Birds

In California, protection is afforded to the nests and eggs of all birds. 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 this code or any regulation adopted pursuant thereto." Breeding-season disturbance that causes nest abandonment and/or loss of reproductive effort is considered a form of "take" by the CDFW.

Wetlands and other "Jurisdictional Waters"

Natural drainage channels and adjacent wetlands may be considered "waters of the U.S." or "jurisdictional waters" subject to the jurisdiction of the USACE. The extent of jurisdiction has been defined in the Code of Federal Regulations but has also been subject to interpretation of the federal courts. Jurisdictional waters generally include:

- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- All interstate waters including interstate wetlands;
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce;
- All impoundments of waters otherwise defined as waters of the U.S. under the definition; and
- Tributaries of waters identified in paragraphs (a)(1)-(4) (i.e. the bulleted items above).

As determined by the U.S. Supreme Court in its 2001 *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (*SWANCC*) decision, channels and wetlands isolated from other jurisdictional waters cannot be considered jurisdictional on the basis of their use, hypothetical or observed, by migratory birds. Similarly, in its 2006 consolidated *Carabell/Rapanos* decision, the U.S. Supreme Court ruled that a significant nexus between a wetland and other navigable waters must exist for the wetland itself to be considered a navigable and therefore jurisdictional water. Furthermore, the Supreme Court clarified that the Environmental Protection Agency (EPA) and the USACE will not assert jurisdiction over ditches excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

The USACE regulates the filling or grading of Waters of the U.S. under the authority of Section 404 of the Clean Water Act. The extent of jurisdiction within drainage channels is defined by "ordinary high water marks" on opposing channel banks. All activities that involve the discharge of dredge or fill material into Waters of the U.S. are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions or values. No permit can be issued until the Regional Water Quality Control Board (RWQCB) issues a Section 401 Water Quality Certification (or waiver of such certification) verifying that the proposed activity will meet State water quality standards.

Under the Porter-Cologne Water Quality Control Act of 1969, the State Water Resources Control Board has regulatory authority to protect the water quality of all surface water and groundwater in the State of California ("Waters of the State"). Nine RWQCBs oversee water quality at the local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into Waters of the State through the issuance of various permits and orders. Discharges into Waters of the State that are also Waters of the U.S. require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining certain federal permits, such as a Section 404 Clean Water Act permit. Discharges into all Waters of the State, even those that are not also Waters of the U.S., require Waste Discharge Requirements (WDRs), or waivers of WDRs, from the RWQCB. The RWQCB also administers the Construction Storm Water Program and the federal National Pollution Discharge Elimination System (NPDES) program. Projects that disturb one or more acres of soil must obtain a Construction General Permit under the Construction Storm Water Program. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer and implemented by a Qualified SWPPP Practitioner. Projects that discharge wastewater, storm water, or other pollutants into a Water of the U.S. may require a NPDES permit.

CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code. Activities that may substantially modify such waters through the diversion or obstruction of their natural flow, change or use of any material from their bed or bank, or the deposition of debris require a Notification of Lake or Streambed Alteration (LSA). If CDFW determines that the activity may adversely affect fish and wildlife resources, a LSA will be prepared. Such an agreement typically stipulates that certain measures will be implemented to protect the habitat values of the lake or drainage in question.

Potentially Significant Project-Related Impacts and Mitigation

Species identified as candidate, sensitive, or special status species in local or regional plans policies or regulations by CDFW or the USFWS that have the potential to be impacted by the Proposed Project are identified below with corresponding mitigation measures.

Project-Related Mortality and/or Disturbance of Nesting Raptors, Migratory Birds, and Special Status Birds (Including Swainson's Hawk)

The developed and ruderal nature of the Project area provides sub-optimal nesting and foraging habitat for raptors, resident and migratory birds, and special status birds, such as the Swainson's hawk. Canary Island date palms and valley oak trees were observed along the top of the banks of Salado Creek in the Project area. Adjacent parks and residences also contained ornamental trees and shrubs typically associated within urban landscaping. The Project could potentially impact or remove trees within the proposed trail alignment. The majority of the

valley oak trees in the Project area are on the eastern bank, and therefore would not be expected to be impacted by trail construction on the western bank of Salado Creek. However, a few oaks are present along the top of the western bank in the northern portion of the APE near Cliff Swallow Drive. Even if these oaks on the western bank were removed, it would not be considered a loss of nesting or foraging habitat because implementation of the Salado Creek Trail project as envisioned would include planting approximately 273 additional native trees which would serve as nesting and foraging habitat. Furthermore, in the unlikely event that a Swainson's hawk or other avian species is foraging within the Project site during construction activities, the individual would be expected to fly away from disturbance they encounter, subsequently eliminating the risk of injury or mortality while foraging. However, if birds were nesting within these trees at the time of construction, Project-related activities could result in the abandonment of active nests or direct mortality to these birds, which would be considered a significant impact under CEQA and NEPA and a violation of State and federal regulations protecting avian species.

Although typical suitable raptor nest trees and optimal foraging habitat were not observed within the Project area at the time of the field survey, in the absence of higher quality habitat, some raptors such as the red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), barn owl (*Tyto alba*), Cooper's hawk (*Accipiter cooperii*), and even the special status Swainson's hawk could potentially become acclimatized to human disturbance and nest in large ornamental trees in the vicinity. Swainson's hawks are fairly common in this portion of the San Joaquin Valley and are known to nest along the riparian corridor of the San Joaquin River, approximately five miles east of the Project area. While typical Swainson's hawk nesting and foraging habitat was not observed within the Project area at the time of the field survey, this species could conceivably nest or forage in the vicinity in the absence of higher quality habitat. Typically, a 0.5-mile disturbance-free buffer is implemented around active Swainson's hawk nests; however, sometimes it is reasonable to consider a reduction in the buffer distance when there is a compelling biological or ecological reason to do so, such as when the nest is located in an area with a baseline high level of ongoing disturbance or when the Project area is outside of the viewshed of the nest. The Salado Creek Trail Project area is surrounded by busy roads and urban development. In the unlikely event that a Swainson's hawk were nesting within the urbanized City of Patterson in the vicinity of the Project, it is likely that this individual would be relatively accustomed to human disturbance, and therefore a 500-foot nest buffer should suffice.

Smaller trees and shrubs could be inhabited by a variety of migratory and resident passerines, and bridges and culverts could be utilized by the black phoebe or cliff swallows. Disturbance tolerant ground nesting birds, such as the killdeer could nest on the compacted bare ground along the top of the canal banks. If birds were nesting within or adjacent to Project areas at the time of construction, Project-related activities could result in the abandonment of active nests or direct mortality to these birds. Construction activities that adversely affect nesting success or result in mortality of individual birds constitute a violation of State and federal laws and would be considered a significant impact under CEQA and NEPA.

Nesting bird season is generally accepted as February 1 through August 31; however, Swainson's hawk nesting season is generally accepted as March 1 through September 15. For simplicity, these timeframes have been combined.

Implementation of the following measures will reduce potential impacts to nesting raptors, migratory birds, and special status birds, including Swainson's hawk to a less-than-significant level under CEQA and NEPA, and will

ensure compliance with State and federal laws protecting these avian species. The Project's potential impacts to burrowing owl will be discussed in detail in the following section.

Mitigation. The following measures will be implemented prior to the start of construction:

Mitigation Measure NEST-1a (Avoidance): The Project's construction activities shall occur, if feasible, between September 16 and January 31 (outside of nesting bird season) in an effort to avoid impacts to nesting birds.

Mitigation Measure NEST-1b (Pre-construction Surveys): If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist shall conduct pre-construction surveys for active nests within 30 days prior to the start of construction. The survey shall include the proposed work area and surrounding lands within 500 feet. If no active nests are observed, no further mitigation is required. Raptor nests are considered "active" upon the nest-building stage.

Mitigation Measure NEST-1c (Establish Buffers): On discovery of any active nests near work areas, the biologist shall determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Construction buffers shall be identified with flagging, fencing, or other easily visible means, and shall be maintained until the biologist has determined that the nestlings have fledged and are no longer dependent on the nest.

Project-Related Mortality and/or Disturbance of Burrowing Owl

Although typical suitable breeding and foraging habitat associated with burrowing owl was not present within the Project area at the time of the biological survey, it is not uncommon for burrowing owls to inhabit urban areas such as canal banks, golf courses, and airports as their natural grassland habitat is converted to urban and agricultural uses. At the time of the biological survey, ground squirrels and burrows of suitable dimensions for burrowing owl were observed along the banks of Salado Creek. While no owl sign was observed, there is at least some potential for burrowing owls to inhabit the burrows in the Project area and forage over agricultural lands to the south.

The Project involves excavation and ground-disturbance. If burrowing owls were nesting at the time of ground disturbance, individuals could be injured or killed by burrow collapse. Project-related construction in the vicinity could also disturb nesting owls, causing a breeding pair to abandon their nest. Project activities resulting in injury or mortality of burrowing owl individuals or that adversely affect nesting success would be considered a significant impact under CEQA and NEPA. Wintering owls in the vicinity would be expected to fly away from disturbance, but given their fossorial nature, extra care should be taken to ensure protection of this species prior to ground disturbance. Removal of burrows could be considered a significant impact if the Project area represented suitable habitat and/or if there were not an abundance of alternate suitable burrows in the Project's vicinity. The Project area is flanked by urban development and not ideal for burrowing owl; therefore, excavation of non-breeding burrowing owl burrows would not be considered a significant loss of habitat. Furthermore, after completion of the Project, ground squirrels will likely recolonize the canal banks, creating additional burrows.

Implementation of the following measures, derived from the CDFW 2012 *Staff Report on Burrowing Owl Mitigation,* will reduce potential impacts to burrowing owls to a less-than-significant level, and will ensure compliance with State and federal laws protecting this species.

Mitigation Measure BUOW-1a (Pre-construction Take Avoidance Survey): A qualified biologist shall conduct a pre-construction take avoidance survey for burrowing owls and suitable burrows, in accordance with CDFW's *Staff Report on Burrowing Owl Mitigation* (2012), within 30 days prior to the start of construction activities. The survey shall include the proposed work area and surrounding lands within 500 feet. If no burrowing owl individuals or suitable burrows are observed, no further mitigation is required.

Mitigation Measure BUOW-1b (Avoidance): If an active burrowing owl burrow is detected, the occurrence shall be reported to the local CDFW office and the CNDDB, and disturbance-free buffers shall be implemented in accordance with CDFW's 2012 *Staff Report on Burrowing Owl Mitigation,* as outlined in the table below:

Location	Time of Year	Level of Disturbance		
		Low	Medium	High
Nesting sites	April 1 – August 15	200 meters	500 meters	500 meters
Nesting sites	August 16 – October 15	200 meters	200 meters	500 meters
Nesting sites	October 16 – March 31	50 meters	100 meters	500 meters

BUOW-1c (Consultation with CDFW and Passive Relocation): If avoidance of an active burrowing owl burrow is not feasible, CDFW shall be immediately consulted to determine the best course of action, which may include passive relocation during non-breeding season. Passive relocation and/or burrow exclusion shall not take place without coordination with CDFW and preparation of an approved exclusion and relocation plan.

Less Than Significant Project-Related Impacts

Project-Related Impacts to Special Status Plant Species

Twenty special status plant species have been documented in the Project vicinity, including alkali milk-vetch, big tarplant, California alkali grass, Chaparral harebell, Delta button-celery, Diamond petaled California poppy, Hall's bush-mallow, heartscale, Lemmon's jewelflower, lesser saltscale, Mt. Diablo phacelia, Mt. Hamilton coreopsis, prairie wedge grass, red-flowered bird's-foot trefoil, shining navarretia, showy golden madia, spiny-sepaled button-celery, Talus fritillary, Tracy's eriastrum, and vernal pool smallscale. As explained in Table 2, all of the aforementioned plant species are absent from the Project area due to past and ongoing disturbance and/or the absence of suitable habitat. Therefore, implementation of the Project will have no effect on individual plants or regional populations of these special status plant species. Mitigation measures are not warranted.

Project-Related Impacts to Special Status Animal Species Absent From, or Unlikely to Occur on, the Project Site

Of the 32 regionally occurring special status species, 30 are considered absent or unlikely to occur within the Project area due to past or ongoing disturbance and/or absence of suitable habitat. As explained in Table 1, the following species were deemed absent from the Project area: bald eagle, western spadefoot, Crotch bumble bee, California tiger salamander, giant gartersnake, California red-legged frog, foothill yellow-legged frog, golden eagle, blunt-nosed leopard lizard, California horned lark, least Bell's vireo, loggerhead shrike, prairie falcon, northern California legless lizard, hardhead, vernal pool tadpole shrimp, riparian brush rabbit, Sacramento splittail, San Joaquin coachwhip, valley elderberry longhorn beetle, tricolored blackbird, Steelhead – Central

Valley DPS, vernal pool fairy shrimp, and Delta smelt; and the following species were deemed unlikely to occur within the Project area: American badger, cackling (=Aleutian Canada) goose, San Joaquin kit fox, San Joaquin roach, song sparrow ("Modesto" population), and western pond turtle. Since there is little to no potential for these species to occur onsite, implementation of the Project will have no impact on these 30 special status species through construction, mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

Project-Related Impacts to Jurisdictional Waters, Wetlands, Navigable Waters, Wild and Scenic Rivers, or other Aquatic Features, and Riparian Habitat

The Project involves the construction of a bicycle and pedestrian trail system along the top of the western bank of Salado Creek (also known as Hirshfield Lateral). Salado Creek is a tributary to the San Joaquin River and historically has been considered a Water of the U.S. within USACE's jurisdiction. Therefore, it is reasonable to assume that USACE would continue to claim jurisdiction over this stream system. An Aquatic Resources Delineation was conducted on May 16, 2020 to evaluate the site for potential Waters of the U.S. and delineate potential jurisdictional boundaries of these features. The investigation and delineation were conducted in accordance with the 1987 *Corps of Engineers Wetland Delineation Manual*, and the *Arid West Regional Supplement*. The field work revealed one small (approximately 700 square feet) area on the north side of the Sperry Avenue crossing that met all three criteria of a wetland: hydric soils, hydrophytic vegetation, and wetland hydrology. Since all three wetland criteria were met, this section of Salado Creek met the criteria of a wetland; however, the wetland boundaries were entirely contained within the boundaries of ordinary high water. Therefore, hydrologic indicators of ordinary high water such as erosion patterns, scour, vegetation, and drift were used to map the limits of potential USACE jurisdiction.

Salado Creek, below the OHWM, would fall under the jurisdiction of USACE and construction activities in this area would be subject to USACE permit requirements pursuant to Section 404 of the Clean Water Act. This Project will likely be authorized under a Nationwide Permit. In addition, a Section 401 Water Quality Certification from the RWQCB is required for construction within Salado Creek to verify that the activities will meet State water quality standards. These permits and certifications are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions or values.

If the Project's construction work at the Sperry Avenue crossing will result in impacts to Waters of the U.S., the Project proponent will be required to secure permits from USACE and RWQCB. Compliance with each permit's required avoidance, minimization, and mitigation measures will ensure that Project-related impacts to these potentially jurisdictional waters are less-than-significant in nature or are fully mitigated.

Project activities with potential to alter a river, stream, or lake, including the floodplain and associated riparian habitat, would be within CDFW's jurisdiction, pursuant to Section 1602 of the California Fish and Game Code. The Project proponent is required to notify CDFW if the Project's activities have potential to impact rivers, streams, or the riparian corridor of any aquatic features onsite that may be beneficial to fish or wildlife resources. If CDFW determines that the Project could potentially adversely affect fish and wildlife resources, a LSA will be issued prior to construction. LSA Agreements are typically issued with mandatory avoidance and minimization measures, protective measures for special status species, and required compensatory mitigation for removal of riparian trees, shrubs, and herbaceous cover along the banks. Compliance with measures of the LSA Agreement will ensure that the Project's impacts to aquatic features and riparian habitat within CDFW's jurisdiction remain less-than-significant or are fully mitigated.

There are no designated wild and scenic rivers within the Project area, and none of the aquatic features onsite are included on USACE Sacramento District's list of navigable waters. Therefore, the Project will not result in direct impacts to wild and scenic rivers or navigable waters. Compliance with USACE, RWQCB, and CDFW permits, certifications, and agreements will ensure there are no indirect downstream effects to water quality.

Project-Related Impacts to Wildlife Movement Corridors

As discussed in Section 2: Wildlife Movement Corridors, the Project area does not contain features that would be likely to function as important wildlife movement corridors. Furthermore, the Project is located in a region often disturbed by intensive agricultural cultivation practices and human disturbance which would discourage dispersal and migration. Furthermore, the Project does not propose the placement of permanent fencing or any type of barrier that would impede movement of native wildlife. Therefore, implementation of the Project will have no impact on wildlife movement corridors. Mitigation is not warranted.

Project-Related Impacts to Critical Habitat

Designated critical habitat is absent from the Project area and surrounding lands. Therefore, there will be no impact to critical habitat, and mitigation is not warranted.

Local Policies or Habitat Conservation Plans

Proposed Project design appears to be consistent with the goals and policies of the City of Patterson General Plan. There are no known habitat conservation plans in the Project vicinity. Mitigation is not warranted.

Coastal Zone and Coastal Barriers Resources Act

The Project is not located within the coastal zone. The Project will not impact or be located within or near the Coastal Barrier Resources System or its adjacent wetlands, marshes, estuaries, inlets, and near-shore waters. Mitigation is not warranted.

Project-Related Impact to Essential Fish Habitat

Essential Fish Habitat (EFH) and Habitat Areas of Particular Concern (HAPC) are absent from the Project area and surrounding lands, and consultation with the National Marine Fisheries (NMFS) Service will not be required. Query results of the NMFS EHF Mapper can be found in **Appendix E** of this document. Mitigation is not warranted.

Section 7 Determinations

In addition to the effects analysis performed in Sections 2 and 3 of this document, **Table 3** summarizes Project effect determinations for Federally Listed Species found on the USFWS IPaC list generated on April 6, 2020 (**Appendix C**), in accordance with Section 7 of the Endangered Species Act.

Table 3. Section 7 Determinations

Federally Listed Species Identified by IPaC		
Species	***Determination***	***Rationale for Determination***
San Joaquin kit fox (*Vulpes macrotis mutica*)	No effect	Habitat absent.
blunt-nosed leopard lizard (*Gambelia sila*)	No effect	Habitat absent, and the Project is outside of the distribution range of this species.
giant gartersnake (*Thamnophis gigas*)	No effect	Habitat absent.
California red-legged frog (*Rana draytonii*)	No effect	Habitat absent, and the Project is outside of the distribution range of this species.
California tiger salamander (*Ambystoma californiense*)	No effect	Habitat absent.
Delta smelt (*Hypomesus transpacificus*)	No effect	Habitat absent, and the Project is outside of the distribution range of this species.
Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*)	No effect	Habitat absent.
vernal pool fairy shrimp (*Branchinecta lynchi*)	No effect	Habitat absent.
vernal pool tadpole shrimp (*Lepidurus packardi*)	No effect	Habitat absent.
Additional Federally Listed Species Identified by CNDDB		
least Bell's vireo (*Vireo bellii pusillus*)	No effect	Habitat absent.
riparian brush rabbit (*Sylvilagus bachmani riparius*)	No effect	Habitat absent.
steelhead - Central Valley DPS (*Oncorhynchus mykiss irideus* pop. 11)	No effect	Habitat absent.

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Appendix A: Selected Photos of the Project Site

CITY OF PATTERSON

SALADO CREEK TRAIL PROJECT



Photograph 1:

Salado Creek south of Sperry Avenue.



Photograph 2:

Rodent burrows along the banks of Salado Creek in the Project area.



Photograph 3:

Salado Creek south of the Sperry Avenue crossing. Sperry Avenue is visible in the background.



Photograph 4:

Sperry Avenue box culvert.



Photograph 5:

Salado Creek south of the Sperry Avenue crossing, facing upstream from the Sperry Avenue culvert. Water was flowing into the channel through the pipe on the left side of this photo.



Photograph 6:

Salado Creek on the north side of the Sperry Avenue culvert.



Photograph 7:

Salado Creek north of the Sperry Avenue crossing.



Photograph 8:

Salado Creek north of Sperry Avenue, facing downstream.



Photograph 9:

Rock weir and culvert carrying water west underground by Aprigold Park. North of the culvert, the channel is dry and appears to have been mowed recently.



Photograph 10:

Salado Creek at Shearwater Drive. Valley oaks are present along the top of the banks.



Photograph 11:

Overview of the Salado Creek channel north of Shearwater Drive and south of Cliff Swallow Drive.



Photograph 12:

Salado Creek intake structure that carries water in pipes underground at Cliff Swallow Drive.



Photograph 13:

Overview of the Project area from Cliff Swallow Drive.



Photograph 14:

Overview of the Project area at the Calvinson Parkway crossing.



Photograph 15:

Overview of the Project area south of Calvinson Parkway.



Photograph 14:

Overview of the Project area north of Calvinson Parkway.



Photograph 17:

Overview of the Project area from the southern terminus of the APE.



Photograph 18:

Overview of agricultural lands and the foothills south of the Project area.

Appendix B: CNDDB Data

CITY OF PATTERSON

SALADO CREEK TRAIL PROJECT

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Patterson (3712142) OR Solyo (3712153) OR Westley (3712152) OR Brush Lake (3712151) OR Copper Mtn. (3712143) OR Crows Landing (3712141) OR Wilcox Ridge (3712133) OR Orestimba Peak (3712132) OR Newman (3712131))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
alkali milk-vetch *Astragalus tener var. tener*	PDFAB0F8R1	None	None	G2T1	S1	1B.2
American badger *Taxidea taxus*	AMAJF04010	None	None	G5	S3	SSC
bald eagle *Haliaeetus leucocephalus*	ABNKC10010	Delisted	Endangered	G5	S3	FP
big tarplant *Blepharizonia plumosa*	PDAST1C011	None	None	G1G2	S1S2	1B.1
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S3	SSC
cackling (=Aleutian Canada) goose *Branta hutchinsii leucopareia*	ABNJB05035	Delisted	None	G5T3	S3	WL
California alkali grass *Puccinellia simplex*	PMPOA53110	None	None	G3	S2	1B.2
California horned lark *Eremophila alpestris actia*	ABPAT02011	None	None	G5T4Q	S4	WL
California red-legged frog *Rana draytonii*	AAABH01022	Threatened	None	G2G3	S2S3	SSC
California tiger salamander *Ambystoma californiense*	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
chaparral harebell *Campanula exigua*	PDCAM020A0	None	None	G2	S2	1B.2
Coastal and Valley Freshwater Marsh *Coastal and Valley Freshwater Marsh*	CTT52410CA	None	None	G3	S2.1	
Crotch bumble bee *Bombus crotchii*	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
Delta button-celery *Eryngium racemosum*	PDAPI0Z0S0	None	Endangered	G1	S1	1B.1
Diablo Range pyrg *Pyrgulopsis diablensis*	IMGASJ0980	None	None	G1	S1	
diamond-petaled California poppy *Eschscholzia rhombipetala*	PDPAP0A0D0	None	None	G1	S1	1B.1
foothill yellow-legged frog *Rana boylii*	AAABH01050	None	Candidate Threatened	G3	S3	SSC
golden eagle *Aquila chrysaetos*	ABNKC22010	None	None	G5	S3	FP
great blue heron *Ardea herodias*	ABNGA04010	None	None	G5	S4	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Great Valley Valley Oak Riparian Forest *Great Valley Valley Oak Riparian Forest*	CTT61430CA	None	None	G1	S1.1	
Hall's bush-mallow *Malacothamnus hallii*	PDMAL0Q0F0	None	None	G2	S2	1B.2
hardhead *Mylopharodon conocephalus*	AFCJB25010	None	None	G3	S3	SSC
heartscale *Atriplex cordulata var. cordulata*	PDCHE040B0	None	None	G3T2	S2	1B.2
hoary bat *Lasiurus cinereus*	AMACC05030	None	None	G5	S4	
least Bell's vireo *Vireo bellii pusillus*	ABPBW01114	Endangered	Endangered	G5T2	S2	
Lemmon's jewelflower *Caulanthus lemmonii*	PDBRA0M0E0	None	None	G3	S3	1B.2
lesser saltscale *Atriplex minuscula*	PDCHE042M0	None	None	G2	S2	1B.1
loggerhead shrike *Lanius ludovicianus*	ABPBR01030	None	None	G4	S4	SSC
Menke's cuckoo wasp *Ceratochrysis menkei*	IIHYM71050	None	None	G1	S1	
moestan blister beetle *Lytta moesta*	IICOL4C020	None	None	G2	S2	
Mt. Diablo phacelia *Phacelia phacelioides*	PDHYD0C3Q0	None	None	G2	S2	1B.2
Mt. Hamilton coreopsis *Leptosyne hamiltonii*	PDAST2L0C0	None	None	G2	S2	1B.2
northern California legless lizard *Anniella pulchra*	ARACC01020	None	None	G3	S3	SSC
obscure bumble bee *Bombus caliginosus*	IIHYM24380	None	None	G4?	S1S2	
prairie falcon *Falco mexicanus*	ABNKD06090	None	None	G5	S4	WL
prairie wedge grass *Sphenopholis obtusata*	PMPOA5T030	None	None	G5	S2	2B.2
red-flowered bird's-foot trefoil *Acmispon rubriflorus*	PDFAB2A150	None	None	G2	S2	1B.1
redheaded sphecid wasp *Eucerceris ruficeps*	IIHYM18010	None	None	G1G3	S1S2	
riparian brush rabbit *Sylvilagus bachmani riparius*	AMAEB01021	Endangered	Endangered	G5T1	S1	
Sacramento splittail *Pogonichthys macrolepidotus*	AFCJB34020	None	None	GNR	S3	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
San Joaquin coachwhip *Masticophis flagellum ruddocki*	ARADB21021	None	None	G5T2T3	S2?	SSC
San Joaquin kit fox *Vulpes macrotis mutica*	AMAJA03041	Endangered	Threatened	G4T2	S2	
San Joaquin Pocket Mouse *Perognathus inornatus*	AMAFD01060	None	None	G2G3	S2S3	
San Joaquin roach *Lavinia symmetricus ssp. 1*	AFCJB19021	None	None	G4T3Q	S3	SSC
shining navarretia *Navarretia nigelliformis ssp. radians*	PDPLM0C0J2	None	None	G4T2	S2	1B.2
showy golden madia *Madia radiata*	PDAST650E0	None	None	G3	S3	1B.1
snowy egret *Egretta thula*	ABNGA06030	None	None	G5	S4	
song sparrow ("Modesto" population) *Melospiza melodia*	ABPBXA3010	None	None	G5	S3?	SSC
spiny-sepaled button-celery *Eryngium spinosepalum*	PDAPI0Z0Y0	None	None	G2	S2	1B.2
steelhead - Central Valley DPS *Oncorhynchus mykiss irideus pop. 11*	AFCHA0209K	Threatened	None	G5T2Q	S2	
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S3	
Sycamore Alluvial Woodland *Sycamore Alluvial Woodland*	CTT62100CA	None	None	G1	S1.1	
talus fritillary *Fritillaria falcata*	PMLIL0V070	None	None	G2	S2	1B.2
Tracy's eriastrum *Eriastrum tracyi*	PDPLM030C0	None	Rare	G3Q	S3	3.2
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	IICOL48011	Threatened	None	G3T2	S2	
vernal pool fairy shrimp *Branchinecta lynchi*	ICBRA03030	Threatened	None	G3	S3	
vernal pool smallscale *Atriplex persistens*	PDCHE042P0	None	None	G2	S2	1B.2
western pond turtle *Emys marmorata*	ARAAD02030	None	None	G3G4	S3	SSC
western spadefoot *Spea hammondii*	AAABF02020	None	None	G3	S3	SSC

Record Count: 60

Appendix C: IPaC Species List

CITY OF PATTERSON

SALADO CREEK TRAIL PROJECT

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To: April 06, 2020
Consultation Code: 08ESMF00-2020-SLI-1547
Event Code: 08ESMF00-2020-E-04843
Project Name: Patterson Urban Bicycle Trail Project at Salado Creek

Subject: List of threatened and endangered species that may occur in your proposed project location, and/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, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) 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 Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

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 in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

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 Tracking Number 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:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2020-SLI-1547

Event Code: 08ESMF00-2020-E-04843

Project Name: Patterson Urban Bicycle Trail Project at Salado Creek

Project Type: LAND - RESTORATION / ENHANCEMENT

Project Description: The proposed project will fill gaps between existing trail segments to create approximately 6,500 linear feet of continuous bike and pedestrian trail along Salado Creek from just south of Sweet Briar Drive to Cliff Swallow Drive in the City of Patterson. The existing trail segments are in poor condition will be rehabilitated as a part of this project. The project will also create a new protected crossing under Sperry Avenue to improve bike and pedestrian safety.

At the north end of the project, there is a long segment of existing trail on the west side of Salado Creek between Cliff Swallow Drive and Shearwater Drive that will be rehabilitated. New trail will be constructed along the west side of Salado Creek from Shearwater Drive to approximately 900 feet south of Calvinson Parkway. A short segment of new trail will also be constructed on the east side of Salado Creek from the existing pedestrian bridge at Sutter Creek Court to the existing trail approximately 400 feet to the south. A protected undercrossing will be constructed at Sperry Avenue. The large existing concrete box culvert under Sperry Avenue will be modified to accommodate both the bike and pedestrian protected undercrossing and the storm water flow in Salado Creek. The other road crossings will be at-grade and will be designed to be high visibility.

Approximately 273 trees will be planted along the trail/pathway. A plant palette will be developed for all trees and plants within the footprint of the project, with specific consideration given to carbon sequestration, inclusion of native species, pollinator habitat, low water use, and drought tolerance. The new trees will not exceed 15 gallons in initial planting size. An irrigation system will be designed from the non-potable water system. The project will comply with the Model Water Efficient Landscape Ordinance (MWELO), all Governor Executive Orders, and local water ordinances.

Approximately 88 lights will be installed with an approximate 75-foot spacing along the path. Lighting will be designed to current standards to

maintain required foot-candles along the path. A new electrical service, signing, and striping will also be included in the project.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/37.46737947225606N121.15006591544513W



Counties: Stanislaus, CA

Endangered Species Act Species

There is a total of 9 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
San Joaquin Kit Fox *Vulpes macrotis mutica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered

Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard *Gambelia silus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/625	Endangered
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii*	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/2891
Species survey guidelines:
https://ecos.fws.gov/ipac/guideline/survey/population/205/office/11420.pdf

California Tiger Salamander *Ambystoma californiense*	Threatened

Population: U.S.A. (Central CA DPS)
There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/2076

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus*	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/321

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus*	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/7850
Habitat assessment guidelines:
https://ecos.fws.gov/ipac/guideline/assessment/population/436/office/11420.pdf

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi*	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/498

Vernal Pool Tadpole Shrimp *Lepidurus packardi*	Endangered

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/2246

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Appendix D: NRCS Soils Report

CITY OF PATTERSON

SALADO CREEK TRAIL PROJECT

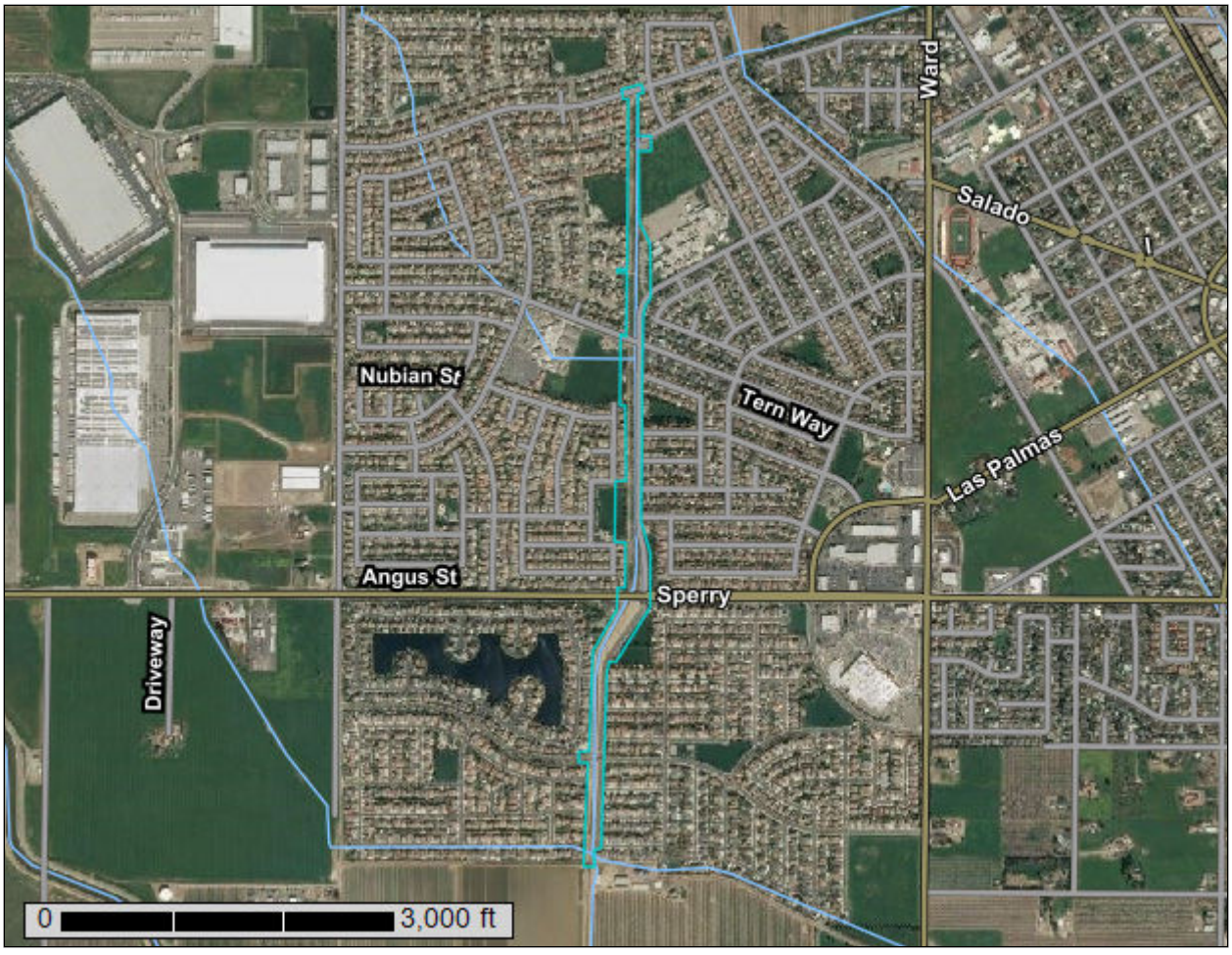
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Stanislaus County, California, Western Part



April 6, 2020

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:12,600 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 150 300 600 900

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Stanislaus County, California, Western Part
Survey Area Data: Version 14, Sep 17, 2019

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

Date(s) aerial images were photographed: Feb 22, 2019—Mar 14, 2019

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
106	Capay clay, 0 percent slopes, rarely flooded, MLRA 17	1.1	3.8%
127	Vernalis loam, 0 to 2 percent slopes, rarely flooded	26.1	91.8%
130	Stomar clay loam, 0 to 2 percent slopes	1.2	4.4%
Totals for Area of Interest		**28.4**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Stanislaus County, California, Western Part

106—Capay clay, 0 percent slopes, rarely flooded, MLRA 17

Map Unit Setting

National map unit symbol: 2y0f0
Elevation: 50 to 140 feet
Mean annual precipitation: 11 to 12 inches
Mean annual air temperature: 62 to 63 degrees F
Frost-free period: 321 to 326 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Capay and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Capay

Setting

Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey alluvium derived from sandstone and shale

Typical profile

Ap - 0 to 11 inches: clay
A - 11 to 20 inches: clay
Bss1 - 20 to 30 inches: clay
Bss2 - 30 to 39 inches: clay
Bk1 - 39 to 51 inches: clay
Bk2 - 51 to 60 inches: clay

Properties and qualities

Slope: 0 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: Frequent
Calcium carbonate, maximum in profile: 1 percent
Gypsum, maximum in profile: 1 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.2 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 3.0
Available water storage in profile: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 4s

Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Stomar
Percent of map unit: 5 percent
Landform: Alluvial fans
Hydric soil rating: No

Vernalis
Percent of map unit: 3 percent
Landform: Alluvial fans
Hydric soil rating: No

Zacharias
Percent of map unit: 2 percent
Landform: Alluvial fans
Hydric soil rating: No

127—Vernalis loam, 0 to 2 percent slopes, rarely flooded

Map Unit Setting
National map unit symbol: hnvr
Elevation: 100 to 150 feet
Mean annual precipitation: 10 to 12 inches
Mean annual air temperature: 59 to 63 degrees F
Frost-free period: 260 to 280 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition
Vernalis and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Vernalis

Setting
Landform: Alluvial fans
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium from mixed rock

Typical profile
H1 - 0 to 20 inches: loam
H2 - 20 to 62 inches: clay loam

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 5.0
Available water storage in profile: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Capay

Percent of map unit: 5 percent
Landform: Basin floors
Hydric soil rating: No

Stomar

Percent of map unit: 5 percent
Landform: Alluvial fans
Hydric soil rating: No

Zacharias

Percent of map unit: 5 percent
Landform: Alluvial fans
Hydric soil rating: No

130—Stomar clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hnvs
Elevation: 40 to 360 feet
Mean annual precipitation: 10 to 12 inches
Mean annual air temperature: 59 to 63 degrees F
Frost-free period: 260 to 280 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Stomar and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Stomar

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium from sedimentary rock

Typical profile

H1 - 0 to 11 inches: clay loam
H2 - 11 to 38 inches: clay
H3 - 38 to 60 inches: clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Capay

Percent of map unit: 5 percent
Landform: Basin floors
Hydric soil rating: No

Vernalis

Percent of map unit: 5 percent
Landform: Alluvial fans
Hydric soil rating: No

Zacharias

Percent of map unit: 5 percent
Landform: Alluvial fans
Hydric soil rating: No

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Appendix E: NOAA EFH Mapper Data

CITY OF PATTERSON

SALADO CREEK TRAIL PROJECT

EFH Data Notice: Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional Fishery Management Councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

West Coast Regional Office
Alaska Regional Office

Query Results

Degrees, Minutes, Seconds: Latitude = 37º28'8" N, Longitude = 122º52'5" W
Decimal Degrees: Latitude = 37.47, Longitude = -121.13

The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

HAPCs

No Habitat Areas of Particular Concern (HAPC) were identified at the report location.

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data.
****For links to all EFH text descriptions see the complete data inventory: open data inventory -->**

Pacific Coastal Pelagic Species,
Jack Mackerel,
Pacific (Chub) Mackerel,
Pacific Sardine,
Northern Anchovy - Central Subpopulation,
Northern Anchovy - Northern Subpopulation,
Pacific Highly Migratory Species,
Bigeye Thresher Shark - North Pacific,
Bluefin Tuna - Pacific,
Dolphinfish (Dorado or Mahimahi) - Pacific,
Pelagic Thresher Shark - North Pacific,
Swordfish - North Pacific,
West Coast Salmon,
All species and stocks

Appendix C

Archaeological Survey Report

ARCHAEOLOGICAL SURVEY REPORT FOR THE PATTERSON URBAN BICYCLE TRAIL PROJECT AT SALADO CREEK PATTERSON, STANISLAUS COUNTY, CALIFORNIA

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GANDA

August 2020

STATEMENT OF CONFIDENTIALITY

This report identifies the locations of cultural resources, which are confidential. As nonrenewable resources, archaeological sites can be significantly impacted by disturbances that can affect their cultural, scientific, and artistic values. Disclosure of this information to the public may be in violation of both federal and state laws. To discourage damage resulting from vandalism and artifact looting, cultural resources locations should be kept confidential and report distribution restricted. Applicable U.S. laws include, but are not limited to, Section 304 of the National Historic Preservation Act (16 USC 470w-3) and California state laws that apply include, but are not limited to, Government Code Sections 6250 et seq. and 6254 et seq.

SUMMARY OF FINDINGS

This report presents the results of a cultural resources investigation for the proposed Patterson Urban Bicycle Trail Project at Salado Creek, located in the city of Patterson, Stanislaus County, California. The City of Patterson is proposing to construct segments of a pedestrian and bicycle trail to connect existing trail segments and create a continuous bicycle and pedestrian trail along Salado Creek from just south of Sweet Briar Drive to Cliff Swallow Drive which will measure approximately 6,500 feet long. Due to proposed alterations to Salado Creek, the Project will require approval from the United States Army Corps of Engineers under Section 404 of the Clean Water Act and therefore the Project must comply with Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations 36 Code of Federal Regulation §800. As a result, the Project must consider the effects of the undertaking on any sites, buildings, structures, or objects that are included in or may be eligible for inclusion in the National Register of Historic Places. Additionally, a Lake or Streambed Alteration Agreement, as per Section 1600, will be required from the California Department of Fish and Wildlife.

Garcia and Associates conducted this investigation to identify historic properties, including prehistoric and historic-period archaeological resources and built-environment resources of more than 45 years of age, per 36 Code of Federal Regulations §800.4. This report documents the methods used to identify all cultural resources located within the Area of Potential Effects. Findings for this report are based on the following:

- A records search conducted at the Central California Information Center of the California Historic Resources Inventory System at California State University, Stanislaus;
- Archival research and historic map and photograph review conducted in-house and through online repositories;
- Coordination with a local historical society; and,
- A pedestrian field survey of the Area of Potential Effects (Permit Area).

Based on the records search and archival research conducted for this Project, no cultural resources have been previously documented within the Area of Potential Effects. Based on a review of historic maps and aerial photographs, the segment of Salado Creek within the Area of Potential Effects, a channelized structure, was identified as a historic-period resource and will be impacted by the proposed Project at its intersection with Sperry Avenue due to proposed modifications to the existing culvert structure. The segment of Salado Creek was formally recorded using California Department of Parks and Recreation 523 series forms and is recommended ineligible for inclusion in the National Register of Historic Places. No additional historic-period resources were identified within the Area of Potential Effects.

The investigation did not result in the identification of any prehistoric archaeological resources within the Area of Potential Effects. An analysis of Project's environmental setting and buried sensitivity indicates there is an overall low potential to encounter buried prehistoric archaeological resources within the Area of Potential Effects during Project implementation. Therefore, it is recommended that a finding of no adverse effect for historic properties is appropriate for this undertaking.

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1.0 INTRODUCTION

This Archaeological Survey Report (ASR) presents the results of a cultural resources investigation for the proposed Patterson Urban Bicycle Trail Project at Salado Creek (Project) in the city of Patterson, Stanislaus County, California (Appendix A, Figures 1 and 2). The City of Patterson is proposing to construct segments of a pedestrian and bicycle trail to connect existing trail segments and create a continuous bicycle and pedestrian trail along Salado Creek. The trail will extend from just south of Sweet Briar Drive to Cliff Swallow Drive, and will measure approximately 6,500 feet long. The Project also includes planting 273 new trees and installing 88 lights along the path.

Due to proposed alterations to Salado Creek, the Project will require approval from the United States Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act and therefore the Project must comply with Section 106 of the National Historic Preservation Act (NHPA), as amended, and its implementing regulations 36 Code of Federal Regulation (CFR) §800. Additionally, a Lake or Streambed Alteration Agreement, as per Section 1600, will be required from the California Department of Fish and Wildlife. This investigation adheres to the California Office of Historic Preservation's (OHP) *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format* (1990) and *Instructions for Recording Historical Resources* (1995), as well as the National Park Service's *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* (1983; 48 CFR 44716).

Garcia and Associates (GANDA) conducted a pedestrian survey to identify archaeological and built-environment resources within the Area of Potential Effects (APE) that may meet the definition of a "historic property" under the NHPA per 36 CFR §800.4. This report presents the methods and results of the cultural study including a records search through the Central California Information Center (CCIC) of the California Historical Resources Information System (CHRIS), a historic map review, archival research, a geoarchaeological desktop analysis, a field survey of the APE, and coordination with a local historical society. Native American consultation will be conducted by the lead agency, the USACE. This report also includes discussions of the environmental, prehistoric, ethnographic, and historic contexts of the APE and surrounding region. No previously recorded cultural resources were identified within the APE during the background research or as a result of the pedestrian survey. However, a review of historic maps and aerial photographs indicate that the segment of Salado Creek within the APE is a historic resource, having been channelized along essentially the same alignment since 1919. As the creek itself would be impacted by the proposed Project, the segment of Salado Creek within the APE was recorded on California Department of Parks and Recreation (DPR) 523 forms and evaluated for the National Register of Historic Places (NRHP). Due to a lack of integrity and not meeting the NRHP's four Criteria for Evaluation (Criteria A-D) in 36 CFR 60.4, the segment of Salado Creek is recommended ineligible for inclusion in the NRHP.

1.1 PROJECT LOCATION

The proposed Project is located along Salado Creek from just south of Sweet Briar Drive to Cliff Swallow Drive in the western part of the city's main suburban residential areas, with residential properties and city parks adjacent to the APE, on the *Patterson, California* 7.5-minute United States Geological Survey (USGS) topographic quadrangle in Township 5 South, Range 7 East, Sections 25 and 36 (USGS 1978). Residential neighborhoods comprised predominately of single-family homes are located to the east and west. State Route 33 (SR 33, also known as North 2nd Street within the city of Patterson) runs north-south approximately 1.25 miles east of the APE and Interstate 5 (I-5) runs north-south approximately 1.5 miles west of the APE.

1.2 PROJECT DESCRIPTION

Several new segments of bicycle and pedestrian trail will be built between existing, discontiguous segments to form one continuous trail measuring approximately 10 feet wide and 6,500 feet long between just south of Sweet Briar

Drive to Cliff Swallow Drive. Additionally, existing bicycle and pedestrian trail segments which are in poor condition will be rehabilitated as a part of this Project. The Project will also create a new protected crossing under Sperry Avenue to improve bicycle and pedestrian safety.

A long segment of existing trail has previously been built within the northern end of the APE, on the west side of Salado Creek between Cliff Swallow Drive and Shearwater Drive, and will be rehabilitated. A new trail segment will be constructed along the west side of Salado Creek, between Shearwater Drive to approximately 900 feet south of Calvinson Parkway. A short segment of new trail will also be constructed on the east side of Salado Creek from the existing pedestrian bridge at Sutter Creek Court to the existing trail approximately 400 feet to the south. Ground disturbance associated with the proposed rehabilitation and construction of trail segments involves grading that will extend approximately 1 to 2 feet below surface.

Additionally, the large existing concrete box culvert under Sperry Avenue will be modified to accommodate both the bicycle and pedestrian protected undercrossing and the storm water flow in Salado Creek. The other road crossings will be built at-grade and will be designed to be high visibility. The existing culvert and the portion of Salado Creek near the culvert will be excavated approximately 5 to 6 feet deeper to accommodate the new trail. Other modifications to Salado Creek may be necessary but will be limited to the area within approximately 300 feet of the Sperry Avenue undercrossing and will not exceed 8 feet in depth.

Approximately 273 trees will be planted along the 6,500 feet of completed trail. A plant palette will be developed for all of the trees and plants within the footprint of the Project, with specific consideration given to carbon sequestration, inclusion of native species, pollinator habitat, low water use, and drought tolerance. The new trees will not exceed 15 gallons in initial planting size. An irrigation system will be designed from the non-potable water system. The Project will comply with the Model Water Efficient Landscape Ordinance (MWELO), all Governor Executive Orders, and local water ordinances. Planting the trees will require excavations measuring approximately 3 to 4 feet below surface.

Approximately 88 lights will be installed along the 6,500 feet of completed trail with an approximate 75-foot spacing between the lights. The lighting will be designed to current standards to maintain required foot-candles along the trail. A new electrical service, signing, and striping will also be included in the Project. Installing the light posts and excavating trenches for the electrical conduit will require excavations measuring approximately 3 to 4 feet below surface.

1.3 Description of Area of Potential Effects

The approximate 26-acre archaeological APE encompasses all areas where work will occur along American Eagle Road in the southern end of the Project and along the western side of Salado Creek between Cliff Swallow Drive and Shearwater Drive within the northern end of the Project. The horizontal extent of the APE measures approximately 1.34 miles (7,075 feet) north-south and approximately 300 feet east-west at its widest point. The horizontal parameters of the APE allow for any disturbance that may be associated with the movement and maneuvering of equipment during Project implementation, including construction staging areas. The vertical extent of the APE will extend up to a maximum depth of 8 feet below surface, with the deepest excavations proposed at the Sperry Avenue undercrossing; the vertical APE for the majority of the Project will extend to 4 feet below surface.

2.0 REGULATORY CONTEXT

The regulatory framework that mandates consideration of cultural resources in Project planning includes federal regulations as a Section 404 permit will be required from the USACE for this Project. Cultural resources include prehistoric and historic-period archaeological sites and objects, as well as extant historic structures, buildings, and locations of important historic events or sites of traditional and/or cultural importance to various groups. Archaeological or architectural resources may be determined significant under national, state, or local criteria. Since the Project is a federal undertaking as defined by Section 106 of the NHPA and its implementing regulations (36 CFR §800), the evaluation criteria used for evaluating resources in the APE is from the NRHP.

2.1 FEDERAL REGULATIONS

Section 106 of the National Historic Preservation Act (NHPA)

Section 106 of the NHPA (36 CFR §800) requires that projects undertaken by federal agencies (and/or federally funded projects or projects requiring federal approval) consider the effects of their actions on properties that may be eligible for listing or are listed in the NRHP. To determine whether an undertaking could affect NRHP-eligible properties, cultural resources (including archaeological and architectural properties) must be inventoried and evaluated for listing in the NRHP. Although compliance with Section 106 is the responsibility of the lead federal agency, in this case the USACE, others may undertake the work necessary to comply with Section 106. The Section 106 process entails four primary steps, listed below.

1. Initiation of consultation with consulting parties (36 CFR §800.3).
2. Identification and evaluation of historic properties within the APE (36 CFR §800.4).
3. Assessment of adverse effects on historic properties within the APE (36 CFR §800.5).
    - If there are historic properties that will be affected, consult with the California State Historic Preservation Officer (SHPO) regarding adverse effects on historic properties.
    - If there are no historic properties that will be affected, implementation of the project in accordance with the findings of no adverse effect shall proceed (36 CFR 36 §800.5[d][1]).
4. Resolution of adverse effects and proceeds in accordance with the Memorandum of Agreement (MOA), if determined appropriate (36 CFR §800.6).

NRHP Criteria for Evaluation

The significance of cultural resources is determined using the NRHP's four Criteria for Evaluation (Criteria A-D) per 36 CFR 60.4, which state that a historic property is any site, building, structure, or object that:

A. Is associated with events that made a significant contribution to the broad patterns of our history (Criterion A);

B. Is associated with the lives of persons significant to our past (Criterion B);

C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represents the work of a master, or that possesses high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction (Criterion C); and/or,

D. Has yielded, or may be likely to yield, information important in prehistory or history (Criterion D).

If the SHPO determines that a cultural resource is eligible for inclusion in the NRHP, then it is automatically eligible for the California Register of Historical Resources (CRHR). If a resource does not have the level of integrity necessitated by the NRHP, it may still be eligible for the CRHR, which allows for a lower level of integrity (see below).

NRHP Seven Aspects of Integrity

Cultural resources integrity is determined using the NRHP's seven aspects of integrity per 36 CFR 60.4, which state that a historic property must not only be shown to be significant under the NRHP criteria, but it also must retain historic integrity. The seven aspects of integrity include location, design, setting, materials, workmanship, feeling, and association. A property must meet one or more of the Criteria for Evaluation before a determination can be made about its integrity.

3.0 BACKGROUND

This section provides background information pertaining to the natural and cultural context of the APE. It situates the APE within the larger natural environment, which provided the resources that cultural groups utilized throughout the past. This section also provides an overview of regional prehistoric cultural history, local ethnography, and the post-contact history of the city of Patterson and informs the assessment of the archaeological sensitivity of the APE.

3.1 TOPOGRAPHY AND CLIMATE

The APE is located in the central San Joaquin Valley, approximately 4 miles southwest of the San Joaquin River. The San Joaquin Valley is formed by the Sierra Nevada range to the east, the Coast Ranges to the west, the Transverse Ranges to the south, and the Sacramento Valley and Delta region to the north. Relative to the foothills and ranges, the valley floor is very flat, changing only a few meters across the entire city of Patterson. While there is relatively little rainfall throughout the year, the Valley's main water source are a multitude of rivers fed by snow pack in the Sierra Nevada, each eventually join the San Joaquin River where it flows north into the delta and the San Francisco Bay. Summers are hot and dry; temperatures can reach over 100 degrees, as the Coast Ranges block the mollifying marine influences of the Pacific Ocean. Winters are mild, typically cool and rainy, and sometimes socked in by dense tule fog (Kauffman 2003).

3.2 PREHISTORY

The archaeological record of the Central Valley region represents the complex and intensive human occupation that took place well before the European explorers arrived in the eighteenth century. The area was occupied beginning early in prehistoric times as people settled in villages along the many lush and productive waterways that collected and flowed through the valley. In these villages, they created complex and sophisticated material cultures and developed extensive trading systems that stretched far into other regions. The environment they lived in was so productive that they were able to support a population growth that rivaled that of agricultural societies in the southwestern and southeastern United States, creating large mound sites throughout the valley (Rosenthal et al. 2007).

Archaeologists have been studying the cultural materials of the indigenous inhabitants of the San Joaquin Valley for more than a century, though intensive archaeological research in the region has waned since the 1980s. Archaeological studies were first undertaken in the San Joaquin Valley portion of the Central Valley through a series of anthropological expeditions funded by the University of California and the exploration of mounds in Kern Valley initiated by P. M. Jones in 1899 (Moratto 1984:174). However, by the late nineteenth century, any prehistoric sites had buried by heavy deposition and sedimentation rates and most of the mound sites had long since been destroyed by agricultural development, the construction of levees and irrigation systems, and natural erosion from rivers. A particular problem for archaeological research in the Central Valley is a lack of well-grounded chronologies for large segments of the valley that are able to accurately capture the diverse and complex archaeological record. Despite these issues, archaeological research throughout the Central Valley remains integral to the overall study of prehistoric California, as sites in the valley often serve as a proving ground for new theories, some of which have advanced new understanding of prehistoric populations throughout the state (Rosenthal et al. 2007).

Central Valley Chronology and Prehistory

The cultural chronology described by Rosenthal et al. (2007) for the Central Valley region incorporates a wide range of local and regional traditions throughout the Central Valley and is a modified version of the three basic chronological periods outlined by Fredrickson (1973, 1974): the Paleo-Indian, Archaic, and Emergent. The

Rosenthal et al. (2007) model, which was adjusted to incorporate new radiocarbon dates and modern calibration curves, is comprised of five chronological periods: Paleo-Indian (11,500–8550 cal B.C.), Lower Archaic (8550–5550 cal B.C.), Middle Archaic (5550–550 cal B.C.), Upper Archaic (550 cal B.C.–cal A.D. 1100), and Emergent (cal A.D. 1100–Historic). This section is based on the Rosenthal et al. 2007 model, unless otherwise noted.

Paleo-Indian Period (11,500 to 8550 cal B.C.)

Due to periodic episodes of erosion and deposition during the Holocene, large segments of the Late Pleistocene landscape have been destroyed and archaeological resources associated with this time period have either been destroyed along with the landforms or have been buried under centuries of alluvial deposits. Some of the earliest accepted evidence of human occupation from this time period are distinctive basally thinned and fluted projectile points that have been dated between 11,550 and 9550 cal B.C. As of 2007, early concave base points such as these had only been identified at three sites in the San Joaquin Valley: Tracy Lake, the Woolfsen mound (CA-MER-215), and the Tulare Lake basin.

Lower Archaic Period (8550 to 5550 cal B.C.)

At the end of the Pleistocene, significant climate change events caused new levels of soil deposition along the waterways and floodplains of the Central Valley beginning around 9050 cal B.C., creating a relatively clear marker between archaeological materials that predated the sedimentation and those that were deposited after. Like the previous period, the Lower Archaic is predominately represented by isolated finds such as stemmed projectile points, chipped stone crescents, and other flaked stone artifacts. Again, many such finds in the San Joaquin Valley were found near the Tulare Lake basin alongside early concave base points. The artifacts recovered from this period indicate that economies of the Lower Archaic Period were focused on hunting artiodactyls at valley floor sites and more recent discoveries in the Sierra Nevada and Coast Range foothills indicate that nut crops associated with expanding woodlands may have been a target of seasonal plant exploitation at seasonally occupied foothill sites. A second significant climate change event occurred at the beginning of the Middle Holocene around 5550 cal. B.C., which led to another cycle of widespread deposition along alluvial fans and floodplains and helped mark the end of the Lower Archaic Period in the archaeological record.

Middle Archaic Period (5550 to 550 cal B.C.)

The beginning of the Middle Archaic Period was marked by a warmer, drier climate in the Central Valley. Tulare Lake and other western lakes shrunk in size and eventually dried up while at the same time alluvial fans and floodplains stabilized and new wetland environments developed in the Sacramento-San Joaquin Delta due to rising sea levels. Distinct settlement-subsistence adaptations were adopted during this period within the foothills and the valley floor. Archaeological sites in the foothill tradition dating to the Middle Archaic Period are relatively common and the majority of the artifact assemblages consist of utilitarian flaked and ground stone tools used in food procurement and processing. Archaeological sites in the valley tradition dating to the beginning of the Middle Archaic Period are uncommon but sites dating to the later portions of the Middle Archaic (post-cal 2550 B.C.) are comparatively well represented in the northern San Joaquin Valley. These later sites contain complex and diverse artifact assemblages which include mortars, pestles, fishing technologies, baked clay objects, obsidian, shell beads and other personal adornments, and faunal remains, reflecting an emerging adaptive pattern of logistically organized subsistence practices and increased residential stability along major waterways. The Windmiller Pattern, a Middle Archaic expression, arose in San Joaquin Valley sites, particularly those located along freshwater marshes and riparian environments along the Mokelumne and Cosumnes rivers in the delta region.

Upper Archaic Period (550 cal B.C. to cal A.D. 1100)

A climatic change to a cooler, wetter, and increasingly stable environment marked the start of the Upper Archaic Period that resulted in the renewal of many western lakes, greater freshwater flows in the San Joaquin watershed, and renewed alluvial fan and floodplain soil deposition and formation. During this period, cultural diversity flourished and many specialized technologies were developed including new types of bone tools, shell bead manufacturing, obsidian roughouts and ceremonial blades, and ground stone plummets. While economies varied regionally, the lower foothill woodlands of the San Joaquin Valley appear to have functioned as a boundary area. On the western margin of the San Joaquin Valley, several discrete cemeteries with either extended or flexed burials dating to this period have been identified at multiple sites such as CA-CCO-696, CA-MER-3, and CA-MER-94 and likely represent alternating occupation by groups from the valley and the adjacent Coast Ranges. Inhabitants of the San Joaquin Valley continued to utilize significant amounts of obsidian obtained from the eastern Sierra Nevadas and subsistence practices were focused on resources that could be harvested and processed in bulk such as acorns, fish, shellfish, rabbits, and deer.

Emergent Period (cal A.D. 1100 to Historic)

The archaeological record of the Emergent Period is the most substantial and the best represented of all the periods, though research in the San Joaquin Valley has resulted in relatively few Emergent Period components or phases. After approximately cal A.D. 1000, many older technologies and cultural traditions disappeared and were replaced with those that persisted to the time of European contact. Bow and arrow technology was introduced during this period and replaced the previously favored dart and atlatl between A.D. 1000 and 1300. More complex social forms developed, represented by stratified burial practices, and villages and smaller residential communities were established in the San Joaquin Valley along river channels, sloughs, and side streams in the foothills.

The Emergent Period has been divided up into two broad phases: the Lower Emergent Period, marked by the introduction of banjo-type *Haliotis* shell bead ornaments, and the Upper Emergent Period, marked by the introduction of smaller corner-notched and desert series arrow point types, new shell bead manufacturing technologies, magnesite cylinders, hopper mortars, and village sites with associated house pits. In Stanislaus, Merced, and Fresno counties, older arrow point styles are uncommon but by approximately A.D. 1500, the Panoche side-notched point, a variant of the desert side-notched point, was used on the western side of the San Joaquin Valley. In general, the Emergent Period saw an increase in the importance of fishing and plant harvesting. There was also a decentralization of shell bead production within the Upper Emergent Period; clam shell disk beads were widely used and manufactured, particularly within the Sacramento Valley to the north, and may represent a more monetized system of exchange.

3.3 ETHNOGRAPHY

The Yokuts comprised approximately 60 tribelets, each with a few hundred to several thousand members, living throughout the San Joaquin Valley. The tribelets established permanent villages near perennial waterways and subsisted on the rich and diverse flora and fauna found in the environment through fishing, hunting, fowling, and intensive plant collecting (Moratto 1984). The San Joaquin River, and the myriad sloughs and channels that branch from it, was the center of the Northern Yokut territory, representing the northern portion of the Yokut territory that encompassed an estimated population of 31,400 at the time of European contact (Wallace 1978).

Linguistic research regarding the Northern Valley Yokuts suggests that the Yokut people immigrated to the northern San Joaquin Valley relatively recently in prehistory. The Numic-speaking Monache tribe from east of the Sierra Nevada began to enter the San Joaquin Valley, pushing Yokut tribes north up the San Joaquin and Kings

rivers. This migration, which likely occurred over a number of centuries, greatly expanded the Yokuts' territory. When the Spaniards first arrived in the valley, they found a population that had flourished, many Northern Valley Yokut villages having been described as being well-stocked with both food and people. The population, however, was not evenly distributed across the valley but instead clustered along the San Joaquin River and its many tributaries (Wallace 1978).

Early travelers and missionaries unfortunately recorded few details of Northern Valley Yokut culture, but what was recorded has been corroborated by the archaeological record. Oval-shaped, tule mat covered dwellings were seen built along the shores of rivers and sloughs in addition to large, earth-covered sweathouses and earth-covered ceremonial assembly chambers (Moratto 1984; Wallace 1978). The earthen ceremonial lodge among the Northern Valley Yokuts may represent a temporary involvement in a specialized cult system that has also been seen among other indigenous groups in California. Early explorers also described tule boats and worn foot paths that cut across the prairie and along the waterways that the Northern Valley Yokuts used to trade with the Salinan in the mountains of the Coast Range, the Costanoan near Monterey Bay, and the Miwok to the east (Wallace 1978).

The name of the specific tribelet that inhabited the region near the APE is unknown. The *Lakisamne* occupied the lower valley of the Stanislaus River, located approximately 9.77 miles north of the APE, and the *Coconoon* people occupied the lower valley of the Merced River, located approximately 11.74 miles southeast of the APE, though these populations may have represented a more recent conglomeration of smaller tribelets (Wallace 1978). A headman likely guided the tribe, with a second tribal office held by a messenger, and visitors were often treated with lavish displays of hospitality. Smaller communities of two or three houses unassociated with a larger settlement also existed. Villages and communities were often built on low mounds or terraces near large waterways, elevated out of the seasonal floodplain, though flooding was a primary threat to permanent residences (Moratto 1984; Wallace 1978).

As a result of exploration and Spanish colonial expansion into the Delta and lower San Joaquin Valley in the 1770s, Yokut populations were reduced and their settlement patterns were disrupted (Moratto 1984; Wallace 1978). At first, the Yokuts reportedly greeted Spanish soldiers or Franciscan padres warmly but beginning around 1805, as more people were drawn into the mission system and local populations began to diminish, the Franciscan padres began to forcefully proselytize among the tribes located farther inland and tensions grew. Spanish soldiers began to pursue runaway neophytes, many of whom were likely forced against their will into the missions, and the Yokuts began to launch raiding parties on Franciscan cattle herds and horses. Serval exploration expeditions were launched by the Franciscans to attempt to identify a location for a new inland mission to help quell hostilities in the region, but they were never able to establish a new mission in the Central Valley (Wallace 1978).

An epidemic disease, likely malaria, began to spread in 1833 and had an even more devastating impact on the Yokut people, reducing the population in some places by as much as 75 percent by 1846 and destroying entire communities. The traditional lifeways of the Yokut people was further destroyed by the influx of Americans beginning in 1848; while there was no gold to be had in the San Joaquin Valley, thousands of prospectors passed through it and the rich soil soon attracted farmers, who forced off or killed many indigenous peoples who remained on the land (Moratto 1984; Wallace 1978). All of these factors contributed to a distinct lack of ethnographic information regarding the Northern Valley Yokuts. By the time that intensive academic study of indigenous populations began in California, few of the native groups that made up the Northern Valley Yokuts remained and those which survived had scant information to share regarding their traditional lifeways (Wallace 1978). Today, descendants of the Northern Valley Yokut continue to live in and around the San Joaquin Valley and despite more than a century of adversity, they continue to engage in traditional cultural practices and advocate for the preservation of their heritage.

3.4 HISTORY

The City of Patterson traces its roots to the measuring of the *Rancho Del Puerto* Mexican Land Grant in 1844 (City of Patterson 2020). The acreage stretched east of present-day SR 33 to the San Joaquin River, north to the Del Puerto Creek, and south to current day Marshall Road. The name Rancho Del Puerto was still visible on the 1919 USGS map, designating a large swath of land to the east of the city of Patterson at that time. Rancho Del Puerto was granted to Mariano and Pedro Hernandez by California Governor Manuel Micheltoreno on January 30, 1844.

The land that would come to be the city of Patterson, just to the west of SR 33, was claimed by Samuel G. Reed and Ruben S. Wade on January 7, 1855, though it wasn't until 1864 that President Lincoln signed a patent encompassing 13,340 acres and the claim was made official. Reed and Wade then sold the grant to J. O. Eldredge in 1866 for a sum of $5,000. In turn, Eldredge sold the land title to John D. Patterson just two months later for $5,400. Patterson would continue to purchase surrounding land until his death in 1902, at which point a total of 18,462 acres were willed to his sons, Thomas and William Patterson, as well as his estate executors and other heirs who sold some of the land to the family company, Patterson Ranch Company, in 1908 for $540,000 cash gold coin (City of Patterson 2020).

Thomas Patterson went on to subdivide the land into ranches of varying sizes and plotted the town of Patterson which he modeled after the distinct city plans of Washington D.C. and Paris, France—both of which make use of circular city centers with radiating streets. The Patterson Colony map was filed with the Stanislaus County Recorders office in December 1909 and sales of ranch properties and city commercial lots commenced (City of Patterson 2020). At the center of the circular streets, Patterson built one of the town's first buildings, the Patterson Ranch Company Office, in 1910. It still stands today and is used as the Patterson Township Historical Society's museum (Patterson Township Historical Society 2020).

In 1910, the Patterson Ranch Company also began construction on the Patterson Lift Irrigation System (P-50-002179), located approximately 0.17 mile northeast of the APE. The Patterson Lift Irrigation System was unique among the canals being constructed in Central Valley at that time in that it was recorded in the 1910 issue of *The Engineering Record* as being one of the largest lift systems of its type constructed in California if not the whole western United States (Baloian 2014). An informational bulletin, *Economical Irrigation by Pumping* seems to have confirmed this in a 1912 publication where they cited the Patterson lift system as the sole example of this type of irrigation method (American Well Works 1912:9). Additionally, the use of concrete in the general canal construction seems to have been extraordinarily innovative for the time according to the June 1916 issue of *The Cement Era* (Enright 1916:54). The segment of Salado Creek located within the APE is not considered to be a part of the Patterson Lift Irrigation System, but may have been built around the same time given its intersection with a segment of the Patterson Lift Irrigation System.

The City of Patterson incorporated on December 22, 1919 and was the third official city in Stanislaus County (City of Patterson 2020). A genealogy retrospective conducted by Patterson's local newspaper, *The Gateway*, in 1984 states that, of the families who resided in Patterson in the 1930s, a third of the population was of Portuguese heritage and were a large part of establishing city-wide celebrations such as an annual Fest of the Holy Ghost. The other two noted ethnicities were Scandinavians and Scotch-Irish-English (*The Gateway* 1984). Today, the city of Patterson is a rural town whose primary economic base is their orchards and row crops. In particular, they are the self-proclaimed apricot capital of the world and their largest celebration of the year is the Apricot Fiesta, held annually the first weekend in June (City of Patterson 2020).

4.0 SOURCES CONSULTED

In order to complete the identification of archaeological resources within the APE for the proposed Project, GANDA completed background research, including a records search at the CCaIC, a review of historic maps, consultation with a local historical society, and a desktop geoarchaeological analysis. Native American consultation will be conducted by the lead agency, the USACE. The methodology and results of the background research are presented below.

4.1 RECORDS SEARCH

Records Search Methods

On April 10, 2020, CCIC Coordinator Elizabeth A. Greathouse conducted a records search at the CCIC of CHRIS, housed at California State University, Stanislaus, Turlock (File No. 11358N). The CCIC is a repository of all cultural resources site records, previously conducted cultural resources investigations, and information concerning cultural resources for seven counties including Stanislaus County. The purpose of this records search was to compile information pertaining to the locations of previously recorded cultural resources and prior cultural resources studies within a 0.25-mile radius of the APE that inform the cultural resources sensitivity of the APE. The following sources were consulted during the records search:

- CCIC base map: USGS's 7.5-minute series topographic quadrangles of *Patterson, California* (1978).
- Survey reports from previous cultural resources investigations and cultural resources site records to identify recorded archaeological and built environmental resources (i.e., buildings, structures, and objects) located within a 0.25-mile radius of the APE.
- OHP sources, including the California Inventory of Historic Resources (1976), California Archaeological Determinations of Eligibility (2012a), and the Historic Properties Directory (2012b), which combines cultural resources listed as California Points of Historical Interest and California Historical Landmarks and those that are listed in or determined eligible for listing in the NRHP or the CRHR.

Records Search Results

The records search indicated that three cultural resources investigations have been previously completed within the APE: Jordan 2015; Napton 1996; and Peak & Associates, Inc. 1993. The investigations each crossed through the APE along various crossroads; a survey was conducted for the Peak & Associates, Inc. 1993 and Napton 1996 investigations, but not for the Jordan 2015 cultural resource constraints analysis. No previously recorded cultural resources were identified within the APE. However, two cultural resources, P-50-002208 and P-50-002179, are located within a 0.25-mile radius of the APE, and are described below. Both resources consist of a historic-era canal located approximately 0.17 mile (920 feet) northeast of the APE.

P-50-002179 (Patterson Lift Irrigation System)

Built in 1910, the Patterson Lift Irrigation System comprises a 3.25-mile channel called the Bulk Chanel with 10 lateral distribution canals that stretch another 35 linear miles. It was originally constructed in 1910 by the Patterson Ranch Company as an essential part of the Patterson Colony, an 18,000-acre agricultural subdivision. The laterals were completed in later years but surveys show they were built in a single construction episode. The Patterson Lift Irrigation System is not eligible for listing in the NRHP (Baloian 2014).

P-50-002208/CA-STA-442H (Patterson Irrigation District Lateral M)

Patterson Irrigation District (PID) Lateral M is one of 13 concrete-lined canals that comprise the PID in and around the city of Patterson. It originates at the headgates at the PID Main Canal adjacent to SR 33 then travels in a northwestern direction toward northwest Patterson. It travels underground in a suburban residential section of the city before resurfacing at Ward Avenue and following a curving route to end just north of Sequoia Avenue. The canal was initially constructed in 1911 by the Patterson Water Company. Construction between 1957 and 1971 moved the canal underground from Sperry Avenue to Ward Avenue and, between 1971 to the 1980s, Reservoir Station 6 was removed. Finally, in 1999, automation was added to the PID. This resource was recommended as ineligible for listing in the NRHP and CRHR, assigned NRHP Status Code "6Z" (Brookshear and Skow 2016).

4.2 HISTORIC MAP REVIEW

GANDA Archaeologist Laura Fies, M.A., reviewed historic maps illustrating features such as towns, buildings, roads, railways, and waterways in order to provide additional information to assess the sensitivity for the presence of historic-period cultural resources within the APE. Historic maps are available at numerous repositories, including the USGS historical topographic map collection, the David Rumsey Historical Map Collection, and ProQuest's Digital Sanborn Maps (1867–1970). The following sources were consulted during the historic map review:

- *Map of the County of Stanislaus* (Carlton 1906);
- *Irrigation Map of the San Joaquin Valley, California* (Hammond 1886);
- *Patterson, California*, 7.5-minute topographic quadrangle (USGS 1978);
- *Orestimba, California*, 15-minute topographic quadrangle (USGS 1919, 1940); and,
- *Stanislaus Public Assessor Inquiry, Parcel Assessments* (Stanislaus County 2020).

Historic Map Review Results

The review of historic maps indicates that by 1906, the Patterson and Western Lateral Southern Pacific Railroad (SPRR) line was built along the north-south route of the current SR 33 and a road was built along the modern alignment of Sperry Avenue, with Salado Creek crossing beneath the road presumably through some culvert structure (USGS 1906). By 1919, the city of Patterson's downtown, including its distinct central roundabout, was established approximately 0.95-mile east of the APE, just west of the SPRR tracks, and the PID systems of canals (P-50-002179 and P-50-002208) had been constructed, including the Lateral M canal along the APE route. At that time, Salado Creek was also channelized essentially along its modern route through the APE (USGS 1919). By 1940, the SPRR branch along Sperry Avenue had been dismantled within the vicinity of the APE and orchards were established west of the APE's southern end (USGS 1940). By 1978, the orchards were expanded to the encompass the entire western side and southeastern end of the APE (USGS 1978). The city plan, however, remained little changed through 1978 (USGS 1978).

Between 1998 and 2005, aerial photographs indicate that Sperry Avenue was expanded from two lanes to four lanes with a median strip built between the east- and west-bound lanes (National Environmental Title Research [NETR] 1998, 2005). At that time, the existing culvert along Salado Creek at Sperry Avenue was constructed. The residential neighborhoods currently framing the APE north of Sperry Avenue were also built between 1998 and 2005, and the residential neighborhoods located within and adjacent to the APE south of Sperry Avenue were constructed between 2005 and 2009 (NETR 2005, 2009; Stanislaus County 2020). The APE was essentially fully developed into its modern configuration at that time.

4.3 GEOARCHAEOLOGICAL ANALYSIS

A geoarchaeological analysis consists of reviewing geology and landscape maps, soil surveys, and topographical maps to better understand the natural processes that have created the existing landscape and landforms (e.g., hills, valleys, and stream channels) that encompass and surround the APE. The analysis enables the archaeologist to better understand the age of the landform, how the landform was formed and changed over time, where the natural sediments originated from that were deposited, and how long soils have been forming in the area. Furthermore, the information gleaned from the analysis is used to model the potential for surface and buried archaeological deposits and the potential for preservation of such deposits.

The APE is underlain by marine and nonmarine sedimentary rocks (Appendix A, Figure 5) consisting of Holocene-age Great Valley Fan deposits (Qf) (Rogers 1966). The soils within the APE are mapped by the United States Department of Agriculture, Natural Resources Conservation Service (NRCS) as Vernalis loam, 0 to 2 percent slopes, throughout the majority of the APE with Capay clay, 0 percent slopes, located within the northernmost extent of the APE and Stomar clay loam, 0 to 2 percent slopes, located within a small portion of the southwestern extent of the APE, west of Salado Creek (Appendix A, Figure 6). The soils are typically formed in alluvial fans and along foot-slopes and function as prime farmland if irrigated (NRCS 2020), supporting both the extensive agricultural use of the APE in addition to the development of large-scale irrigation projects such as the Patterson Lift Irrigation System within the vicinity of the APE.

A previous geoarchaeological analysis conducted by Far Western Anthropological Research Group, Inc. indicates that the deposits underlying the APE date back specifically to the Late Pleistocene to Early Holocene (130,000 to 7,000 cal BP) (Rosenthal and Meyer 2004). Though alluvial soils typically indicate a higher sensitivity for the presence of surface and buried archaeological deposits in intact native soils, the relatively older age of the soils underlying the APE significantly reduce this potential. Additionally, the amount of previous ground disturbance associated with the historic and modern agricultural activities prevalent throughout the APE, the initial channelization of Salado Creek within the APE, and the more recent residential development further support a low potential for encountering intact surface or buried archaeological deposits within the APE.

4.4 NATIVE AMERICAN CONSULTATION

The USACE, the lead agency for the Project, is responsible for conducting tribal outreach and will contact the Native American Heritage Commission (NAHC) as well as individuals and tribal groups identified by the NAHC in order to initiate consultation.

4.5 HISTORIC SOCIETY CONSULTATION

On April 28, 2020, GANDA Archaeologist Robin Fies, M.A., mailed consultation letters to the Patterson Township Historical Society with a request for information regarding significant cultural resources located within or near the APE and concerns about the proposed Project. No response has been received to date. A copy of the correspondence with the organization is presented in Appendix B.

5.0 FIELD METHODS

GANDA Archaeologist Chase Young, B.A., conducted a pedestrian survey of the APE in an effort to identify any historic features and to assess the archaeological sensitivity within the APE, in accordance with 36 CFR Part 800.4. The methods and results of the field survey are presented below.

5.1 FIELD SURVEY METHODS

On April 28, 2020, C. Young conducted a pedestrian survey of the APE. Transects were spaced at or less than 10-meter intervals running north to south along the Project alignment. During the survey, all visible soil and graveled surfaces were inspected for the presence of archaeological resources (Appendix A, Figure 6). The survey area was a heavily modified landscape, with most of the ground surface either paved over, overgrown with vegetation, or landscaped with sod or woodchips. Visible ground surface included short lengths of soil along sporadic sections of the APE lining Salado Creek with the exception being a stretch of visible surface soil south of Sperry Avenue. Photographs of the pedestrian survey of the APE are presented in Appendix C.

5.2 FIELD SURVEY RESULTS

The visible ground surface of the APE is comprised of disturbed fill mostly consisting of a pale brown silty sand. The majority of the vegetation within the APE consists of tall grasses except for the areas that had landscaped, sowed grass. No prehistoric archaeological resources were observed within the APE during the field survey. Fragments of modern glass and other modern refuse were noted.

The segment of Salado Creek within the APE was formally recorded on DPR 523 series forms (see Appendix D). The proposed modifications to the culvert at Sperry Avenue planned for this Project will impact Salado Creek. However, the portion of Salado Creek running beneath Sperry Avenue was likely altered between 1998 and 2005, when aerial photographs indicate that Sperry Avenue was expanded from two lanes to four lanes and at which time the culvert running beneath Sperry Avenue was presumably modified to accommodate the widened road (NETR 1998, 2005). During the same period of time, between 1998 and 2005, the culvert at Cliff Swallow Drive was constructed in its modern configuration (NETR 1998, 2005). The rest of the creek segment remained essentially unchanged from its original construction. The channelized portion of Salado Creek that occurs within the APE measures approximately 35 feet wide at the top of the channel and approximately 15 feet wide at the base of the channel by approximately 3 feet deep. It has sloping sides that are roughly "U"-shaped in profile. It appears to have been constructed/mechanically excavated sometime between 1910 and 1919. The channelized portion extends outside of the APE to the north and south, and only the segment within the APE is recorded here.

In 1910, construction began on the Patterson Lift Irrigation System (P-50-002179), located approximately 0.17-mile northeast of the APE and the northern extent of this Salado Creek segment. The Patterson Lift Irrigation System was unique among the canals being constructed in Central Valley at that time in that it was recorded in the 1910 issue of The Engineering Record as being one of the largest lift systems of its type constructed in California if not the whole western United States (Baloian 2014). This segment of Salado Creek is not considered to be a part of the Patterson Lift Irrigation System, but may have been channelized around the same time given its intersection with a segment of the Patterson Lift Irrigation System.

Salado Creek flows from the Diablo Mountain Range to the San Joaquin River. South of the segment of the creek recorded here, at the base of the Diablo Range, Salado Creek flows through an American Viticultural Area (AVA), the Salado Creek AVA. As it flows out of the Diablo Range and into the San Joaquin Valley, the flow of Salado Creek slows considerably, depositing heavier, coarser alluvial material at the foothills of the Diablo Range. This deposition forms a deep, well-drained soil unique to the western San Joaquin Valley and creates an environment

well suited for vineyards and orchards. The soil, in conjunction with the dry, hot weather typical of the San Joaquin Valley balanced by a cooling influence from the Sacramento Delta to the north helps produce grapes for wines that are typically riper with more "stewed-fruit" flavor than wines made in the more coastal regions of California (Wine-Searcher 2018). However, the Salado Creek AVA is not the historical context of the segment of Salado Creek observed within the APE which instead served as general irrigation for the surrounding agricultural fields and orchards until the development of the adjacent residential neighborhoods between 1998 and 2009 (NETR 1998, 2005).

The segment of Salado Creek within the APE does not appear eligible for inclusion in the NRHP based on the four criteria outlined in 36 CFR 60.4. The creek segment cannot be associated with events that contributed to broad patterns of American history (Criterion A). The creek segment cannot be associated with the lives of significant persons, and there is no indication that channelizing Salado Creek was implemented by a person of note, or that any persons significant to American history resided along or utilized the segment of Salado Creek within the APE (Criterion B). The creek segment does not embody the distinctive characteristics of design that would distinguish it from any of the other hundreds of channelized creeks running through the region (Criterion C). Finally, the creek segment does not have potential to yield information important to prehistory or history (Criterion D). Therefore, the channelized segment of Salado Creek within the APE is recommended ineligible for inclusion in the NRHP under all criteria.

Additionally, the segment of Salado Creek within the APE does not meet the NRHP's seven aspects of integrity per 36 CFR 60.4 as the channelized creek has not retained historic integrity, particularly due to the expansion of the Sperry Avenue overcrossing and culvert and the construction of the culvert at Cliff Swallow Drive between 1998 and 2005 (NETR 1998, 2005). Another factor is the change in use from agricultural irrigation to a residential water feature, a shift which began in 1998 with the construction of the residential neighborhoods adjacent to the creek segment.

No additional historic-period resources were observed within the APE during the pedestrian survey.

6.0 STUDY FINDINGS AND CONCLUSIONS

Based on a review of historic maps and aerial photographs, the channelized segment of Salado Creek within the APE, was identified as a historic-period resource and will be impacted by the proposed Project at its intersection with Sperry Avenue due proposed modifications to the existing culvert structure. However, the creek segment is recommended ineligible for inclusion in the NRHP. No additional historic-period resources were identified within the APE during the investigation.

The archaeological resources investigation did not result in the identification of any newly or previously documented prehistoric archaeological resources within the APE. Geoarchaeological analysis indicates a relatively low potential to encounter buried prehistoric resources due to the old age of the soils underlying the APE and the amount of previous ground disturbance associated with the historic and modern agricultural activities prevalent throughout the APE. There is likely very limited amounts of intact native soils that have sensitivity for prehistoric deposits.

It is therefore recommended that a finding of no adverse effect for historic properties is appropriate for this undertaking. No further identification efforts or cultural resources investigations are necessary.

6.1 INADVERTENT DISCOVERY

If there is an unanticipated discovery of archaeological deposits or remains during Project implementation, construction crews shall stop all work within 100 feet of the discovery until a qualified archaeologist can assess the discovery and provide recommendations. Resources could include buried historic features such as artifact deposits and concentrations of ceramic, glass, or metal materials. Native American archaeological materials could include obsidian and chert flaked stone tools (such as projectile points and knives), midden (darkened soil created from decomposing organic materials and containing fire-affected rock, artifacts, animal bones, or shellfish remains), and/or groundstone implements (such as mortars and pestles).

Encountering Human Remains

While the possibility is low, there remains a chance of encountering human remains either in association with prehistoric occupation sites or separately. Section 7050.5 of the California Health and Safety Code states that it is a misdemeanor to knowingly disturb a human burial and Section 5097.99 of the Public Resources Code defines the obtaining or possession of Native American remains or grave goods to be a felony. If human remains are encountered as a result of construction activities, any work in the vicinity shall stop and the Stanislaus County Coroner shall be contacted immediately. In addition, a qualified archaeologist shall be contacted immediately to evaluate the discovery if a cultural resources monitor is not already present. If the human remains are Native American in origin, then the coroner must notify the NAHC within 24 hours of this identification.

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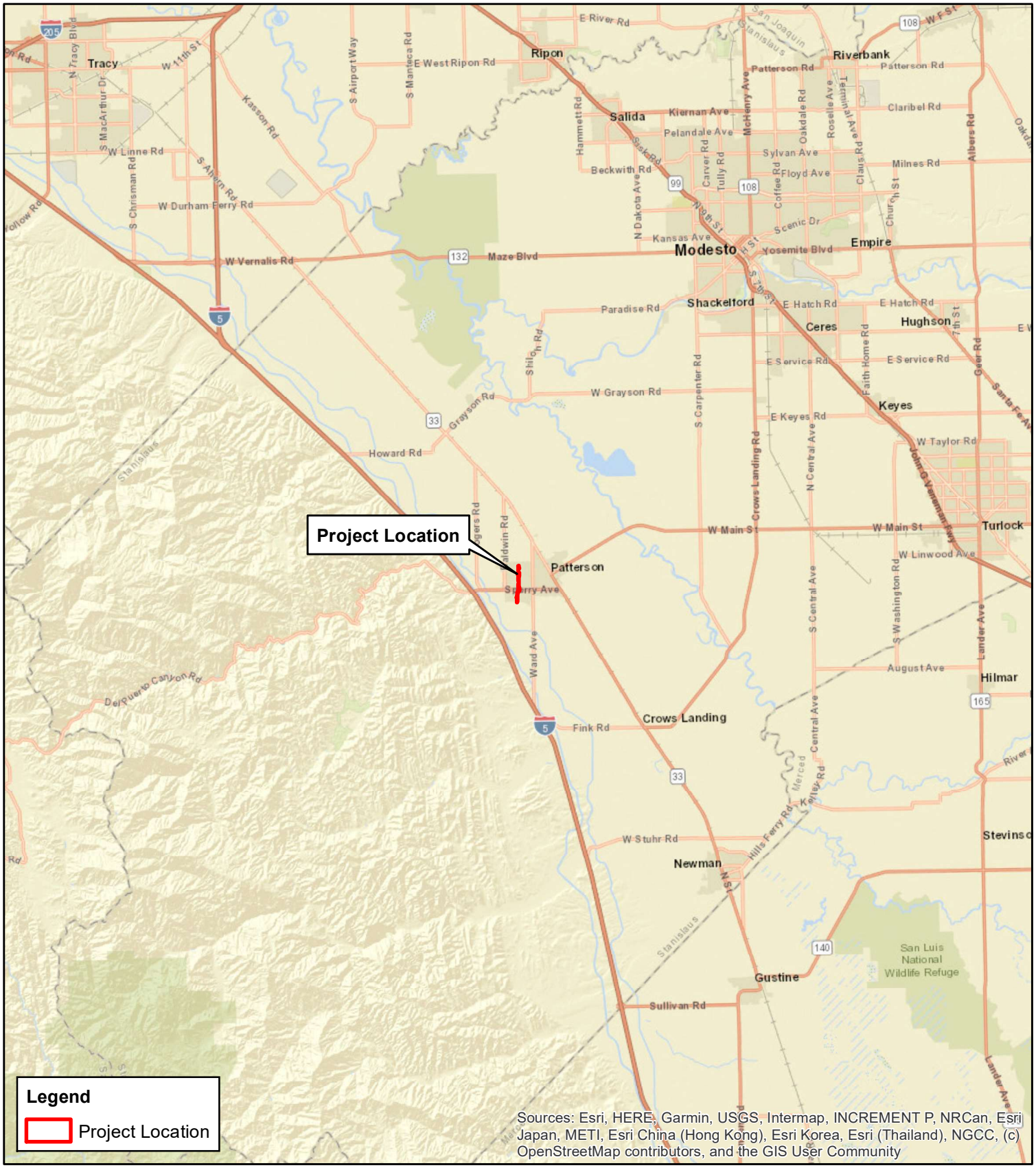
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APPENDIX A: PROJECT MAPS

Figure 1. Project Vicinity Map
Figure 2. Project Location Map
Figure 3. Area of Potential Effects (APE) Map
Figure 4. Previously Recorded Cultural Resources Map
Figure 5. Underlying Geology Map
Figure 6. Underlying Soils Map
Figure 7. Survey Coverage Map



USGS 7.5' Quad:
Patterson (1978)

Legal Description:
T5S, R7E, Sections 25 and 36

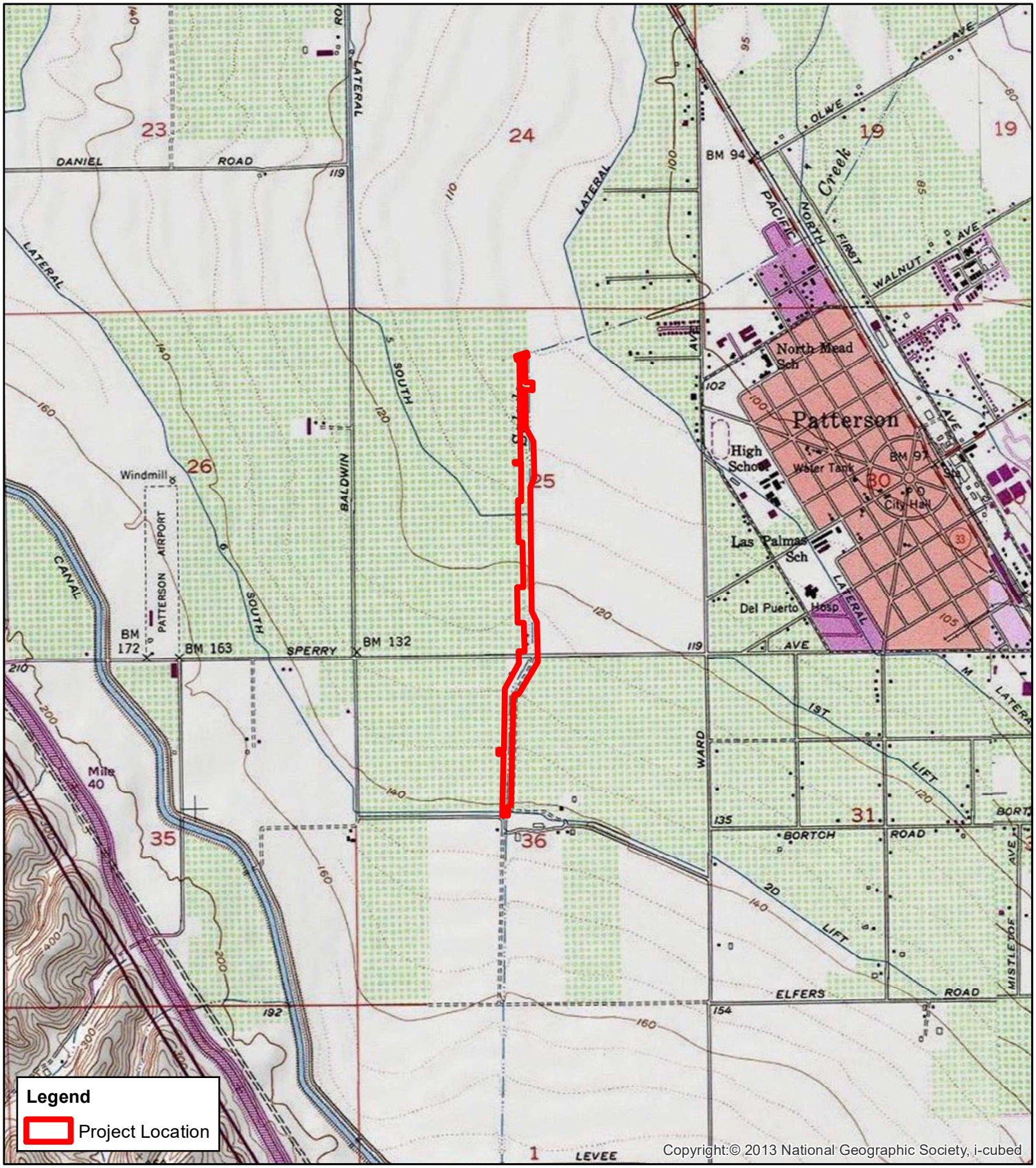
GANDA

Scale 1:300,000

Figure 1. Vicinity Map
City of Patterson
Bicycle Trail
Patterson, Stanislaus County
California

0 2 4 Miles

N





USGS 7.5' Quad:
Patterson (1978)

Legal Description:
T5S, R7E, Sections 25 and 36

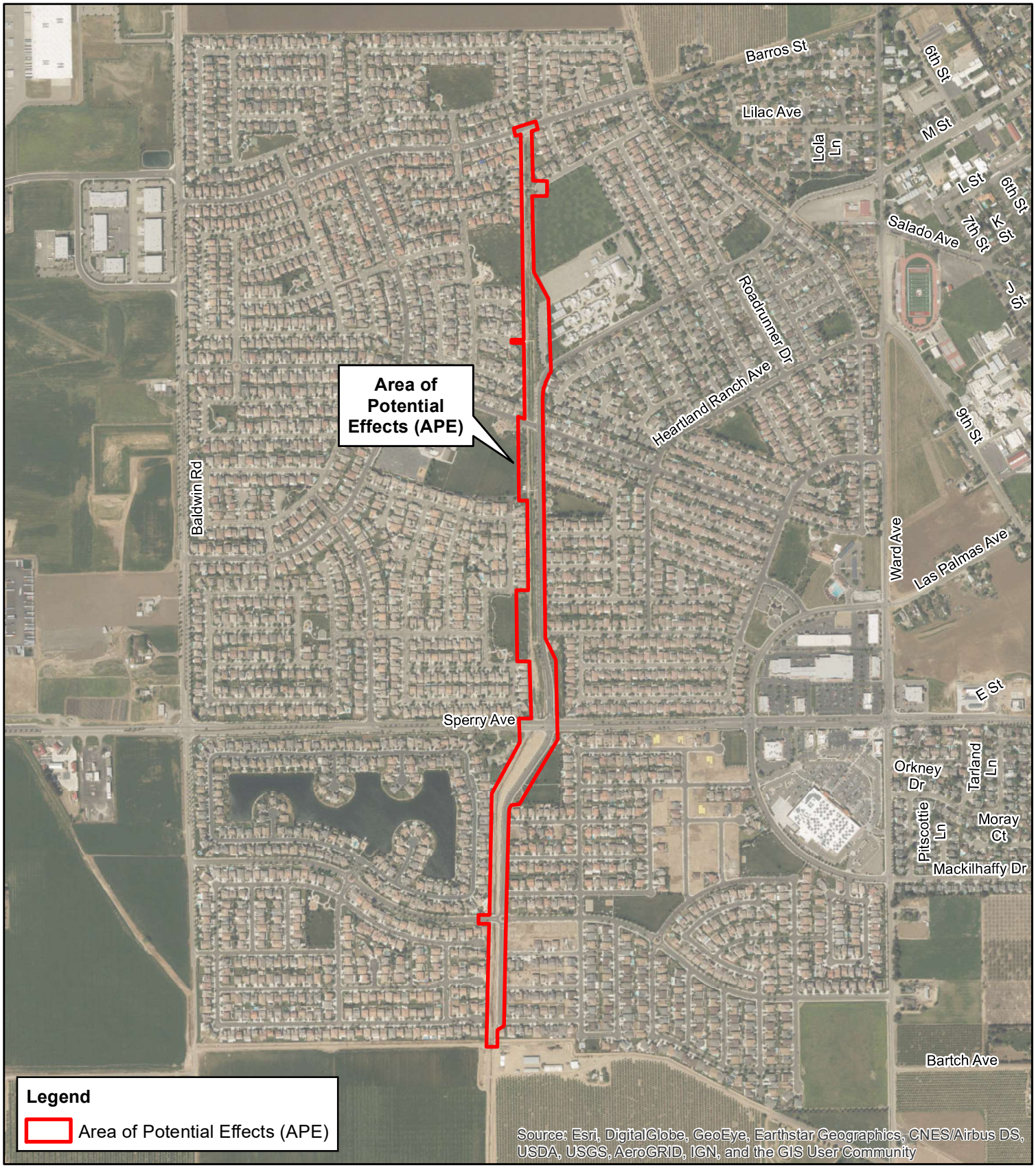
GANDA

Scale 1:24,000
1 Inch = 2,000 Feet

Figure 2. Project Location Map
City of Patterson
Bicycle Trail
Patterson, Stanislaus County
California

0 1,000 2,000 Feet

N





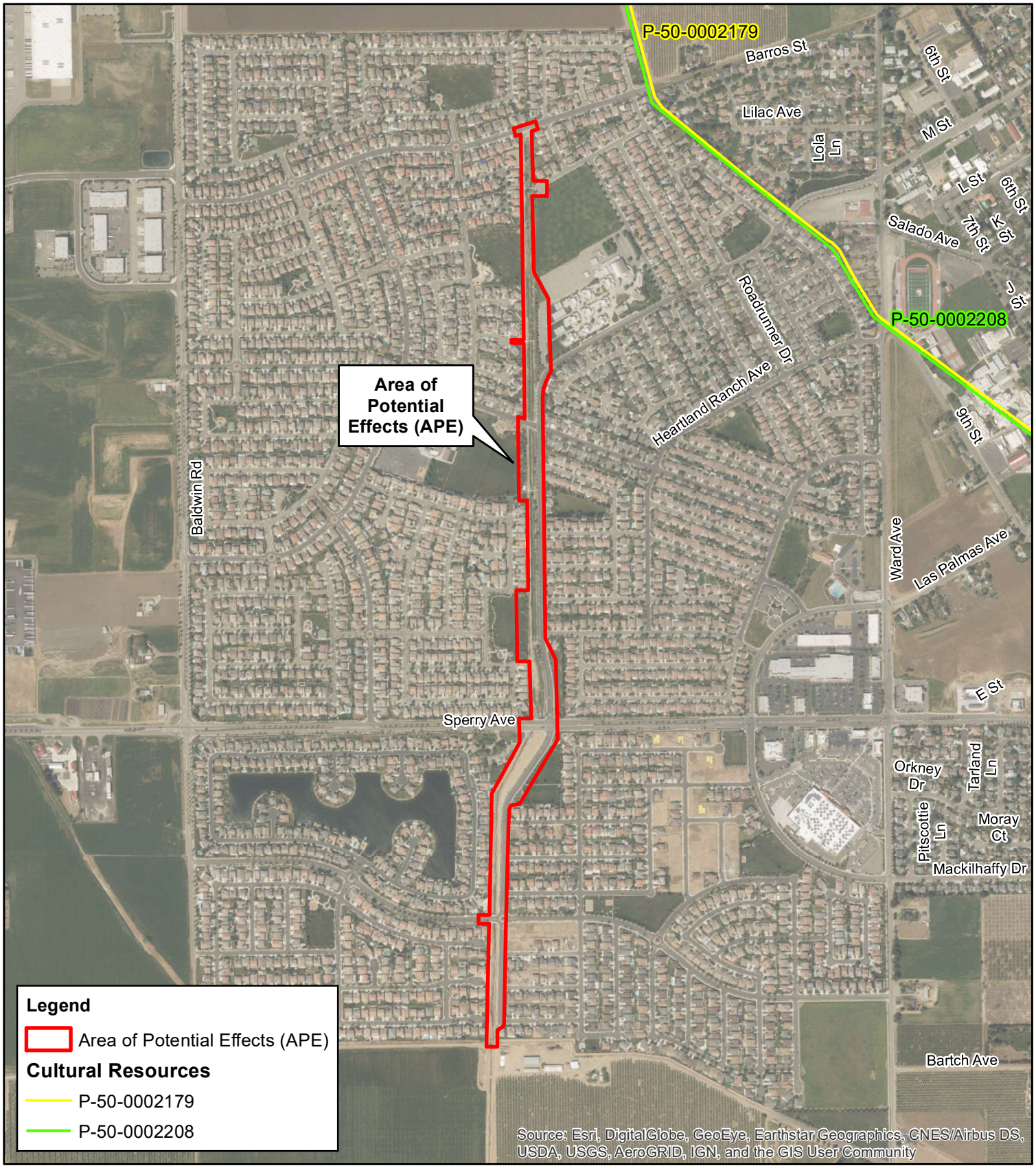
GANDA

Scale 1:12,000
1 Inch = 1,000 Feet

Figure 3.
Area of Potential Effects Map
City of Patterson
Bicycle Trail
Patterson, Stanislaus County
California

0 500 1,000 Feet

N





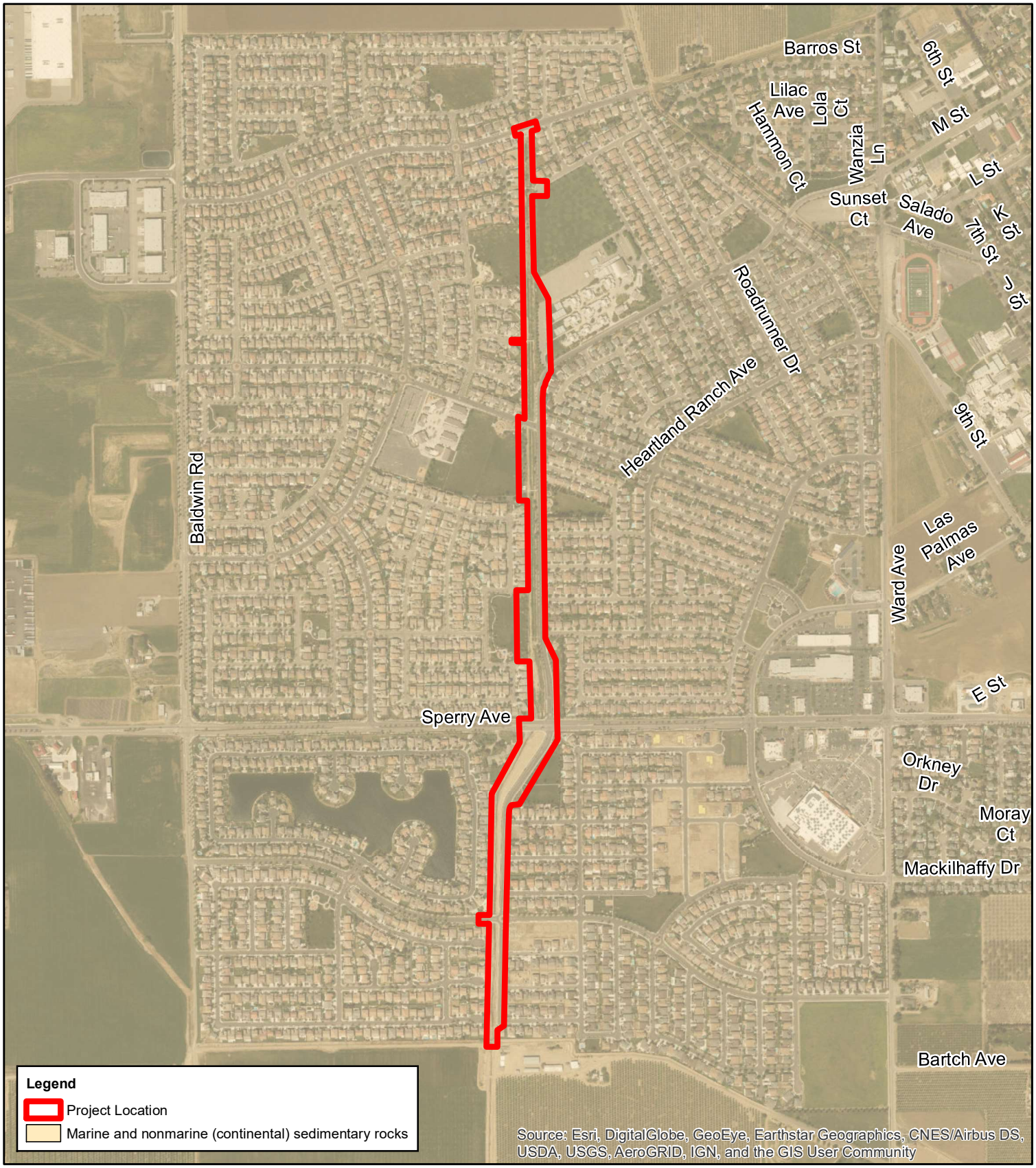
GANDA

Scale 1:12,000
1 Inch = 1,000 Feet

Figure 4. Previously Recorded Cultural Resources Map
City of Patterson
Bicycle Trail
Patterson, Stanislaus County
California

0 500 1,000 Feet

N





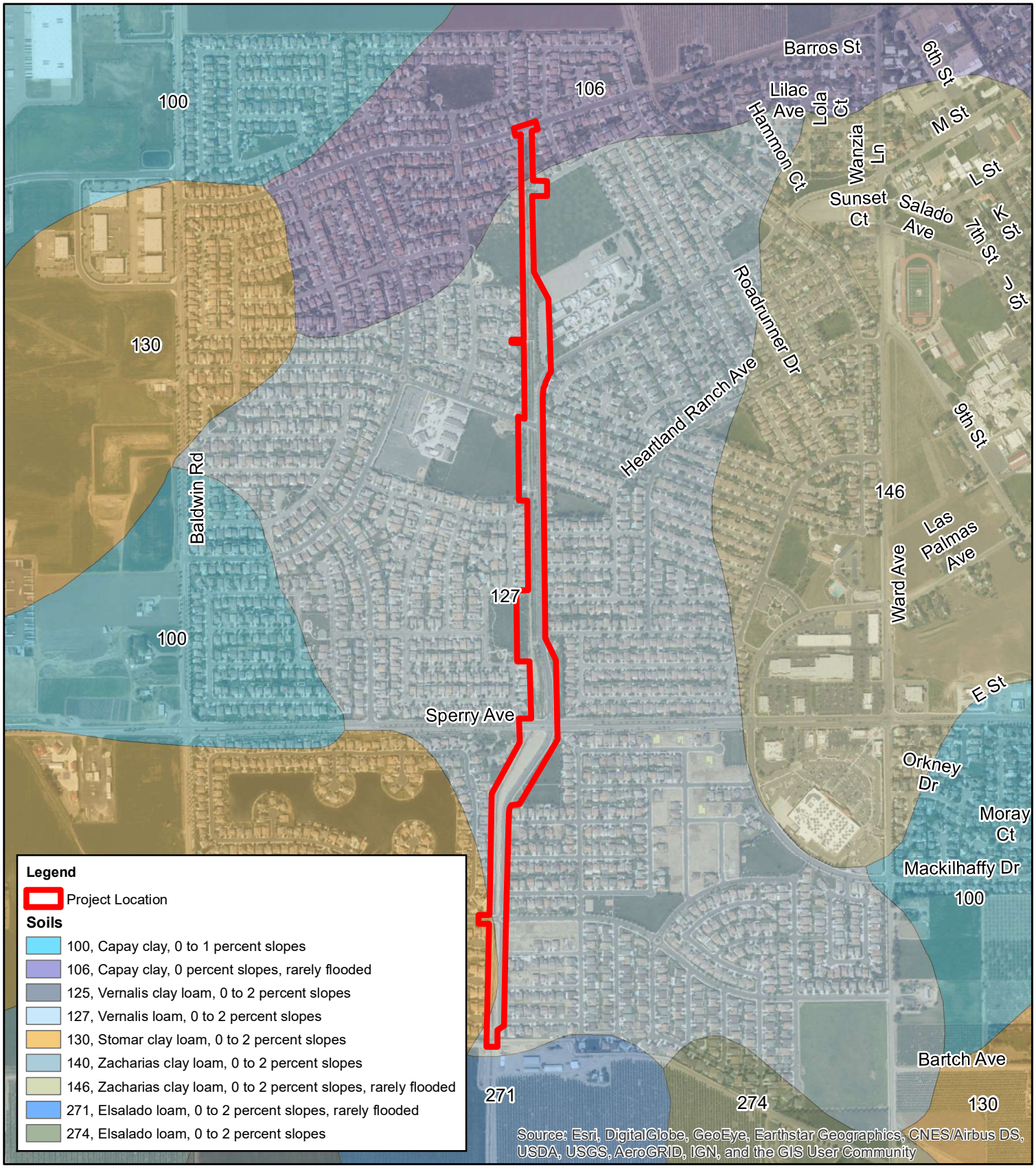
GANDA

Scale 1:12,000
1 Inch = 1,000 Feet

Figure 5. Geology Map City of Patterson
Bicycle Trail
Patterson, Stanislaus County
California

0 500 1,000 Feet

N





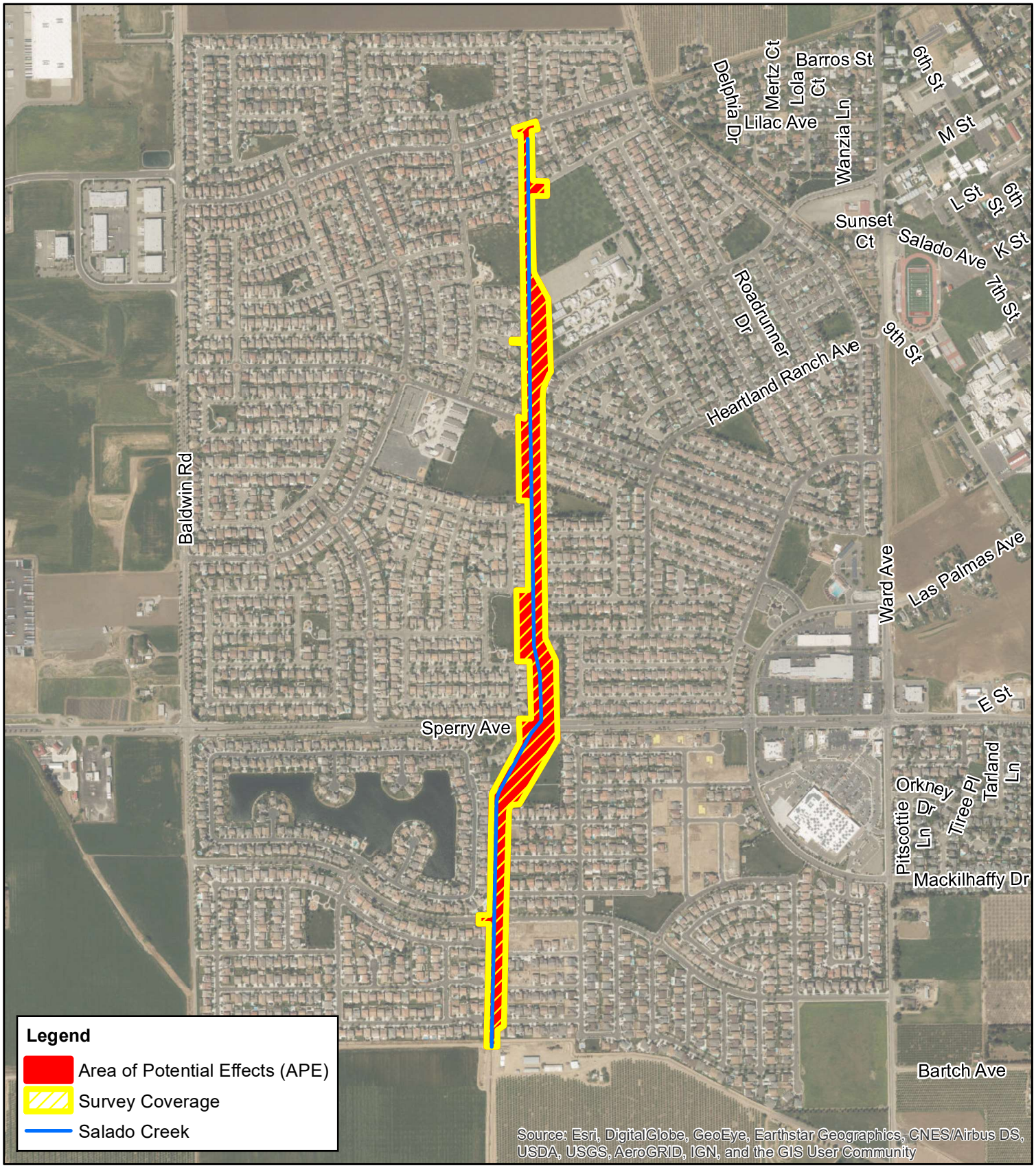
GANDA

Scale 1:12,000
1 Inch = 1,000 Feet

Figure 6. Soils Map
City of Patterson
Bicycle Trail
Patterson, Stanislaus County
California

0 500 1,000 Feet

N





GANDA

Scale 1:12,000
1 Inch = 1,000 Feet

Figure 7. Survey Results Map
City of Patterson
Bicycle Trail
Patterson, Stanislaus County
California

0 500 1,000 Feet

N

APPENDIX B: HISTORICAL SOCIETY CONSULTATION

GARCIA AND ASSOCIATES 813 D STREET SAN RAFAEL, CALIFORNIA 94901 PHONE 415-870-2980

April 28, 2020

Patterson Township Historical Society
300 West Las Palmas Avenue
Patterson, CA 95363

Project: Patterson Urban Bicycle Trail Project at Salado Creek, City of Patterson, Stanislaus County, California.

Dear Patterson Township Historical Society,

Garcia and Associates (GANDA) is conducting a cultural resources investigation on behalf of the Provost & Pritchard Consulting Group for the Patterson Urban Bicycle Project at Salado Creek, located along American Eagle Avenue in the city of Patterson, Stanislaus County, California. The project is located on the *Patterson, California* 7.5-minute USGS Quadrangle in Township 5 South, Range 7 East, Sections 24, 25, and 36 (please see the attached Project Location map).

An important element of the investigation is to identify sites, resources, or locations of cultural or historical importance. We would appreciate receiving any information you have concerning any archaeological or built environment resources located in or within close proximity to the project area. If you have any questions, please contact me at the phone number below or via email at rfies@garciaandassociates.com. I look forward to hearing from you.

Sincerely,

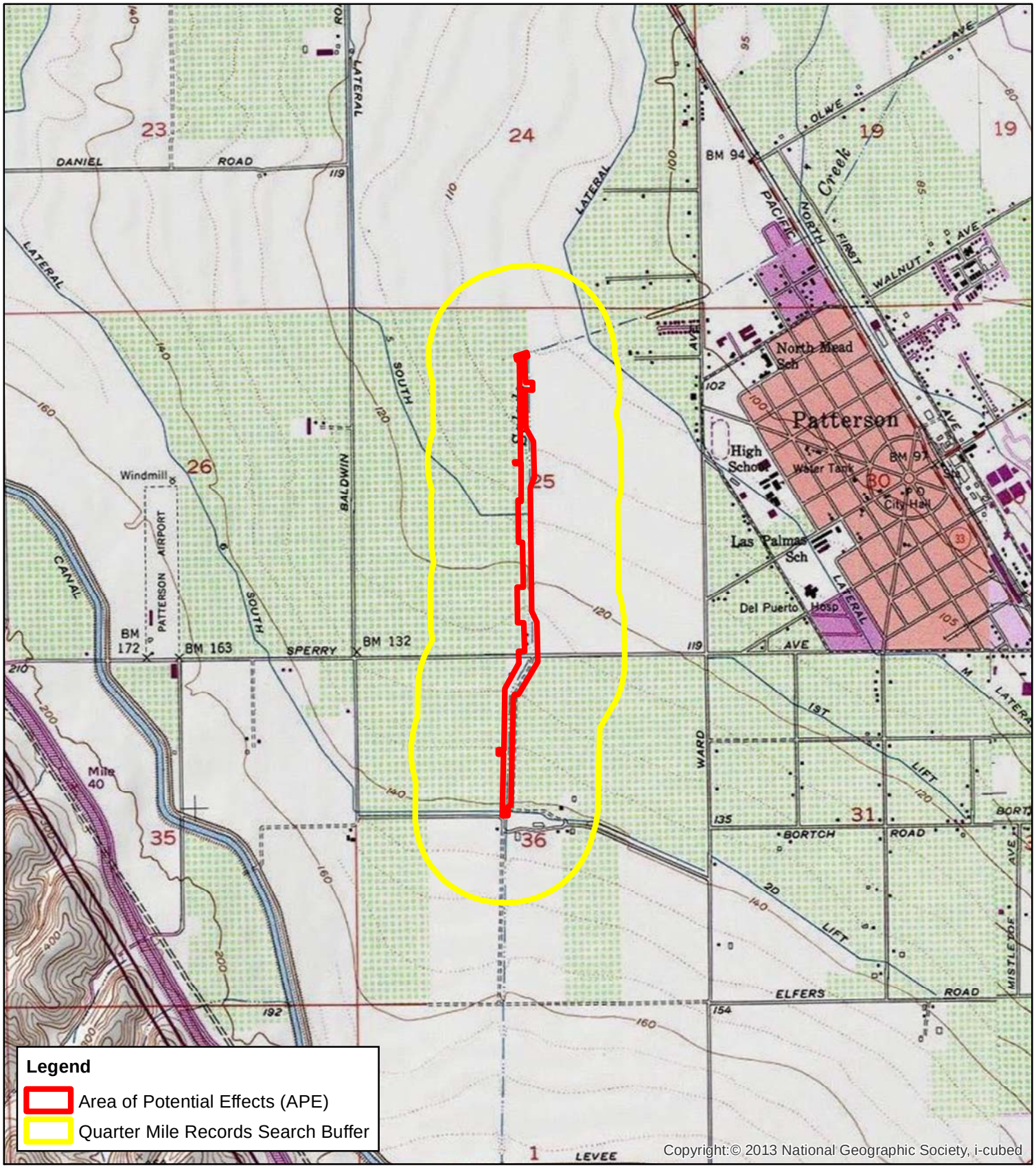


Robin Fies
Senior Archaeologist

415.870.2983 office
707.591.3568 cell
rfies@garciaandassociates.com
Garcia and Associates

Attachments (1)

GANDA


Legend
Area of Potential Effects (APE)
Quarter Mile Records Search Buffer
Copyright:© 2013 National Geographic Society, i-cubed
Project Location
USGS 7.5' Quad:
Patterson (1978)
Legal Description:
T5S, R7E, Sections 24, 25, 36
GANDA
Scale 1:8,400
1 Inch = 700 Feet
Records Search Map
City of Patterson
Bicycle Trail
Patterson, Stanislaus County
California
0 1,000 2,000
Feet
N

APPENDIX C: PHOTOGRAPHS OF THE AREA OF POTENTIAL EFFECTS



Photo 1: Overview from northern boundary of the APE (Cliff Swallow Drive), view south.



Photo 2: Overview of APE south of Sperry Avenue, view south.



Photo 3: Overview from southern boundary of the APE (Sweet Briar Drive), view north.



Photo 4: Overview of northern end of creek segment from pedestrian bridge between Trout Creek Lane and Teal Court, view north.

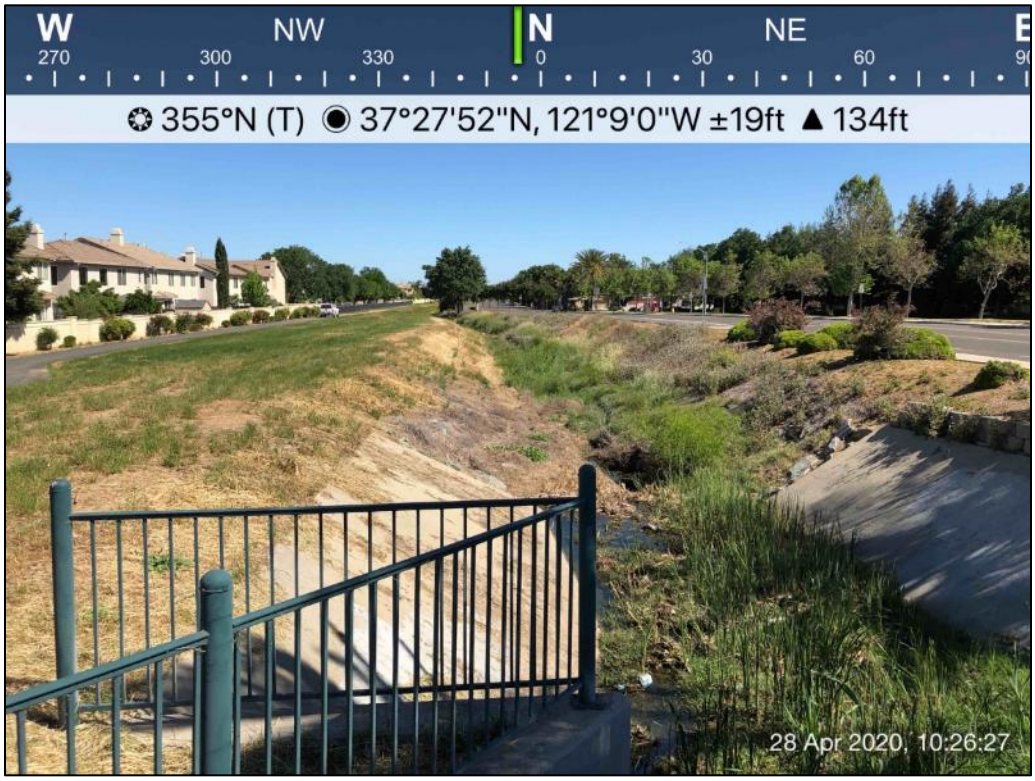


Photo 5: Overview of Salado Creek segment from the culvert at Sperry Avenue, view north.



Photo 6: Detail of Salado Creek culvert at Sperry Avenue, view south.



Photo 7: Overview of Salado Creek segment from the culvert at Sperry Avenue, view south.

APPENDIX D: CALIFORNIA DEPARTMENT OF PARKS AND RECREATION 523 FORMS

P1. Other Identifier:
***P2. Location:** ☐ **Not for Publication** ☐ **Unrestricted**
***a. County** Stanislaus County
***b. USGS 7.5' Quad** Patterson **Date** 1978 **T** 5S; **R** 7E; **Sec** 25 and 36; M.D.**B.M**.
c. Address **City** Patterson **Zip** 95363
d. UTM: Zone 10, 663574mE / 4149355mN (northern end); 663490mE/ 4147257mN (southern end)
e. Other Locational Data: This recorded segment of Salado Creek is located within the city of Patterson, generally located running parallel to and west of American Eagle Avenue between Cliff Swallow Drive in the north to approximately 970 feet (ft) south of the intersection of American Eagle Avenue and Calvinson Parkway.

***P3a. Description:**
This resource is a segment of Salado Creek that was converted into a historic-era water conveyance system consisting of an unlined earthen ditch and two associated culverts located at Cliff Swallow Drive and Sperry Avenue. A review of historic maps and aerial photographs indicate that Salado Creek was channelized along its current route as early as 1919. At that time, a road and railroad crossing had already been built across the creek at what would later be designated as Sperry Avenue (United States Geological Survey [USGS] 1919). In the mid- to late 19th century, the land within the vicinity of the creek segment were utilized as orchards (USGS 1940, 1978). Between 1998 and 2005, aerial photographs indicate that Sperry Avenue was expanded from two lanes to four lanes with a median strip built between the east- and west-bound lanes (National Environmental Title Research [NETR] 1998, 2005). At that time, the existing culvert along Salado Creek at Sperry Avenue was constructed. The residential neighborhoods currently surrounding the creek segment were built between 1998 and 2009 (NETR 1998, 2005, 2009). The creek segment within the project area measured approximately 35 ft wide (including the gently sloped banks) and 7,000 ft long.

***P3b. Resource Attributes:** AH6. Water conveyance system.

***P4. Resources Present**: ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph:



P5b. Description of Photo: Overview of northern end of creek segment from the culvert at Cliff Swallow Drive, view south.

***P6. Date Constructed/Age and Sources**:
☒ Historic ☐ Prehistoric ☐ Both

***P7. Owner and Address:**
Unknown

***P8. Recorded by:**
Chase Young
Garcia and Associates (GANDA)
813 D Street
San Rafael, California 94901

***P9. Date Recorded:** April 28, 2020

***P10. Survey Type:**
Intensive Pedestrian

***P11. Report Citation:**
Robin Fies et al. 2020. *Archaeological Survey Report for the Patterson Urban Bicycle Trail Project at Salado Creek, Patterson, Stanislaus County, California.* Prepared by GANDA for Provost & Pritchard Consulting Group.

***Attachments**: ☐ NONE ☒Location Map ☒Sketch Map ☐Continuation Sheet ☒Building, Structure, and Object Record
☐Archaeological Record ☐District Record ☒Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐Other _____

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** (Assigned by recorder) Salado Creek ***NRHP Status Code**

B1. Historic Name: Arroyo Salado Grande
B2. Common Name: Salado Creek

B3. Original Use: Water conveyance
B4. Present Use: Agricultural water conveyance

***B5. Architectural Style:** Utilitarian

***B6. Construction History:** Pre-1919. A culvert at Perry Avenue was modified between 1998 and 2005 with the expansion of Sperry Avenue (Construction date, alterations, and date of alterations)

***B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: Original Location:**

***B8. Related Features:** None

B9a. Architect: Unknown **b. Builder:** Unknown

***B10. Significance:** **Theme**: Water Infrastructure/Agriculture **Area**: Patterson, Stanislaus County, California
Period of Significance: ca. 1910-1998 **Property Type**: Water Conveyance **Applicable Criteria:** N/A (Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Historic Context

The land that would come to be the city of Patterson, just to the west of State Route 33, was claimed by Samuel G. Reed and Ruben S. Wade on January 7, 1855. Reed and Wade then sold the grant to J. O. Eldredge in 1866 who in turn sold the land title to John D. Patterson just two months later. Patterson would continue to purchase surrounding land until his death in 1902, at which point a total of 18,462 acres were willed to his sons, Thomas and William Patterson (City of Patterson 2020).Thomas Patterson went on to subdivide the land into ranches of varying sizes and plotted the town of Patterson which he modeled after the distinct city plans of Washington D.C. and Paris, France—both of which make use of circular city centers with radiating streets (City of Patterson 2020).

In 1910, construction began on the Patterson Lift Irrigation System (P-50-002179), located approximately 0.17 mile northeast of the Area of Potential Effects and the northern extent of this Salado Creek segment. The Patterson Lift Irrigation System was unique among the canals being constructed in Central Valley at that time in that it was recorded in the 1910 issue of The Engineering Record as being one of the largest lift systems of its type constructed in California if not the whole western United States (Baloian 2014). This segment of Salado Creek is not considered to be a part of the Patterson Lift Irrigation System, but may have been channelized around the same time given its intersection with a segment of the Patterson Lift Irrigation System.

The City of Patterson incorporated on December 22, 1919 and was the third official city in Stanislaus County (City of Patterson 2020). Today, the city of Patterson is a rural town whose primary economic base is their orchards and row crops. In particular, they are the self-proclaimed apricot capital of the world and their largest celebration of the year is the Apricot Fiesta, held annually the first weekend in June (City of Patterson 2020). (*Continued on Page 6)*

B11. Additional Resource Attributes: None

***B12. References:** (*Continued on Page 6)*

B13. Remarks: None

***B14. Evaluator:** Robin Fies, GANDA
***Date of Evaluation:** May 4, 2020

(This space reserved for official comments.)

Sketch Map

See the attached Sketch Map (Page 5).

L1. Historic and/or Common Name: Salado Creek

L2a. Portion Described: ☐ Entire Resource ☒ Segment ☐ Point Observation **Designation:**
b. Location of point or segment: Zone 10, 663574mE / 4149355mN (northern end); 663490mE/ 4147257mN (southern end)

L3. Description: This resource is a segment of Salado Creek that was converted into a historic-era water conveyance system consisting of an unlined earthen ditch and two associated culverts located at Cliff Swallow Drive and Sperry Avenue. A review of historic maps and aerial photographs indicate that Salado Creek was channelized along its current route as early as 1919, and may have been channelized in 1910 when the nearby Patterson Lift Irrigation System (P-50-002179) was constructed. Between 1998 and 2005, aerial photographs indicate that Sperry Avenue was expanded from two lanes to four lanes at which time the existing culvert along Salado Creek at Sperry Avenue was constructed. During the same period of time, between 1998 and 2005, the culvert at Cliff Swallow Drive was constructed in its modern configuration (NETR 1998, 2005). The rest of the creek segment remained essentially unchanged from its original ca. 1910 construction. The residential neighborhoods currently surrounding the creek segment were built between 1998 and 2009 (NETR 1998, 2005, 2009). The creek segment within the Area of Potential Effect for this project measured approximately 35 ft wide (including the gently sloped banks) and 7,000 ft long. (*Continued on Page 6)*

L4e. Photo of Cross-Section **Facing:** north



Overview of northern end of creek segment

L4. Dimensions: (In feet for historic features and meters for prehistoric features)
- **a. Top Width:** approximately 35 ft
- **b. Bottom Width:** approximately 15 ft
- **c. Height or Depth:** approximately 3 ft
- **d. Length of Segment:** approximately 7,000 ft

L5. Associated Resources: None

L6. Setting: The ditch is located within an urban residential neighborhood.

L7. Integrity Considerations: the segment of Salado Creek within the project area does not meet the NRHP's seven aspects of integrity at 36 CFR 60.4 as the channelized creek has not retained historic integrity, particularly due to the expansion of the Sperry Avenue overcrossing and culvert and construction of the Cliff Swallow Drive culvert between 1998 and 2005 (NETR 1998, 2005). Another factor is the change in use from agricultural irrigation to a residential water feature, a shift which began in 1998 with the construction of the residential neighborhoods adjacent to the creek segment.

L8a. Photograph



Overview

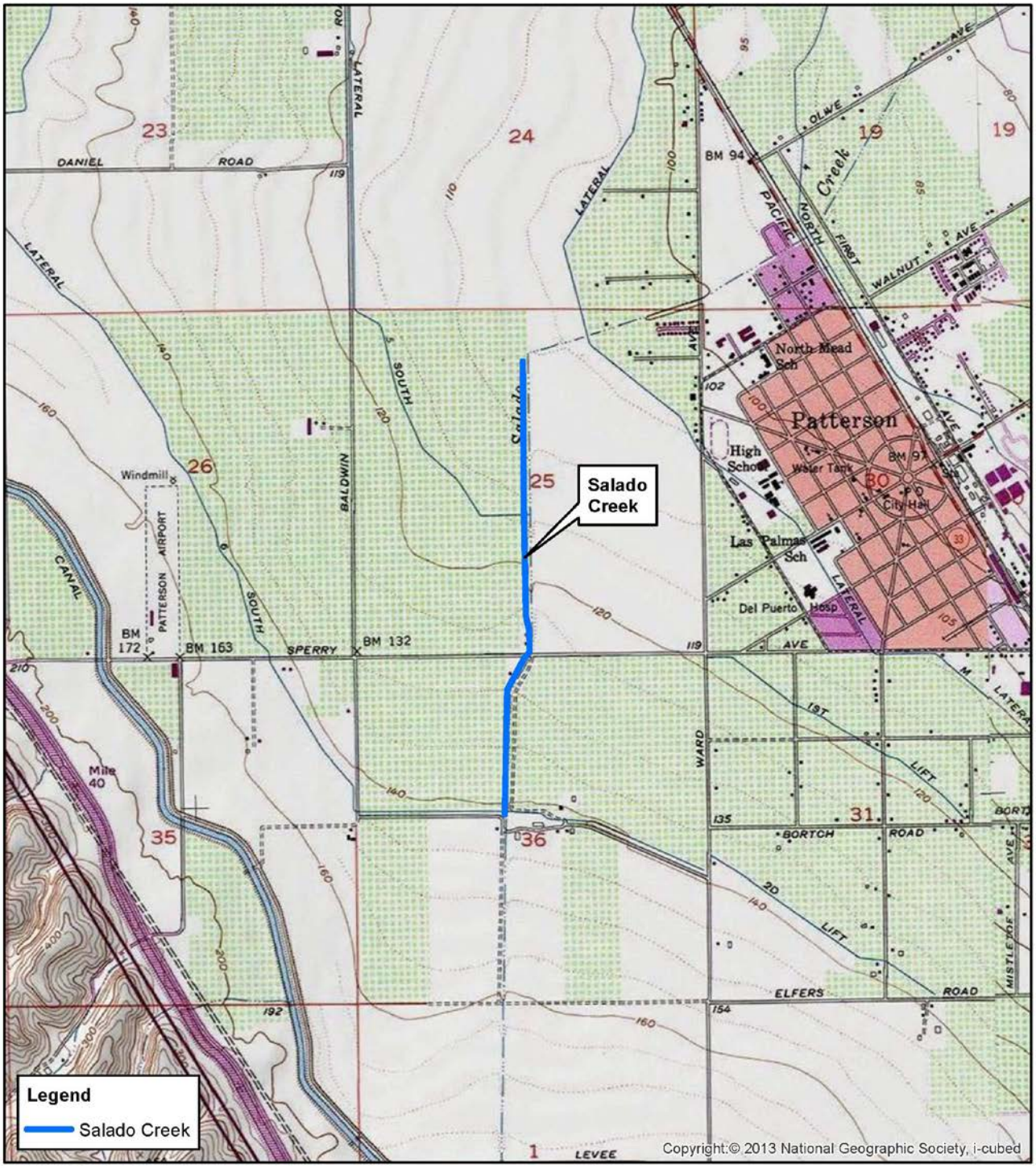
Overview of Salado Creek segment from the culvert at Sperry Avenue, view north.

L8b. Description of Photo: (see below photo)

L9. Remarks: None.

L10. Form Prepared by:
Robin Fies
Garcia and Associates
813 D Street
San Rafael, CA 94901

L11. Date: May 4, 2020





USGS 7.5' Quad:
Patterson (2015)

Legal Description:
T5S, R7E, Sections 25 and 36

GANDA

Scale 1:24,000
1 Inch = 2,000 Feet

Salado Creek
Location Map
Patterson, Stanislaus County
California

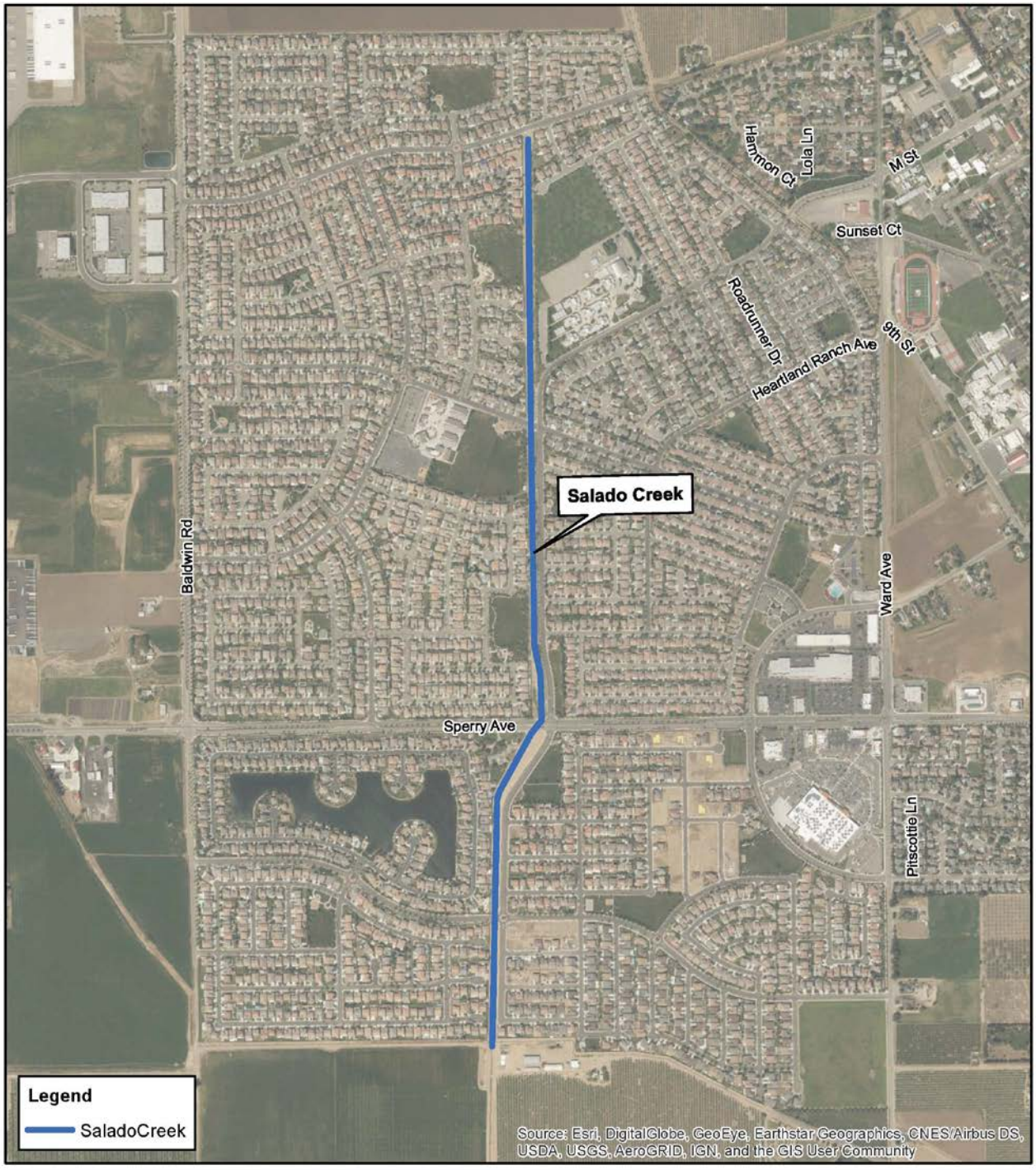
0 1,000 2,000
Feet

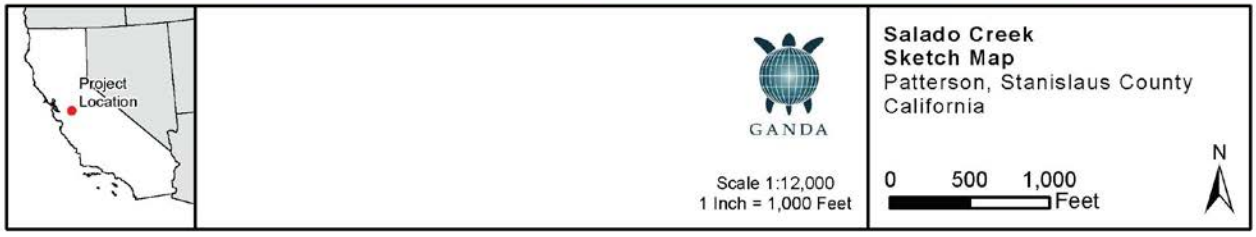
N

***Resource Name or** # Salado Creek

***Drawn By:** Dylan Vaughn-Jansen, Garcia and Associates

***Date:** 5/7/20





***B10. Significance:** *(Continued from Page 2)*
Salado Creek flows from the Diablo Mountain Range to the San Joaquin River. This segment of Salado Creek was channelized, likely in 1910, for general agricultural purposes approximately 0.5 mile west of what was then the city limits of Patterson (modern Ward Avenue) (USGS 1919). The residential neighborhoods currently established adjacent to this segment of Salado Creek were built between 1998 and 2009, replacing the agricultural fields and orchards that once lined the creek segment (NETR 1998, 2005).

Eligibility for National Register of Historic Places (NRHP)
The segment of Salado Creek within the project area does not appear eligible for the NRHP based on the four criteria outlined in 36 CFR 60.4. Regarding Criterion A, the creek segment is not directly associated with events that contributed to broad patterns of American history. Regarding Criterion B, the creek segment is not associated with the lives of significant persons; there is no indication that channelizing Salado Creek was implemented by a person of note, or that any persons significant to American history resided along or utilized the segment of Salado Creek within the project area. Regarding Criterion C, the creek segment does not embody the distinctive characteristics that would distinguish it from any of the other channelized creeks running through the region. Finally, regarding Criterion D, the creek segment does not appear to have any potential to yield information important to prehistory or history.

Additionally, the segment of Salado Creek within the project area does not meet the NRHP's seven aspects of integrity at 36 CFR 60.4 as the channelized creek has not retained historic integrity, particularly due to the expansion of the Sperry Avenue overcrossing and culvert and the construction of the culvert at Cliff Swallow Drive between 1998 and 2005 (NETR 1998, 2005). Another factor is the change in use from agricultural irrigation to a residential water feature, a shift which began in 1998 with the construction of the residential neighborhoods adjacent to the creek segment.

***B12. References:** *(Continued from Page 2)*
Baloian, Randy
2014 Primary Record for P-50-002179. Prepared by Applied EarthWorks, Inc. On file at the Central California Information Center, California State University, Stanislaus, Turlock, California.

City of Patterson
2020 *History.* Electronic document, https://www.ci.patterson.ca.us (accessed April 15, 2020).

National Environmental Title Research (NETR)
1998 Historical aerial photograph. Electronic document, http://www.historicaerials.com (accessed April 15, 2020).
2005 Historical aerial photograph. Electronic document, http://www.historicaerials.com (accessed April 15, 2020).
2009 Historical aerial photograph. Electronic document, http://www.historicaerials.com (accessed April 15, 2020).

United States Geological Survey (USGS)
1919 Orestimba, California, 15-minute topographic quadrangle.

L3. Description: *(Continued from Page 3)*
The channelized portion of Salado Creek that occurs within the project area measures approximately 35 feet wide at the top of the channel and approximately 15 feet wide at the base of the channel by approximately 3 feet deep. It has sloping sides that are roughly "U"-shaped in profile. It appears to have been constructed/mechanically excavated sometime between 1910 and 1919. The channelized portion extends outside of the project area to the north and south, and only the segment within the project area is recorded here.