

# Shafter-Wasco Irrigation District Voluntary Rotational Land Fallowing Program

**Draft Initial Study / Negative Declaration**

**August 2020**

Prepared for:  
Shafter~Wasco Irrigation District

Prepared by:  
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# Acronyms and Abbreviations

BPS	Best Performance Standards
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CCAA	California Clean Air Act
CEQA	California Environmental Quality Act
CO	Carbon Monoxide
CRHR	California Register of Historical Resources
CVP	Central Valley Project
CWA	Clean Water Act
District	Shafter-Wasco Irrigation District
DTSC	(California) Department of Toxic Substances Control
DWR	Department of Water Resources
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Maps
USGS	United States Geological Survey
FMMP	Farmland Mapping and Monitoring Program
GC	Government Code
GHG	Greenhouse Gas
GIS	Geographic Information System
gpcd	gallons per capita day
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
hp	Horsepower
HUC	Hydrologic Unit Code
IPCC	Intergovernmental Panel on Climate Change
IS	Initial Study
IS/ND	Initial Study/ Negative Declaration
KGA	Kern Groundwater Authority
km	kilometers
MA-2	Management Area 2

## Shafter-Wasco Irrigation District

### Voluntary Rotational Land Fallowing Program

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MLRA .....	Major Land Resource Area
NAAQS .....	National Ambient Air Quality Standards
ND .....	Negative Declaration
NO <sub>x</sub> .....	Nitrogen oxides
NO <sub>2</sub> .....	Nitrogen dioxide
NPDES .....	National Pollutant Discharge Elimination System
NRCS .....	Natural Resources Conservation Service
NRHP .....	National Register of Historic Places
O <sub>3</sub> .....	Ozone
Pb .....	Lead
PM <sub>10</sub> .....	particulate matter 10 microns in size
PM <sub>2.5</sub> .....	particulate matter 2.5 microns in size
ppb .....	parts per billion
PRC .....	Public Resources Code
Project .....	Shafter-Wasco Irrigation District Voluntary Rotational Land Fallowing Program
Reclamation .....	United States Bureau of Reclamation
ROG .....	Reactive Organic Gases
RWMP .....	(Integrated) Regional Water Management Plan
SGMA .....	Sustainable Groundwater Management Act
SHC .....	Streets and Highways Code
SJVAB .....	San Joaquin Valley Air Basin
SJVAPCD .....	San Joaquin Valley Air Pollution Control District
SO <sub>2</sub> .....	Sulfur Dioxide
SO <sub>x</sub> .....	sulfur oxide
SWID .....	Shafter-Wasco Irrigation District
SWP .....	State Water Project
SWRCB .....	State Water Resources Control Board
TAC .....	Toxic Air Contaminants
Tons/Year .....	Tons per Year
TPY .....	tons per year
USACE .....	United States Army Corps of Engineers
USBR .....	United States Bureau of Reclamation
USDA .....	United States Department of Agriculture
µg/m <sup>3</sup> .....	micrograms per cubic meter



# Chapter 1 Introduction

Provost & Pritchard Consulting Group (Provost & Pritchard) has prepared this Initial Study/Negative Declaration (IS/ND) on behalf of Shafter-Wasco Irrigation District (District) to address the environmental effects of the proposed discretionary Voluntary Rotational Land Fallowing Program (Project) to be implemented on a rotational basis across various farmlands within the District newly annexed Management Area-2 (MA-2) pursuant to the *Shafter-Wasco Irrigation District 7<sup>th</sup> Standard Annex Management Area of the Kern County Subbasin Plan*<sup>1</sup> adopted in 2019 as an Umbrella Groundwater Sustainability Plan (GSP) under the Kern Groundwater Authority (KGA). The annexed MA-2 area overlies a portion of the overall groundwater basin, just south of the District's historic management area. The MA-2 area does not receive any water supplies from District historical projects.

The proposed Project involves fallowing agricultural lands within the District MA-2 on a rotational and volunteer basis which is consistent with Projects and Management Actions as adopted in the 7<sup>th</sup> Standard/MA-2 Plan. No construction or land alterations are involved. The program was created to incentivize landowners to conserve water resources by fallowing agricultural lands.

This document has been prepared as a programmatic ND in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq. and the Guidelines implementing the Act, Code of Regulations Section 51000 et seq. The District is the CEQA lead agency for this proposed Programmatic Project.

The site and the proposed Project are described in detail in the **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 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. A 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:
  1. Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed IS/ND is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and

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<sup>1</sup> (Shafter-Wasco Irrigation District, 7th Standard Management Area of the Kern County Subdivision, 2019). Accessed on August 24, 2020.

2. 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/ND contains four chapters and four 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** concludes with the Lead Agency's determination based upon this initial evaluation. **Chapter 4 References**, provides a list of sources used in this document.

The Natural Resources Conservation Service (NRCS) Soil Resource Report is provided as technical **Appendix A**, at the end of this document.

# Chapter 2 Project Description

## 2.1 Project Background and Objectives

### 2.1.1 Project Title

Shafter-Wasco Irrigation District Voluntary Rotational Land Fallowing Program (Project)

### 2.1.2 Lead Agency Name and Address

Shafter-Wasco Irrigation District  
P.O. Box 1168  
Wasco, California 93280

### 2.1.3 Contact Person and Phone Number

#### Lead Agency Contact

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(661) 616-5900

#### CEQA Consultant

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Dena E. Giacomini, Senior Planner, Environmental Project Manager  
(661) 616-5900

### 2.1.4 Project Location

The Project is a discretionary program that would be implemented within the District located approximately 86-miles south of Fresno and 32-miles north of Bakersfield (see **Figure 2-1**). The Project would be carried out within the newly formed District MA-2 within the overall District management area and includes existing farmlands (see and **Figure 2-2**). The annexation of District's MA-2 encompasses 10,000 acres of farmland.

The District is situated in the southern San Joaquin Valley, part of the Great Valley of California, in Kern County. The Valley is bordered by the Sierra Nevada Mountain Range to the east, the Coast Range to the west, the Klamath Mountains and Cascade Range to the north, and the Transverse Range and Mojave Desert to the south (see **Figure 2-3**). The cities of Shafter and Wasco lie geographically within the District's management area but would not be participants in the Project. State Route 46 (SR46), also known as Paso Robles Highway runs in an east/west direction along the top of the District's management area. State Route 43 (SR43), also known locally as the Central Valley Highway bisects the District in a generally northwest/southeast direction. SR43 extends from Crome, in southern California, to Selma, in northern California.

The 7th Standard Annex MA-2 Area overlies a portion of the overall basin. The basin is bounded on the north by the Tulare Lake Subbasin (DWR Basin 5-022.12), the Tule Subbasin (DWR Basin 5-022.13), the Kettleman Plain Subbasin (DWR Basin 5-022.17) and on the south by the White Wolf Subbasin (DWR Basin 5-022.18). MA-2 is located roughly in the middle of the basin, just south of the District's historic management area

## 2.1.5 Latitude and Longitude

The centroid of the District's management area is 35.536984° N and -199.316917° W decimal degrees (see [Figure 2-3](#)).

## 2.1.6 Description of Project

### 2.1.6.1 District Background

The District was formed in 1937 for the purpose of finding ways to replenish dwindling groundwater supplies within the District boundaries. From the period of 1921 to 1949 the groundwater table progressively lowered an average of 2.3 feet per year. The District entered into a water supply contract with the United States Bureau of Reclamation (USBR) to supply water from the Friant Unit of the Federal Central Valley Project (CVP). Once the CVP and the State Water Project (SWP) were fully operational, the supply water began to stabilize the groundwater decline in the mid-1970's.

The District was formally organized on September 21, 1937, by Shafter and Wasco area farmers after careful studies of the needs and problems peculiar to the area and on legal advice of James Burke, a Visalia attorney. The District's purpose was to find ways and means of replenishing rapidly dwindling underground water supplies.

The District formally applied to the USBR for CVP water for the 37,528 acres within the District boundaries in 1946. Water service to the District would be from the Friant-Kern Canal, which passes close to the eastern District management area. In 1955, the Board of Directors of the District executed a contract with the United States providing for a water service contract for 50,000 acre-feet of Class I water, 39,600 acre-feet of Class II water and a repayment contract for the construction of a distribution system.

Over the years the District entered into a series of interim renewal contracts until 2005 when the District entered into a 25-year contract with the with the USBR. In 2010, the District repaid early its share of the capital for construction of the CVP and converted its repayment contract to a permanent repayment contract as authorized by the San Joaquin River Settlement Act, granting the District permanent rights for the same water supply. The District is a member of the Poso-Creek Integrated Regional Water Management Plan (RWMP) and has a 25-year exchange and transfer program through the Poso-Creek Integrated RWMP.

Water supply reliability and sustainability within the Region are being impacted by changing dynamics of water supply, timing, and availability.

Annexation of the MA-2 area to the District's historic management area was completed and approved in December of 2019, and supplements the information provided in the KGA Umbrella GSP with local, specific information for the area. The KGA Umbrella GSP and the Shafter-Wasco Irrigation District 7<sup>th</sup> Standard Annex Management Plan were developed to meet Sustainable Groundwater Management Act (SGMA) regulatory requirements for critically-overdrafted basins while still reflecting on the local needs and preserving local control over water resources. These two GSPs promote long-term sustainability of locally managed groundwater resources.

### 2.1.6.2 Project Purpose and Objectives

The California Legislature enacted the SGMA of 2014 (the "Act"). The Act provides authority for local agency management of groundwater and requires implementation of plans to meet the goal of groundwater sustainability established by the Act within basins of high- and medium-priority which includes the basin underlying the District (Water Code § 10727(a)).

To comply with SGMA and the KGA GSPs, the District began implementation of the District's Recharge Project as one means to help achieve sustainable groundwater levels and avoid the corresponding adverse environmental and economic burden associated with groundwater declines, including increased use of power

and energy resources. In addition to the Recharge Project, the District intends to implement the proposed Project for voluntary rotational fallowing of agricultural lands within the District MA-2 to suspend irrigation on those lands. The primary goal of SGMA is for the local GSAs to maintain a sustainable and economically viable groundwater resource. Long-term goals are to implement project and management actions to both increase water supplies and reduce demands. In addition to increasing the District's groundwater supplies through its Recharge Project, the District's proposed Project is to reduce water demands for irrigation from groundwater pumping by implementing a Project of fallowing identified agricultural lands on a rotational basis within the District's MA-2. Specific to the reduction in irrigation demand, the District proposes a Voluntary Rotational Land Fallowing Project. The District's Board of Directors would decide annually if there is a need to fallow land to reduce irrigation water demand, and if there would be a sufficient budget available in the Project budget to compensate the volunteering landowners that would like to participate in the Project for fallowing efforts.

Therefore, the objectives of the Project would be to:

- *Meet the goals of the Groundwater Sustainability Plan*
- *Support California and local water conservation goals*
- *Reduce groundwater use by reducing irrigation demand*
- *Facilitate future sustainability of available groundwater by improving groundwater management through implementation of a program to decrease irrigation water demands alongside the District's adopted Recharge Project.*

### 2.1.6.3 Project Description

The Project proposes a Project to conserve water through a contractual agreement between the District MA-2 and volunteering agricultural water users. In exchange for financial compensation, these water users would agree not to irrigate their fields (fallow) for a defined period of one-year. If landowners want to participate in additional years, they would need to reapply each year and demonstrate compliance with all agreement conditions. It is the intent of the District's proposed Project, that landowners would volunteer for fallowing on a generally rotational basis, so that the burden of fallowing is distributed amongst all landowners to the extent possible, and within the ability of the District to compensate for the voluntary fallowing.

Specifically, the Project would:

1. Provide an application mechanism for landowners that currently farm within the District MA-2 to apply for compensation for taking agricultural fields out of production for one (1) full water year from October 1st to September 30<sup>th</sup>.
2. Approval for each applicant would be granted and authorized by the District's Board of Directors.
3. Allow fallowing of up to 800 acres, totaling an estimated demand reduction (savings) of approximately 2,560 acre-feet of water each year (AFY) that would remain in the groundwater aquifer.
4. Allow multiple applicants each year to total 800 acres.
5. Require landowners to reapply and be granted approval to continue fallowing their lands beyond the first year.
6. Require landowners to maintain the fallowed lands, thereby not altering or changing agricultural land use.
7. The reduced irrigation water demand from this fallowing Project would facilitate water conservation and, thereby, groundwater recovery.

The Project intends that an agricultural landowner within the District MA-2 would volunteer to participate in fallowing a portion of land. This Project is designed similar to other existing fallowing Projects and would include sharing, on a rotational basis, of fallowing opportunities within the current farm unit management structure within the District's MA-2. Project specifics would remain flexible to the extent practicable and may be amended from time to time, including subsequent CEQA review to address future changes in parameters for water demands and changes in farming practices.

The basics of the Project would include the following:

## Chapter 2 Project Description

### Voluntary Rotational Land Fallowing Program

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Administrative: The District would be responsible for the administration and implementation of the Project.

Application/Notification: The District would provide an application process that would meet the purposes of this Project and ensure the practices of groundwater conservation and recovery, and consistency with KGA's GSP.

Field Eligibility Criteria: The District would review each application submitted to verify that the information furnished is accurate and consistent with the intent of the Project. The District would evaluate the fields included in the application to verify the field offered for fallowing meets the field eligibility criteria. The land must have been farmed in the last three years. The intended field would need to be fallowed for an entire year. Other criteria may include weed abatement, and erosion, sediment, and dust control measures. Overall, the land would need to be maintained in a farmable manor and cannot change its agricultural designation. Other criteria may include water use history demonstrating irrigation for crop production for consecutive years. The field would need definite boundaries and a minimum acre size and must be zoned for agricultural use. Additional criteria may stipulate that the land to be fallowed cannot hold a delinquent account status due to non-payment and must be in compliance with all State, federal and local regulations.

Approval Process: The District's Board of Directors would be responsible for approving any lands that are eligible for fallowing and administering and signing the contract through a regular monthly board meeting.

Contract/Agreement: Following field eligibility verification, the District would provide the landowner a contractual offer. The fallowing contract would provide a contract between the District and each landowner participating in the Project, each calendar year. The contract would provide the appropriate terms and definitions for the agreement, a specified fallowing period, landowner authorization forms, right to access and entry by the District to the field under contract, other details would include but not be limited to requirements for weed abatement, dust control, and compensation specifics.

Program Compliance and Verification: The landowner would be ultimately responsible for compliance with all the Project requirements during the fallowing period. This may include verification that no groundwater was pumped or delivered to the fallowed field, and documentation that all conditions outlined in the agreement were performed (e.g. weed abatement, sediment/erosion control and dust control).

Compensation: The District's Board of Directors would determine and approve compensation to landowners based on several factors including funding availability, Project expenses, and total water conserved. The District and the Board of Directors would provide a payment rate per acre-foot of conserved water.

Program Effectiveness: The Project would be reevaluated every five years to gauge effectiveness and address potential changes in the KGA GSP.

#### **2.1.6.4 Construction**

There would be no construction activities as part of the proposed Project. The activities associated with the Project would be limited to approval or denial of landowner applications to fallow their lands for one-year based on compliance with Project criteria and achievement of groundwater conservation and recovery goals consistent with KGA's GSP in exchange for financial compensation.

#### **2.1.6.5 Operation and Maintenance**

The operations associated with implementation of the Project includes the District's budgeting for landowner compensation and staffing for field inspections and Project and contract administration. There are no District maintenance activities associated with the Project for the District. However, the landowners would be

responsible for on-going maintenance of the approved fallowed agricultural fields in compliance with all contractual requirements.

### **2.1.7 Site and Surrounding Land Uses and Setting**

Specific site and surrounding land use and settings would vary depending on the landowner applications that would be approved by SWID for fallowing. The District's management area encompasses the Cities of Wasco and Shafter and both incorporated and unincorporated lands. The newly annexed land is located to the southwest of the City of Shafter. Land uses within the incorporated city limits include residential, commercial, industrial, public facilities, open space, and vacant land. Land uses within the unincorporated areas are predominantly agricultural and rural residential.

### **2.1.8 Other Public Agencies Whose Approval May Be Required**

None.

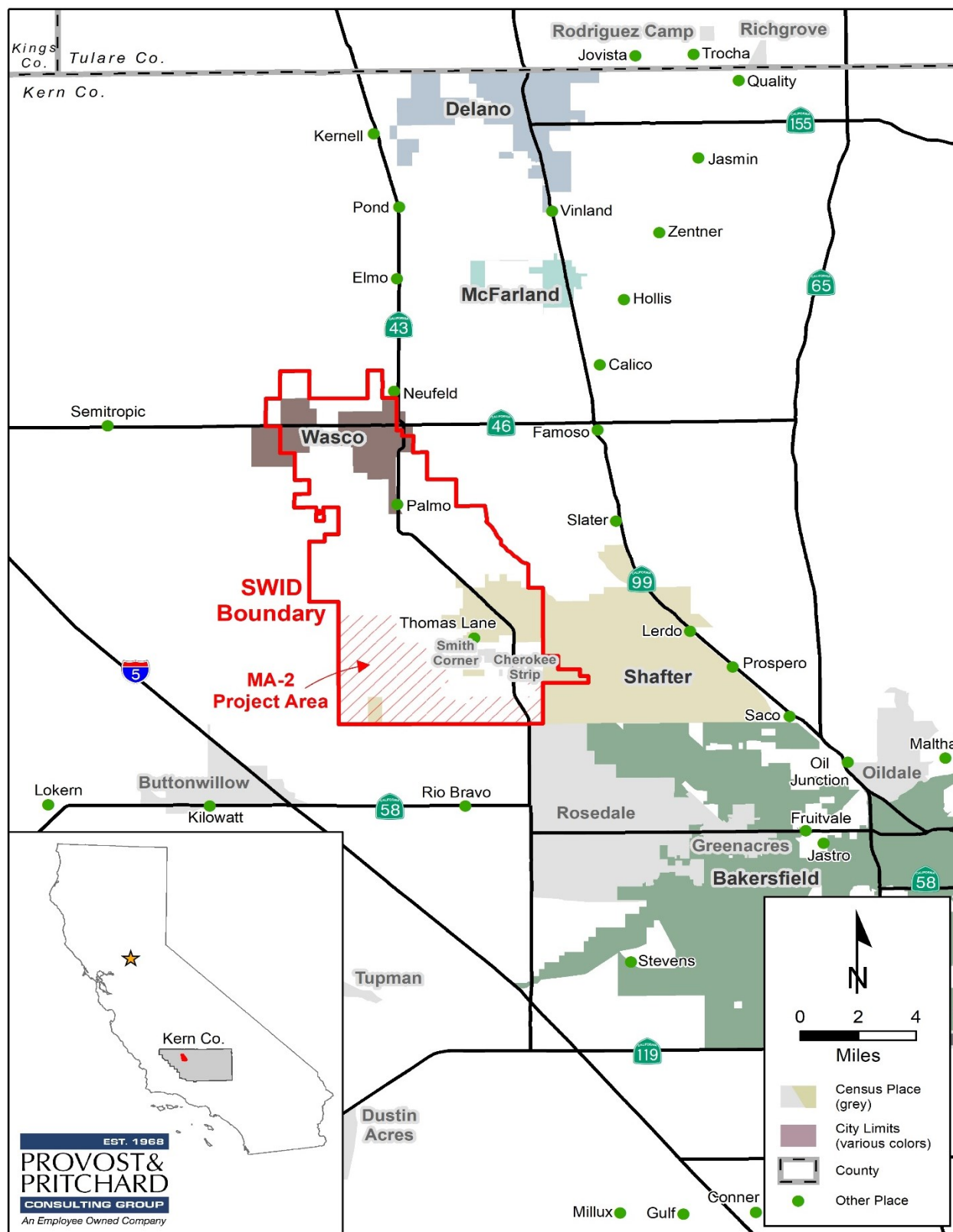
### **2.1.9 Consultation with California Native American Tribes**

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.

The District has not received any written correspondence from any Tribe pursuant to Public Resources Code Section 21080.3.1 requesting notification of proposed projects.



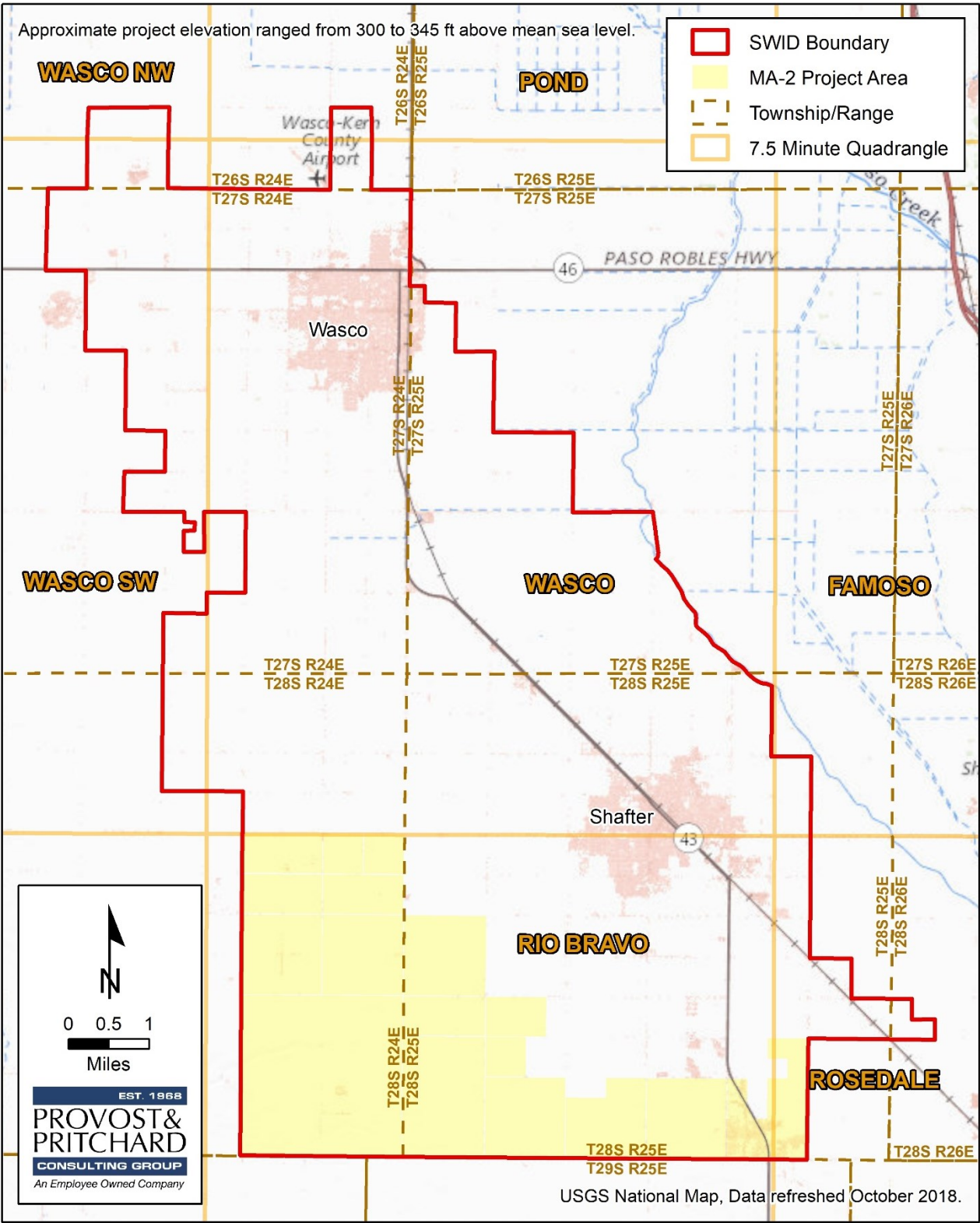
## Voluntary Rotational Land Fallowing Program



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### Figure 2-1. Regional Location





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Figure 2-2. Topographic Quadrangle Map



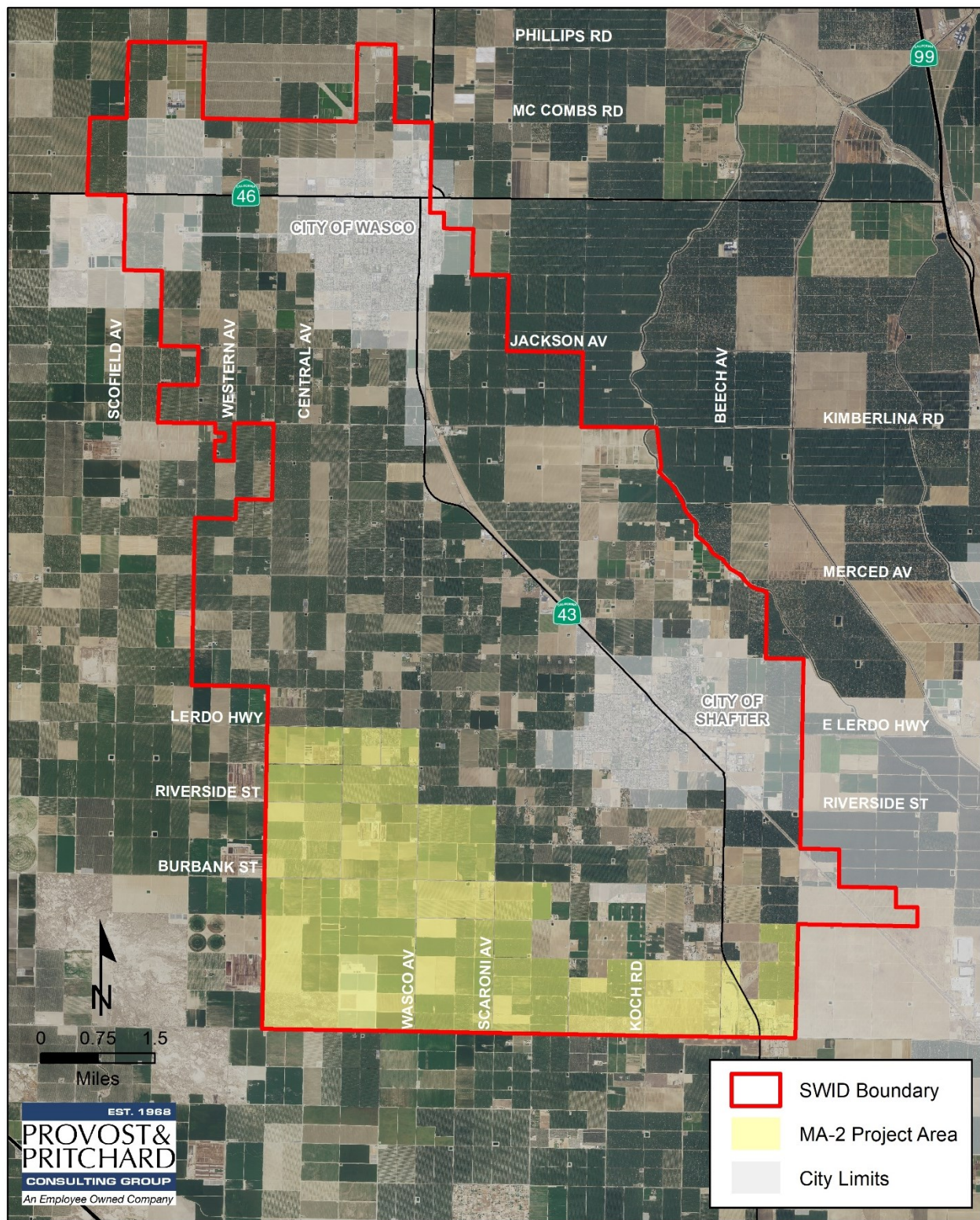


Figure 2-3. SWID Management Area Map

## Chapter 3 Impact Analysis

### 3.1 Environmental Factors Potentially Affected

As indicated by the discussions of existing and baseline conditions, and impact analyses that follow in this Chapter, environmental factors not checked below would have no impacts or less than significant impacts resulting from the project. Environmental factors that are checked below would have potentially significant impacts resulting from the project. Mitigation measures are recommended for each of the potentially significant impacts that would reduce the impact to less than significant.

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

The analyses of environmental impacts here in **Chapter 3 Impact Analysis** are separated into the following categories:

**Potentially Significant Impact.** This category is applicable if there is substantial evidence that an effect may be significant, and no feasible mitigation measures can be identified to reduce impacts to a less than significant level. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.

**Less than Significant with Mitigation Incorporated.** This category applies where the incorporation of mitigation measures would reduce an effect from a “Potentially Significant Impact” to a “Less than Significant Impact.” The lead agency must describe the mitigation measure(s), and briefly explain how they would reduce the effect to a less than significant level (mitigation measures from earlier analyses may be cross-referenced).

**Less than Significant Impact.** This category is identified when the proposed project would result in impacts below the threshold of significance, and no mitigation measures are required.

**No Impact.** This category applies when a project would not create an impact in the specific environmental issue area. “No Impact” answers do not require a detailed explanation if they are adequately supported by the information sources cited by the lead agency, which show that the impact does not apply to the specific p(e.g. the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g. the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis)



## 3.2 Aesthetics

**Table 3-1. Aesthetics Impacts**

Aesthetics Impacts				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 3.2.1 Environmental Setting and Baseline Conditions

The District is located in the northwestern portion of Kern County generally between the City of Shafter to the south and City of Wasco to the north. The newly annexed District MA-2 area is predominately agricultural lands with some scattered vacant/fallow and rural residential lands. There are mostly local County roads and two SRs (43 and 46) that traverse the District management area.

There are no official federal<sup>2</sup> or California State Designated Scenic Highways<sup>3</sup> in Kern County. There are segments of three state routes eligible for scenic highway designation within or near the District's MA-2: southeast portion of Highway 14 from Fremont Valley mile-marker 16 through end post mile 64.5 leading outside of the county; Highway 58 from outside of Fremont Valley to Barstow from mile-post M112.0 through end post mile 34.5; and a small portion of Highway 41 that runs through the northeast corner of the county from mile post 43.9 to end post mile 8.1. However, these eligible segments cannot be seen from the District MA-2.

The Kern River located in Kern County is designated a national wild and scenic river in 1987. The North Fork from the Tulare-Kern County line to its headwaters in Sequoia National Park and the South Fork from its headwaters in the Inyo National Forest to the southern boundary of the Domelands Wilderness in the Sequoia National Forest<sup>4</sup>. The Upper Kern is a popular stretch of river for whitewater boating, camping and fishing. The Lower Kern runs 32 miles from Isabella Dam to the canyon mouth above Bakersfield, California. Although the Kern River flows into Kern County, the river is not visible from the District MA-2.

Light and glare in this area comes from the cities of Shafter and Wasco, traffic along highways and roads, existing street lighting, and from surrounding rural residential homes, farmlands and equipment.

<sup>2</sup> (United States Department of Transportation. Federal Highway Administration, 2019). Accessed August 5, 2020.

<sup>3</sup> (California State Scenic Highway System Map, 2018). August 5, 2020.

<sup>4</sup> (National Wild and Scenic River System, 2020) Accessed August 5, 2020.

### 3.2.2 Impact Assessment

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

**No Impact.** Agricultural lands and open space are the predominant visual scenery located within the District MA-2. There are no construction activities associated with this proposed Project. Agricultural lands are constantly changing. Crops are continually harvested and rotated throughout this area and bare soil fields are a seasonal occurrence. With up to 800 acres a year being fallowed through the proposed Project, it is unlikely that these fallowed lands would stand out amongst thousands of acres of agricultural land and typical farming practices. As such, there would be no impacts to scenic vistas or change to the overall surrounding views.

**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.** Although there are designated scenic rivers within Kern County, they are located in Sequoia National Forest over 50 miles east of the District MA-2. The scenic resources in this area are the open spaces and agricultural lands that already exist. The Project would not involve construction activities, tree removal, removal of historic or non-historic buildings and would not change or impede any existing scenic resources in the area. Further, the Project would not alter the existing agricultural practices of the area and fallowing 800 acres within a year would not change the overall views. Fallowing in general is a current standard agricultural practice. As such, there would be no impacts associated with scenic resources.

**c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public view 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?**

**No Impact.** As stated above, there would be no permanent changes to the surrounding areas as a result of fallowing agricultural lands. It is unlikely that these fallowed lands would stand out amongst the thousands of acres of existing agricultural lands and typical farming practices. As such, there would be no impact to the visual character or quality of public views.

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

**No Impact.** New lighting sources would not be created and are not included as part of Project activities and therefore, existing lighting and glare would not change. As such, there would be no impact that would affect day or nighttime views of the area.

### 3.3 Agriculture and Forestry Resources

Table 3-2. Agriculture and Forest Impacts

Agriculture and Forest Impacts				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.3.1 Environmental Setting

A wide range of commodities are grown in Kern County, with major production of carrots, grapes, milk assorted fruits and nuts, citrus, cotton, cattle and calves, tomatoes, and alfalfa. Rich soil, irrigation water, Mediterranean climate, and steady access to local, national, and global markets make this possible. The majority of the land uses within the District MA-2 is agriculturally based with 3,900 acres of permanent crops and 4,040 acres of row or field crops. The remaining area consists of 1,130 acres of undeveloped land and 920 acres of urban or industrial (non-agricultural) lands. The Project would rely on participating landowners volunteering for rotational land fallowing with the intended saved water to be left in place, thereby managing groundwater supplies through reductions in demand and conservation within the groundwater aquifer.

### 3.3.2 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 majority of land within the District is Prime Farmland and Farmland of Statewide Importance<sup>5</sup> (See **Figure 3-1**). However, the Project activities would not involve the conversion of any agricultural lands. In fact, intended contractual criteria prohibits conversion of fallowed lands to non-agricultural uses. Additionally, construction activities or land use alteration are not part of the Project activities. Any agricultural lands that are granted into the Project would only be allowed to fallow the land for one year and return the lands to agricultural uses. The Project may allow previously approved applicants to fallow for additional years, but it would be based on compliance with the Project conditions for maintaining the non-irrigated lands appropriately. Ultimately, the Project would not allow lands to change existing zoning or land use designations. Therefore, the Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. As such there would be no impact.

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

**No Impact.** The majority of the District's MA-2 has lands held under the Williamson Act<sup>6</sup>, also known as the California Land Conservation Act of 1965. Williamson Act enable the local government to enter into contract with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. The Project would not involve or allow any change of land use or any physical changes to the land itself from either productive agricultural use or fallow to a non-agricultural use. There would be no potential for farmland conversion or any potential conflict with an existing Williamson Act contract as there would be no change to the existing land uses. As such 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))?**

**No Impact.** The Project is set up to only work with agricultural landowners within the District and must demonstrate that the land has been used for agriculture for three (3) years or longer. Timber harvest or existing zoning would not be part of Project activities. There may be landowners that cultivate fruit and nut trees or other trees that are considered crop trees. However, the fallowing of 800 -acres of land would not result in the loss of forest land, as the Project would not change the existing land uses. Additionally, there are no forest resources in the Project vicinity. As such, there would be no impact to rezoning or provide any conflict with forest lands or timberland production.

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

**No Impact.** See analysis 3.3.2.c) above. There would be no impact.

**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?**

**No Impact.** The Project would not involve any new construction. The Project would only allow existing agricultural landowners to participate while meeting specific Project conditions for maintaining the lands. No land conversion would take place as the practice of fallowing is intended to replace depleted water supplies, not increase or decrease existing agricultural development. Water would not be provided to lands that have not been historically cultivated. No unanticipated construction or land alterations are involved. As such there would be no impact as a result in the conversion of farmland to non-agricultural uses or forest lands to not-forest use.

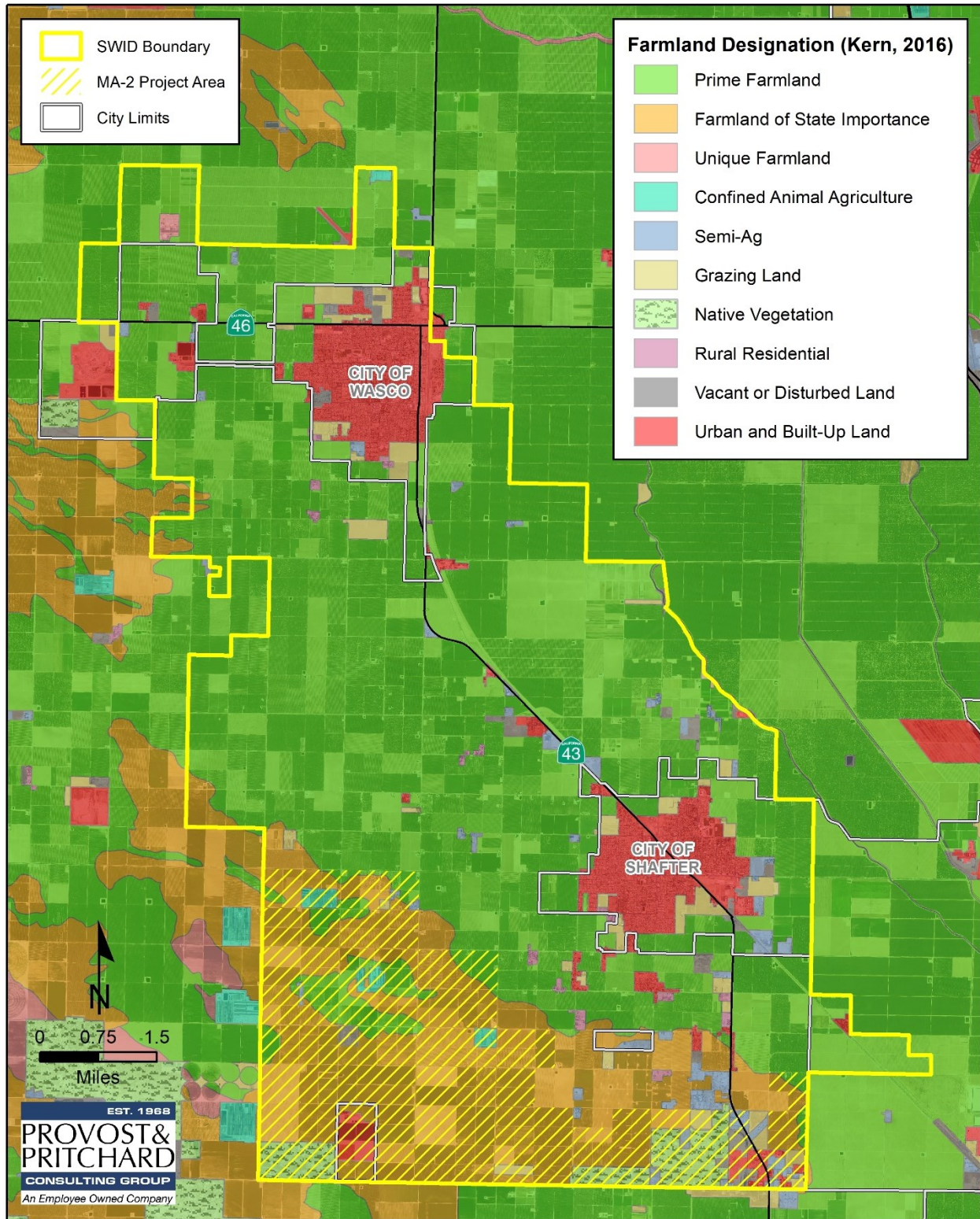
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<sup>5</sup> (California Department of Conservation. 2016. California Important Farmland Finder, 2020). Accessed August 12, 2020.

<sup>6</sup> (Kern County Williamson Act Eligible Agricultural Preserve/Kern County Williamson Act Parcels, n.d.). Accessed August 12, 2020.



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**Figure 3-1. Farmland Designation Map**



## 3.4 Air Quality

Table 3-3. Air Quality Impacts

Air Quality Impacts				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 3.4.1 Environmental Setting and Baseline Conditions

The Project is located within the San Joaquin Valley Air Basin (SJVAB). The SJVAB is under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). Air quality in the SJVAB is influenced by a variety of factors, including topography, local and regional meteorology, agricultural and development activities, and traffic.

#### 3.4.1.1 SJVAPCD Thresholds of Significance

To assist local jurisdictions in the evaluation of air quality impacts, the SJVAPCD has 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 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 summarized, as follows:

**Short-Term Emissions of Particulate Matter (PM<sub>10</sub>):** Construction impacts associated with the Project would be considered significant if the feasible control measures for construction in compliance with Regulation VIII as listed in the SJVAPCD guidelines are not incorporated or implemented, or if project-generated emissions would exceed 15 tons per year (TPY).

**Short-Term Emissions of Ozone Precursors (ROG and NO<sub>x</sub>):** Construction impacts associated with the Project would be considered significant if the Project generates emissions of Reactive Organic Gases (ROG) or NO<sub>x</sub> that exceeds 10 TPY.

**Long-Term Emissions of Particulate Matter (PM<sub>10</sub>):** Operational impacts associated with the proposed Project would be considered significant if the Project generates emissions of PM<sub>10</sub> that exceed 15 TPY.

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### Voluntary Rotational Land Fallowing Program

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**Long-Term Emissions of Ozone Precursors (ROG and NO<sub>x</sub>):** Operational impacts associated with the proposed Project would be considered significant if the Project generates emissions of ROG or NO<sub>x</sub> that exceeds 10 TPY.

**Conflict with or Obstruct Implementation of Applicable Air Quality Plan:** Due to the region's nonattainment status for ozone, PM<sub>2.5</sub>, and PM<sub>10</sub>, if the Project-generated emissions of either of the ozone precursor pollutants (i.e., ROG and NO<sub>x</sub>) or PM<sub>10</sub> would exceed the SJVAPCD's significance thresholds, then the Project would be considered to conflict with the attainment plans. In addition, if the Project would result in a change in land use and corresponding increases in vehicle miles traveled, the Project may result in an increase in vehicle miles traveled that is unaccounted for in regional emissions inventories contained in regional air quality control plans.

**Local Mobile-Source CO Concentrations:** Local mobile source impacts associated with the proposed Project would be considered significant if the Project contributes to Carbon Monoxide (CO) concentrations at receptor locations in excess of the CAAQS (i.e. 9.0 ppm for 8 hours or 20 ppm for 1 hour).

Exposure to toxic air contaminants (TAC) would be considered significant if the probability of contracting cancer for the Maximally Exposed Individual (i.e., maximum individual risk) would exceed 10 in 1 million or would result in a Hazard Index greater than 1.

Odor impacts associated with the proposed Project would be considered significant if the Project has the potential to frequently expose members of the public to objectionable odors.

#### 3.4.1.2 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, nonattainment, 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 "nonattainment" 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 nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An "unclassified" designation signifies that the data does not support either an attainment or nonattainment designation. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The EPA designates areas for ozone, CO, and Nitrogen Dioxide (NO<sub>2</sub>) as "does not meet the primary standards," "cannot be classified," or "better than national standards." For Sulfur Dioxide (SO<sub>2</sub>), 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, nonattainment, and unclassified is more frequently used. The EPA uses the same sub-categories for nonattainment status: serious, severe, and extreme. In 1991, EPA assigned new nonattainment designations to areas that had previously been classified as Group I, II, or III for PM<sub>10</sub> based on the likelihood that they would violate national PM<sub>10</sub> standards. All other areas are designated "unclassified."

The State and national attainment status designations pertaining to the SJVAB are summarized in **Appendix A**. The SJVAB is currently designated as a nonattainment area with respect to the State PM<sub>10</sub> standard, ozone, and PM<sub>2.5</sub> standards. The SJVAB is designated nonattainment for the NAAQS 8-hour ozone and PM<sub>2.5</sub> standards. On September 25, 2008, the EPA re-designated the San Joaquin Valley to attainment status for the PM<sub>10</sub> NAAQS and approved the PM<sub>10</sub> Maintenance Plan.

**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 <sub>3</sub> )	1-hour	0.09 ppm	Nonattainment/ Severe	–	No Federal Standard
	8-hour	0.070 ppm	Nonattainment	0.075 ppm	Nonattainment (Extreme)**
Particulate Matter (PM <sub>10</sub> )	AAM	20 µg/m <sup>3</sup>	Nonattainment	–	Attainment
	24-hour	50 µg/m <sup>3</sup>		150 µg/m <sup>3</sup>	
Fine Particulate Matter (PM <sub>2.5</sub> )	AAM	12 µg/m <sup>3</sup>	Nonattainment	12 µg/m <sup>3</sup>	Nonattainment
	24-hour	No Standard		35 µg/m <sup>3</sup>	
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 <sub>2</sub> )	AAM	0.030 ppm	Attainment	53 ppb	Attainment/ Unclassified
	1-hour	0.18 ppm		100 ppb	
Sulfur Dioxide (SO <sub>2</sub> )	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 <sup>3</sup>	Attainment	–	No Designation/ Classification
	Calendar Quarter	–		–	
	Rolling 3-Month Average	–		0.15 µg/m <sup>3</sup>	
Sulfates (SO <sub>4</sub> )	24-hour	25 µg/m <sup>3</sup>	Attainment	No Federal Standards	
Hydrogen Sulfide (H <sub>2</sub> S)	1-hour	0.03 ppm (42 µg/m <sup>3</sup> )	Unclassified		
Vinyl Chloride (C <sub>2</sub> H <sub>3</sub> Cl)	24-hour	0.01 ppm (26 µg/m <sup>3</sup> )	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: <https://ww3.arb.ca.gov/research/aaqs/aaqs2.pdf>

\*\* No Federal 1-hour standard. Reclassified extreme nonattainment for the Federal 8-hour standard.

\*\*\*Secondary Standard

Source: CARB 2015; SJV APCD 2015

### 3.4.2 Impact Assessment

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

**No Impact.** As noted in Impact Assessment III-b and III-c below, implementation of the Project would not result in short-term or long-term increases in emissions that would exceed applicable thresholds of significance established under the local SJVAPCD air quality plans. Projects that do not exceed the recommended thresholds would not be considered to conflict with or obstruct the implementation of applicable air quality plans. Therefore, there would be no impact.

**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?**

**No Impact.** The Project proposes no construction, or new equipment. Acreage that would be fallowed would require less maintenance than actively farmed land. There would be reduced number of truck and tractor trips to and from the fallowed parcels. There is no potential for an increase in air emissions associated with this Project. There would be no impact.

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

**No Impact.** The Project proposes no construction, or new equipment. Acreage that would be fallowed would require less maintenance than actively farmed land. The proposed Project would require conditions be met by the approved landowner including, but not limited to, dust control measures, erosion and sediment controls and weed abatement. Considering the lack of construction or additional emissions, and that the fallowed lands would not be a source of additional odors, toxic air contaminants, naturally occurring asbestos or fugitive dust; therefore, there would be no impact.

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

**No Impact.** See analysis in impact c) above. There would be no impact.

## 3.5 Biological Resources

Table 3-5. Biological Resources Impacts

Biological Resources Impacts				
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 Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 3.5.1 Environmental Setting

Kern County contains a variety of biological communities and wildlife habitats that provide recreational opportunities and contribute to the overall functionality of the San Joaquin Valley ecosystems. The Project site is located within the lower 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.

Most of the land within the District service area is irrigated agricultural production. Like much of the San Joaquin Valley, the landscape is dominated by irrigated fields that are intensively managed. Very little native vegetation (non-agricultural vegetation) exists in this area. Cultivation of these lands usually occurs up to the very margins of the fields, roads, or ditches. Herbicides are routinely used to control unwanted vegetation. It

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### Voluntary Rotational Land Fallowing Program

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is typical practice to allow cultivated land to lie fallow to rest the soil. The proposed Project consists of providing compensation to a farmer with the intent to conserve water through a voluntary contractual agreement between District MA-2 and participating agricultural water users. In exchange for financial compensation, these water users would agree to fallow for one year.

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. On average, the Central Valley receives approximately 12 inches of precipitation in the form of rainfall yearly, most of which occurs between October and March.

### 3.5.2 Impact Assessment

**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?**

**Less than significant impact.** Project activities do not include construction, land alterations or a change in land use designation. The Project would provide conditions for maintaining the fallowed land throughout the year to include weed abatement and dust controls, to name a few. The Project also would not change the land use patterns of the cultivated or fallowed fields. As the areas are well established agricultural lands, minimal critical habitat would occur and the practice of fallowing would not alter critical habitat outside of the existing agricultural lands and thereby not affecting or altering critical habitat. Any encountered biological resources are likely to be those associated with actively cultivated land and listed below.

The District's management area is located in the following quadrangles: *Wasco NW, Pond, McFarland, Famoso, Wasco, Rio Bravo, Rosedale, North of Oildale, and Oildale*. Wildlife species found in the San Joaquin Valley that may inhabit such areas more commonly includes a limited number of small and mid-sized mammals, including voles (*Microtus spp.*), California ground squirrels (*Spermophilus beecheyi*), pocket gophers (*Thomomys botta*), deer mice (*Peromyscus spp.*), cottontail rabbits (*Sylvilagus bachmani*), Virginia opossum (*Didelphus virginianus*), and striped skunks (*Mephitis mephitis*). Some common bird species present in agricultural habitats, include common crows (*Corvus brachyrhynchos*), mourning doves (*Zenaida macroura*), burrowing owls (*Athene cunicularia*), barn owls (*Tyto alba*), and a limited number of passerine birds (*Passeriformes*). Burrowing owl are listed by the California Department of Fish and Wildlife as a Species of Concern and are known to move around and ground squirrel burrows on banks and undisturbed fields. Additionally, there is the potential for other special status species such as the tipton kangaroo rat (*Dipodomys nitratoide nitratoide*) and blunt-nosed leopard lizard (*Gambelia sila*). However, part of the conditions of the Project are to maintain the fallowed fields including weed abatement. This would require disking and tilling several times within the year, thereby, not allowing new species, plant or wildlife, to reside within the fallowed fields. Once the contact is complete the landowner would resume agricultural practices. There would be little to no opportunity for adverse effects to listed species and impacts would be less than significant.

**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?**

**No Impact.** Riparian habitats typically occur adjacent to waterways and may be located near agricultural lands. The Project area contains some riparian and sensitive natural communities, but these areas are outside of existing agricultural lands. Further, the Project would not involve any new construction or change or alteration in agricultural use designations, and Project components would not occur in riparian habitats. The Project would not conflict with the San Joaquin County Multi-Species Habitat Conservation Plan or Open Space Plan. As such there would be no impact to riparian habitat or other sensitive natural communities.

**c) 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?**

**No Impact.** The Project would allow existing agricultural lands to be fallowed for one year. These are lands that consistently grow crops which includes tilling, discing, planting, watering, and harvesting. There would not be adverse effects to existing wetland as part of Project activities. Any existing wetland in the area would not be removed, filled, or hydrologically interrupted. During the application process the area for fallowing would be reviewed and landowners would need to maintain the land as part of the conditions laid out in the agreement. As such, there would be no impact to federally protected wetlands.

**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?**

**No Impact.** The Project would not involve any construction activities or include the construction of any buildings or facilities that would impede migratory wildlife. As such, there would be no impacts that would interfere with the movement of any wildlife species or 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?**

**No Impact.** Tree removal, expansion of the existing facilities or any changes to the existing agricultural uses of current landowners are not activities associated with the Project. The Project would include conditional uses that would maintain the land for agricultural use at the end of the contractual term and provide maintenance protocols to maintain the land throughout the agreement year. As such, there would be no impacts to local policies or ordinances protecting biological resources.

**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?**

**No Impact.** The Project would identify existing agricultural landowners to be compensated for fallowing a portion of their lands for one-year. The Project would not involve any construction, or any activities that would interfere 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. As such, there would be no impacts to any conservation plans.



## 3.6 Cultural Resources

Table 3-6. Cultural Resources Impacts

Cultural Resources Impacts				
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 in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 3.6.1 Environmental Setting and Baseline Conditions

The historic populations of Kern County include the territories of the Northern, Southern and Foothill Valley Tachi Yokuts and Tejon Indian Tribes. The Project proposes to fallow agricultural lands on a volunteer and rotational basis within the District MA-2, in an effort to conserve water and fulfill GSA and GSP obligations. A Sacred Lands review and Cultural Resources Records Search was not prepared for this proposed Project, due to the fact that there would be no construction activities, removal of buildings or facilities associated with the fallowing Project beyond tilling previously farmed land to eliminate weeds and other foreign and non-native vegetation. There would also be no changes in land use and no alterations to the surrounding areas.

### 3.6.2 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.** The Project would not require, nor induce any new construction activities and would not remove any objects, building, structure, site, record, or manuscript in which the lead agency or Tribes would determine historically significant or considered a historical resource. Farming operations such as tilling to reduce weeds and foreign vegetation would continue to take place on land where existing and historical farming activities have continuously occurred. Therefore, there would be no substantial adverse changes in the significance of historical resources as defined in CEQA Guidelines in Section 15064.5. As such, there would be no impacts to historical resources.

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

**No Impact.** The Project would not involve any new construction or earthmoving activities beyond tilling to eliminate weeds and other foreign vegetation at existing agricultural lands. As stated above there would be no removal of any items significant or otherwise as part of the Project. As such, there would be no impacts to archaeological resources pursuant to Section 15064.5 of the CEQA Guidelines.

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

**No Impact.** The Project would involve fallowing agricultural land on a rotational and completely voluntary basis. The proposed Project would not involve any construction or earthmoving activities beyond tilling previously active farmland to eliminate weeds and other foreign vegetation as stated above. These areas have



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been tilled and disced over many years and even many generations. As such, there would be no impact to any human remains disturbance.

## 3.7 Energy

Table 3-7. Energy Impacts

Energy Impacts				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 3.7.1 Environmental Setting and Baseline Conditions

The proposed Project would not involve any construction or earthmoving other than tilling fallow plots to eliminate weeds and other foreign vegetation. The rotational fallowing Project is an incentivized Project that would promote water conservation and SGMA, GSA and GSP compliance. It is not anticipated that there would be any material increases in fossil fuel use resulting from this Project. Besides the lack of water for irrigation, no other activities would change much. There may be a slight reduction in tractor and truck trips to the fallowed areas, but land maintenance of the fallowed areas would still be required.

### 3.7.2 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?**

**No Impact.** As discussed in Section 3.3, the proposed Project would not involve any construction or earth moving activities. The District adopted their GSP and created the Project to achieve compliance with the GSP. No new pumps or energy operated equipment would be added as part of this Project. The District nor the participating landowners would need to utilize or consume more energy as a result of the land fallowing Project. Therefore, the Project would not result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation. As such, there would be no impact.

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

**No Impact.** The proposed Project would be relatively passive in nature and would not involve any construction or earth moving activities other than tilling the fallowed lands. The Project would not exceed any thresholds set by the SJVAPCD. As such, there would be no impact.

## 3.8 Geology and Soils

Table 3-8. Geology and Soils Impacts

Geology and Soils Impacts				
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994) creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 3.8.1 Environmental Setting and Baseline Conditions

The District management area is located in northwestern Kern County, in the southern section of California's Great Valley Geomorphic Province, or Central Valley. The Alquist-Priolo Earthquake Fault Zone runs through the San Joaquin Valley. The Valley is also made up of a variety of soils. The proposed Project would not involve any construction and would fallow active agricultural lands on a volunteer and rotational basis within the District MA-2 in an effort to conserve water and comply with SGMA, GSA, and GSP regulations.

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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. From the time the Valley first began to form, sediments derived from erosion of igneous and metamorphic rocks and Fresno marine sediments in the surrounding mountains have been transported into the Valley by streams. California has more than 800 different geologic units that provide a variety of rock types, mineral resources, geologic structures and spectacular scenery.<sup>7</sup>

Using the United States Department of Agriculture (USDA) NRCS soil survey of the Project area, an analysis of the soils onsite was performed (See **Table 3-9**). Soils in the area consist of Garces silt loam, Kimberlina fine sandy loam at 0 to 2 percent slopes MLRA 17, Lewkalb sandy loam at 0 to 2 percent slopes, McFarland loam, Milham sandy loam at 0 to 2 percent slopes MLRA 17, Panoche clay loam at 0 to 2 percent slopes, Calflax clay loam, saline-sodic at 0 to 2 percent slopes MLRA 17, and Wasco sandy loam. See **Table 3-9** below for soil characteristics.

**Table 3-9. Soils of the Project Area**

Soil Series	Parent Material	Drainage Class	Hydric	Project Area in Acres
<b>Garces silt loam</b>	Alluvium derived from granite	Well drained	No	1828.4
<b>Kimberlina fine sandy loam, 0 to 2 percent slopes MLRA 17</b>	Alluvium derived from igneous and sedimentary rock	Well drained	No	6284.8
<b>Lewkalb sandy loam, 0 to 2 percent slopes</b>	Alluvium derived from granite	Well drained	No	1722.3
<b>McFarland loam</b>	Alluvium derived from granite	Well drained	No	994.4
<b>Milham sandy loam, 0 to 2 percent slopes MLRA 17</b>	Alluvium derived from igneous and sedimentary rock	Well drained	No	254.0
<b>Panoche clay loam, 0 to 2 percent slopes</b>	Alluvium derived from calcareous sedimentary rock	Well drained	No	995.1
<b>Calflax clay loam, saline-sodic, 0 to 2 percent slopes, MLRA 17</b>	Alluvium derived from calcareous sedimentary rock	Well drained	No	765.8
<b>Wasco sandy loam</b>	Alluvium derived from granite	Well drained	No	26041.1

#### 3.8.1.1 Faults and Seismicity

The Project site is not located within an Alquist-Priolo Earthquake Fault Zone and no known faults cut through the local soil at the site. The nearest major fault is the San Andreas Fault (Cholame-Carrizo section), located 30.23-miles south by southwest of the District with a slip rate of less than 5 mm per year. 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. The Poso Creek Fault is located 3.85-miles northeast of the District with a slip rate of less than 0.2 mm/yr.

#### 3.8.1.2 Liquefaction

The potential for liquefaction, which is the loss of soil strength due to seismic forces, is dependent on soil types and density, depth to groundwater and the intensity of ground shaking. The Department of Conservation has mapped liquefaction hazard in many areas in California, but has not evaluated Shafter-Wasco area for

<sup>7</sup> (California Department of Conservation - California Geological Survey, 2020) Accessed August 12, 2020.

liquefaction or landslides. The area is flat and mostly agricultural lands. It is reasonable to assume that due to the depth to groundwater within the southern portion of Kern County, liquefaction hazards would be negligible.

### 3.8.1.3 Soil Subsidence

Subsidence occurs when a large land area settles due to over-saturation or extensive withdrawal of ground water, oil, or natural gas. These areas are typically composed of open-textured soils, high in silt or clay content, that become saturated. The Project area is made up of primarily of Wasco sandy loam at 67%, with a low to moderate risk of subsidence.

### 3.8.1.4 Dam and Berm Failure

In 1953, the United States Army Corps of Engineers built earthen dams across two forks of the Kern River to create the Isabella Reservoir, Kern County's largest body of water year-round with a surface area of 11,200 acres<sup>8</sup>. Lake Isabella is 7-miles southeast of the Project area.

## 3.8.2 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.*

**No Impact.** The closest fault to the Project area is the Pond-Poso Creek Fault, however this fault is outside of the District management area by approximately 3.85 miles and the practice of fallowing would not involve the rupture of known earthquake faults. The only activities taking place on existing agricultural lands through the proposed Project would be fallow the land for one year and maintain the non-irrigated land per Project conditions such as tilling to eliminate weeds and dust control measures. As such, there would be no impact to known earthquake faults.

*a-ii) Strong seismic ground shaking?*

**No Impact.** See analysis in impact 3.8.2 a-i) above. There would be no impact.

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

**No Impact.** The Project area is not known for liquefaction ground failure and the California Department of Conservation has not identified any liquefaction hazard zones within Kern County<sup>9</sup>. The Shafter-Wasco area has not really been evaluated for liquefaction or landslides due to the fact that these geologic issues have a very low probability in this area. The District MA-2 is flat and consists of mostly agricultural lands. As such, there would be no impact related to ground failure or liquefaction as a result of the Project.

*a-iv) Landslides?*

**No Impact.** No geologic landforms exist on or near the Project site that would result in a landslide event. Further, the California Department of Conservation<sup>10</sup> has not identified any landslide hazard zones within the District. As such, there would be no landslide impacts as a result of Project fallowing.

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

**Less than Significant.** Part of the conditions laid out in the agreement for each landowner participating in the Voluntary Rotational Land Fallowing Project is to ensure that there would be no erosion and sedimentation impacts. Just as there are conditions for weed abatement, there are also conditions for soil erosion (dust

<sup>8</sup> (Kern County Parks and Recreation Department Lake Isabella, 2020). Accessed August 17, 2020.

<sup>9</sup> (California Department of Conservation, 2015). Accessed August 18, 2020.

<sup>10</sup> (California Department of Conservation, 2015). Accessed August 18, 2020.

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controls) and sediment controls (current agricultural best management practices). Participants would have to, as part of the conditions and Project compliance, would need to provide appropriate soil erosion and sedimentation controls to address the loss of topsoil prior to Project approval. As such, the Project would not result in substantial soil erosion or the loss of topsoil and therefore, 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?**

No Impact. See analysis in impact 3.8.2 a-i); a-iii); and a-iv ) above. There would be no impact.

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

No Impact. There would be no construction of any buildings as a result of the proposed Project. Therefore, soils would not need to meet the Uniform Building Code and would not create a direct or indirect risk to life or property. Project participants must provide proof that lands are and have been for at least three consecutive years been used for agricultural. There would be no changes to land designations and no construction as part of the Project activities. As such, there would be no direct or indirect risks to life or property as the result of 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 would not include the use of septic tanks or other alternative wastewater disposal systems. As such, there would be no impact.

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

No Impact. There are no unique geological features or known fossil-bearing sediments in the vicinity of the proposed Project participants because these are all pre-disturbed, agricultural lands. Volunteers must provide proof that the land is currently being used for agriculture, therefore, it would be well documented that the land has been disced and tilled many times prior to entering the Project. Additionally, the soils identified in **Table 3-9** have low potential as the rock units are poorly represent by fossil specimens. As such, there would be no impact to undiscovered paleontological resources.

## 3.9 Greenhouse Gas Emissions

Table 3-10. Greenhouse Gas Emissions Impacts

Greenhouse Gas Emissions Impacts					
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b)	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 3.9.1 Environmental Setting and Baseline Conditions

According to the Office of Planning and Research's June 2014 Draft California Climate Change Research Plan:

*Climate change is the biggest environmental challenge of our time. California has long been a global leader in addressing climate-related issues through cutting-edge research and innovative climate policies. Governor Brown recently joined more than 500 world-renowned researchers and scientists in releasing a groundbreaking call to action on climate change and other global threats to humanity. The 20-page consensus statement was produced at Governor Brown's request and has been signed by scientists from over 40 countries. The consensus statement connects key scientific findings from different fields into a clear warning and a call for immediate, substantial, and sustained action to preserve humanity's life support systems. The science in the consensus statement is confirmed in the October 2013 report of scientific findings by the Intergovernmental Panel on Climate Change (IPCC). The IPCC report states that "[h]uman influence has been detected in warming of the atmosphere and the ocean, in changes in the global water cycle, in reductions in snow and ice, in global mean sea level rise, and in changes in some climate extremes." The IPCC further concludes that "human influence has been the dominant cause of the observed warming since the mid-20th century" (IPCC 2013).*

*As shown in the report Indicators of Climate Change in California (Office of Environmental Health Hazard Assessment 2013), observations over the last several decades reveal clear signals of climate change and its effects in California. The growing body of scientific research shows unequivocally that this change is associated with the release of carbon dioxide and other greenhouse gases (GHGs) resulting from burning fossil fuels as well as other human activities. Using sophisticated computer models, climate research projects an unprecedented rate of rise in temperature with shifting patterns of precipitation and more extreme weather events in the future. Climate change and the efforts of the State to confront it will touch nearly every aspect of the state's planning and investment for the future. Over the next few decades, significant reductions in GHG emissions will be necessary to avoid the worst consequences of climate change. At the same time, California must escalate and accelerate its efforts to safeguard the State from the already-observable climate change as well as the larger changes that will be unavoidable in the future. Scientific research sponsored by the State of California has provided new knowledge that has enabled California to respond with science-based policies. New, carefully targeted research is necessary to inform future policy development and implementation<sup>11</sup>.*

#### Greenhouse Gases

According to the San Joaquin Valley Air Pollution Control District's 2014 Draft Guidance for Assessing and Mitigating Air Quality Impacts, Greenhouse gases (GHGs) are gases that absorb and emit radiation within the

<sup>11</sup> (California Office of Environmental Health Hazard Assessment, 2013). Accessed August 4, 2020.



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thermal infrared range, trapping heat in the earth's atmosphere. There are no "attainment" concentration standards established by the Federal or State government for greenhouse gases. In fact, GHGs are not generally thought of as traditional air pollutants because greenhouse gases, and their impacts, are global in nature, while air pollutants affect the health of people and other living things at ground level, in the general region of their release to the atmosphere. Some greenhouse gases occur naturally and are emitted into the atmosphere through both natural processes and human activities. Other GHGs are created and emitted solely through human activities. The principal greenhouse gases that enter the atmosphere because of human activities are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and fluorinated carbons<sup>12</sup>.

### 3.9.2 Thresholds of Significance

CEQA Guidelines Amendments became effective March 18, 2010. Included in the Amendments are revisions to the Appendix G Initial Study Checklist. In accordance with these Amendments, 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, proposed projects complying with 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 business-as-usual (year 2004) conditions. In addition, Project-generated emissions complying with an approved plan or mitigation Project would also be determined to have a less-than-significant impact.

### 3.9.3 Impact Assessment

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

**No Impact.** The Project would not include construction activities, or a change in land use or designation. There might be a slight decrease in GHG due to 800 acres a year being fallowed. Without planting, watering, maintaining, and harvesting 800 acres of crops, there would be less vehicle and equipment emissions. Even though the Project conditions would require land upkeep throughout the year (primarily weed abatement), it would still be less equipment use during fallowing. As such, there would be no impact directly or indirectly on the environment due to generated GHGs.

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

**No Impact.** See analysis in impact 3.9.9. a) above. There would be no conflict with applicable plans, policies or regulations for the purpose of reducing the emissions of GHG. As such, there would be no impacts to GHGs.

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<sup>12</sup> (San Joaquin Valley Air Pollution Control District, 2015). Accessed August 4, 2020.



## 3.10 Hazards and Hazardous Materials

Table 3-11. Hazards and Hazardous Materials Impacts

Hazards and Hazardous Materials Impacts				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 3.10.1 Environmental Setting and Baseline Conditions

#### 3.10.1.1 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 State Water Resources Control Board (SWRCB) GeoTracker database provides information on regulated hazardous waste facilities in

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California, including underground storage tank (UST) cases and non-UST cleanup Projects, including Spills-Leaks-Investigations-Cleanups (SLIC) sites, Department of Defense (DOD) sites, and Land Disposal Project.

There are a number of federal and State databases that provide information regarding facilities or sites identified as meeting the Cortese List requirements and which list the past and present businesses that have had or are currently experiencing a hazardous materials release within the County. These include Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS), GeoTracker (the leaking underground storage tank database), EnviroStor, the Toxic Release Inventory, and the List of Active Cease and Desist Orders and Cleanup and Abatement Orders. Products as diverse as gasoline, paint, solvents, household cleaning products, refrigerants, and radioactive substances are categorized as hazardous materials. What remains of a hazardous material after use, or processing, is considered to be a hazardous waste and must identify the handling, transportation, and disposal of such wastes, as well as proper handling of hazardous materials.

Beginning in the 1970s, governments at the federal, State, and local levels became increasingly concerned about the effects of hazardous materials management on human health and the environment. Numerous laws and regulations were developed to investigate and mitigate these effects. As a result, the storage, use, generation, transport, and disposal of hazardous materials and waste are highly regulated by federal, State, and local laws and regulations.

A search of the DTSC EnviroStor database and the SWRCB GeoTracker performed on August 21, 2020 determined that there are nine active hazardous waste generators or hazardous material spill sites within the District management area. The remaining 60 identified contamination location are all closed cases or need no further action. These sites are within and around the cities of Wasco and Shafter **Table 3-12** below identifies the cleanup sites within the District's entire management area.

**Table 3-12. Active Sites and Facilities Identified in GeoTracker.**

SITE NAME	GLOBAL ID	STATUS	ADDRESS	CITY
BROWN & BRYANT - SHAFTER	SLT5FT144489	OPEN - REMEDIATION	135 COMMERCIAL DR.	SHAFTER
BROWN AND BRYANT - SHAFTER FACILITY	15280010	ACTIVE	135 COMMERCIAL DRIVE	SHAFTER
LONE STAR GAS LIQUIDS PROCESSING, INC.	71003216	INACTIVE - NEEDS EVALUATION	19430 BEECH AVENUE/7TH STANDARD	SHAFTER
SANDOZ CORP PROTECTION INC	80001668	ACTIVE	720 5TH ST	WASCO
SEMITROPIC AUXILIARY FIELD #5	80000475	INACTIVE - NEEDS EVALUATION	NO ADDRESS IDENTIFIED	WASCO
SHAFTER-WASCO SANITARY LANDFIL	L10003029180	OPEN	17621 SCOFIELD	SHAFTER
SIMPLOT WASCO	SLT5FS184436	OPEN - REMEDIATION	541 HWY 46	WASCO
UNITED STATES DEPARTMENT OF AGR. - SHAFTER, COTTON	SLT5FT684542	OPEN - INACTIVE	17053 SHAFTER AVE	SHAFTER
WASCO (OLD) SWDS	L10003239324	OPEN	7TH ST & LEONARD	WASCO

There are also four land disposal sites located within or near the District's overall management area. These land disposal sites include: Wasco SWDS located at 7<sup>th</sup> and Leonard outside of Wasco; Crop Production Services Landfill located on Kimberlina near highway 99; Shafter-Wasco Sanitary Landfill located on Scofield between the cities of Wasco and Shafter to the west; and Shafter Burn Dump located at Burbank and Palm west of the City of Shafter.

### 3.10.2 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?**

No Impact. The proposed Project would not involve the routine transfer, use or disposal of hazardous materials. Therefore, there is nothing applicable to any hazardous material with this project. As such, there would be no impact to the public or the environment.

**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?**

No Impact. The Project activities would not create a significant hazard to the public or the environment as the Project would not discharge hazardous materials into the environment. The Project is specifically for landowners to volunteer their agricultural lands to not be irrigated for one year. As such, there would be no impacts 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?**

No Impact. The proposed Project would not include activities that would emit hazardous emissions or handle hazardous materials or substances. No construction is associated with Project activities and therefore no construction equipment would be used. As such, there would be no impact of hazardous emissions, materials, or substances, to any schools along the existing Project path.

**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 would not involve any construction or placement of habitable structures. As such, there would be no impacts 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?**

No Impact. Although there are airports throughout Kern County, the Project consists of only discontinuing irrigation of approximately 800 acres of land within the District MA-2. Therefore, the proposed participating landowners volunteering to fallow some of their lands would not result in a safety hazards for people residing or working in the project area related to public airport activities. As such there would be no impact from safety hazards to people residing or working in the area.

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

No Impact. Participating landowners volunteering to fallow some of their lands within the guidelines of the District's Fallowing Project would not result in the interference with adopted emergency response plan or evacuation plan. As such, there would be no impact.

**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. The Project consists of fallowing agricultural land up to 800 acres. There is no proposed structures or construction of any kind associated with this Project. As such, the Project would not directly or indirectly expose people or structures, to wildland fire risks.

## 3.11 Hydrology and Water Quality

Table 3-13. Hydrology and Water Quality Impacts

Hydrology and Water Quality Impacts				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 3.11.1 Environmental Setting and Baseline Conditions

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. On average, the San Joaquin Valley receives approximately 12 inches of precipitation in the form of rainfall yearly, most of which occurs between October and March.

The watershed and subwatershed boundaries within the overall management area are hydrologic unit codes (HUC)<sup>13</sup>: HUC 180300040401; HUC 180300040403; HUC 180300040404; and 180300120804. The closest

<sup>13</sup> (California Hydrologic Units Map. 2018) Accessed on August 18, 2020.

## Chapter 3 Impact Analysis - Hydrology and Water Quality

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surface water is Poso Creek located north east of Wasco. Poso Creek is an 87.9-mile intermittent stream that runs from the Sierra Mountains into the San Joaquin Valley. The Calloway Levee and Friant-Kern Canal run to the east of both towns. The Shafter-Wasco ID Lateral runs through the District's management area (See **Figure 3-3** below). Groundwater in the Kern County Subbasin unit and covers about 3,000 square miles in Kern County and public supply wells are typically drilled to depths between 600 and 800 feet below land surface. The primary sources of recharge are from the Kern River and artificial recharge at groundwater banking facilities that exist throughout most of Kern County. Secondary recharge of groundwater includes return flows from agricultural and municipal irrigation<sup>14</sup>.

#### 3.11.2 Impact Assessment

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

**No Impact.** The Project consists of fallowing active farmland for the purposes of conserving water usage and demands within the District MA-2. The proposed Project would not violate any water or groundwater quality standards nor would it impact waste discharge requirements. As such, there would be no impact.

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

**No Impact.** The Project is being proposed and evaluated to assist in the increase and sustainability of local groundwater. By offering an incentivized compensation program to reduce the use of irrigation on existing agricultural land would assist in the reduction of groundwater use and could provide benefits of up to 2,560-acre-feet of water per year. In combination with other District conservation programs. Groundwater supplies would remain steady or increase over the years and assist in meeting the GPA for the Kern County Subbasin groundwater basin. As such, there would be no impacts to groundwater as a result of the Project.

**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:**

*c-i) result in substantial erosion or siltation on- or off-site;*

*c-ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;*

*c-iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or*

*c-iv) impede or redirect flood flows?*

**No Impact.** Grading and construction activities are not part of the Project. Roads, staging areas, or other ground disturbing activities that cause erosion and siltation are also not part of this proposed. All participating landowners would be allowed to fallow only existing agricultural lands. Agricultural practices take into account existing drainage patterns to address water run-off and crop health. These agricultural practices would not change as a result of the Project. Therefore, drainage patterns would not be altered and there would be no surface runoff adding sources of pollutants or impediments of water flows as a result of transferring water through an existing waterway. As such, there would be no impact.

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<sup>14</sup> (Groundwater Quality in the Kern County Subbasin, California. 2016). Accessed on August 18, 2020.

## Chapter 3 Impact Analysis – Hydrology and Water Quality

### Voluntary Rotational Land Fallowing Program

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

**No Impact.** The proposed Project would fallow active farmlands on a volunteer and rotational basis. The Project would not expose people, structures, or associated facilities to a flood hazard, inundation of seiche, tsunami, or mudflow. As such, there would be no impacts.

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

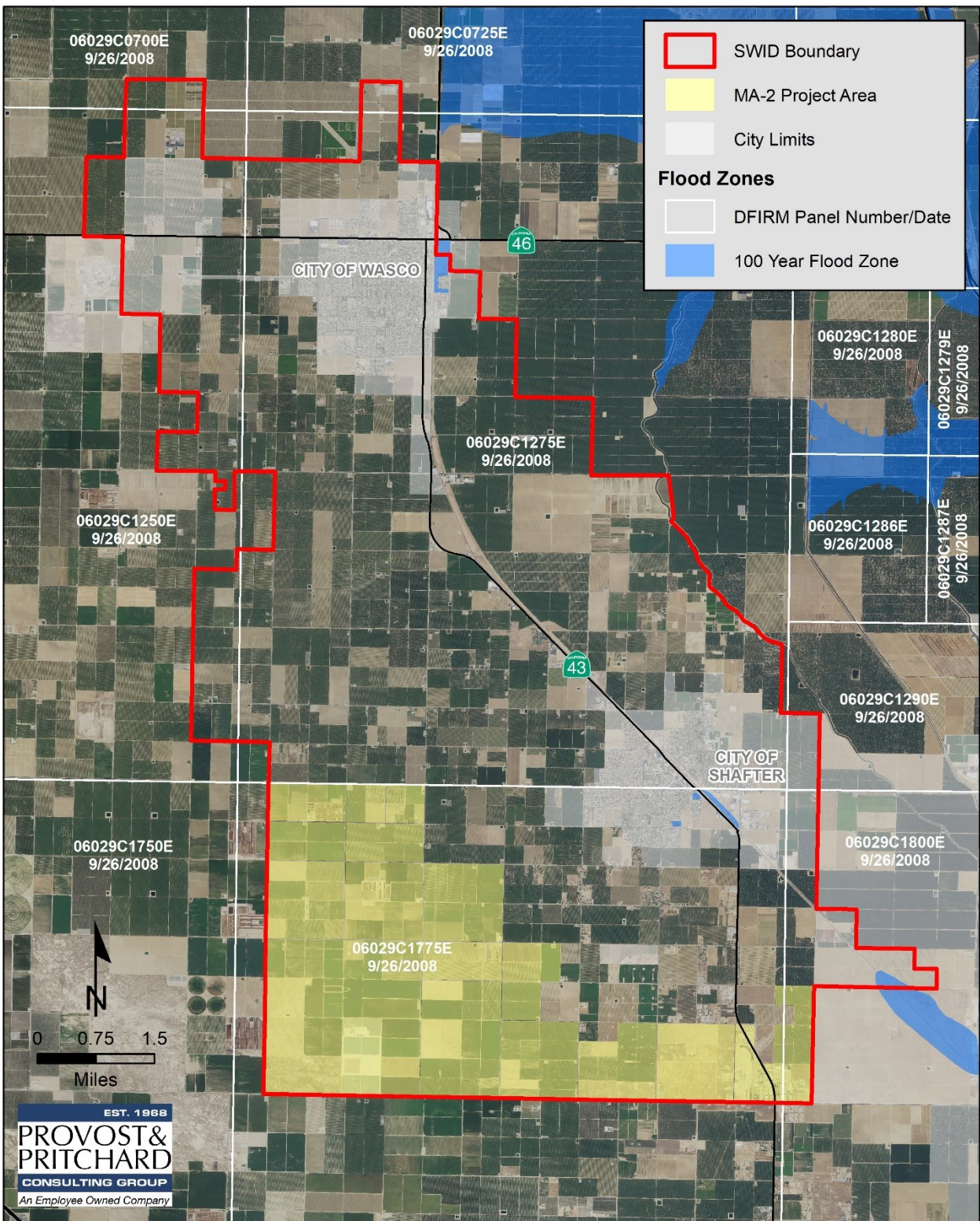
**No Impact.** Kern County currently has several GSPs for different regions and authored and implemented by different local agencies. The Project is located in the groundwater basin 5-022.14 San Joaquin Valley – Kern County.<sup>15</sup> The GSPs for these basins were developed in order to achieve long-term groundwater sustainability in the various Subbasins. The Subbasins in the San Joaquin Valley are classified as a high-priority Subbasins by the DWR and are identified as critically over-drafted<sup>16</sup>. This Project would incentivize private landowners within the District management boundaries to fallow active agricultural lands in an effort to conserve water demands and usage, as well as comply with SGMA regulations and the GSP. As such, the Project would not conflict with or obstruct implementation of any water quality control plan or sustainable groundwater management plans but rather comply with these plans. As such, there would be no impacts.

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<sup>15</sup> (State of California Department of Water Resources SGMA Portal) Accessed on August 16, 2020.

<sup>16</sup> (Kern-Tulare Water District Groundwater Sustainability Plan, 2019). Accessed on August 16, 2020.





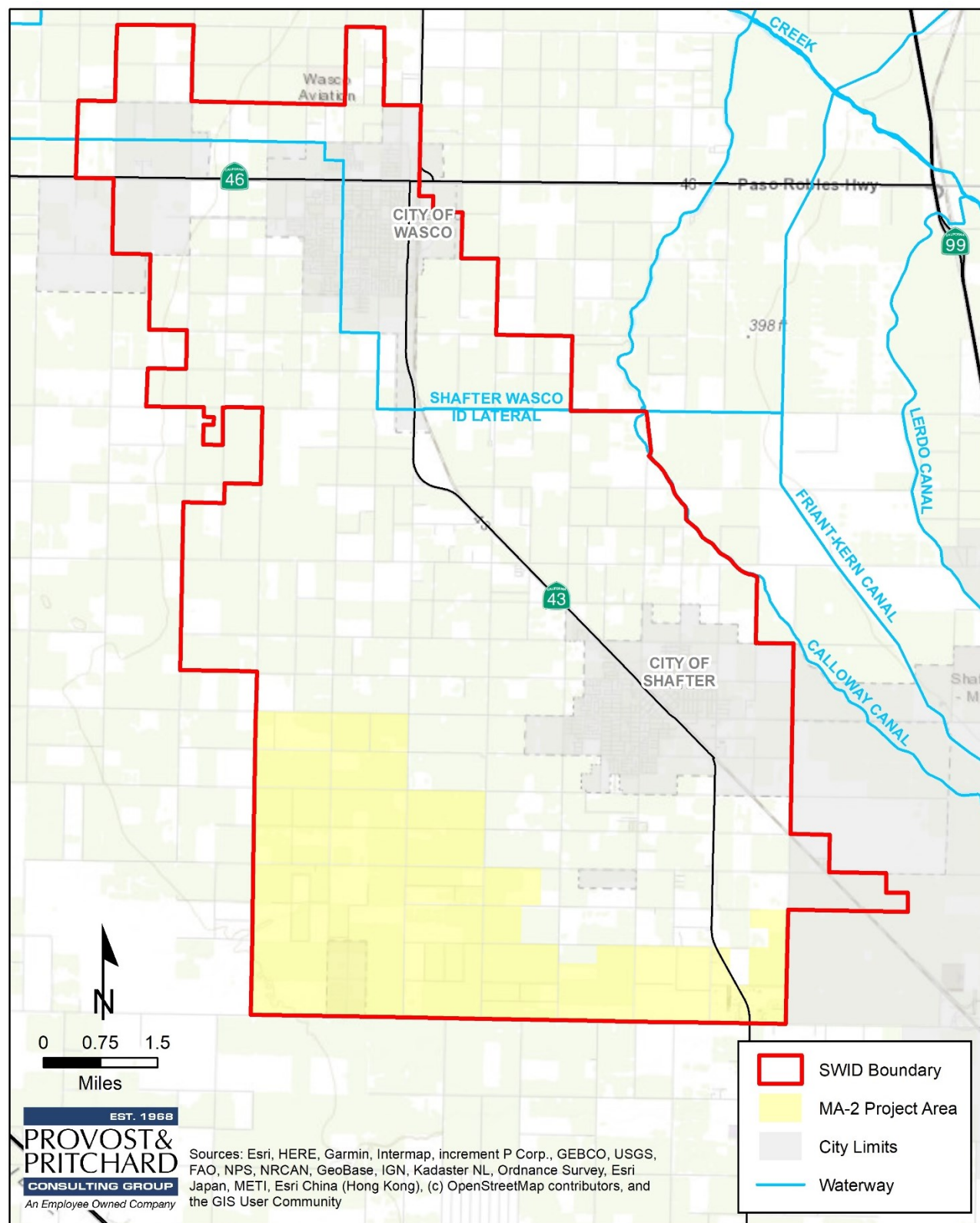
8/24/2020 : G:\Shafter-Wasco ID-2007\200720003-CEQA Services for Rotational Fallow\400 GIS\Map\Flood.mxd

Figure 3-2. FEMA Map



## Chapter 3 Impact Analysis – Hydrology and Water Quality

### Voluntary Rotational Land Fallowing Program



**Figure 3-3. Waterways**



## 3.12 Land Use and Planning

Table 3-14. Land Use and Planning Impacts

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

### 3.12.1 Environmental Setting and Baseline Conditions

The state of California is home to close to 40 million people. The proposed Project is located in Kern County. Kern County has approximately 900,202 residents<sup>17</sup>. The City of Wasco has approximately 28,710 residents and the City of Shafter has approximately 20,401 residents. The proposed Project would not divide the established communities of Shafter and Wasco nor would it propose elements that conflict with any land use plan, policy, or regulation.

### 3.12.2 Impact Assessment

#### a) Would the project physically divide an established community?

**No Impact.** The Project would utilize existing water conveyance facilities and is not proposing the construction of any new facilities of any kind. The Project is not proposing to physically divide any established communities; therefore, there would 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?

**No Impact.** The Project would be in conformance with all land use plans, policies, and regulations. As stated above, this Project would incentivize private landowners within the District management boundaries to fallow active agricultural lands in an effort to reduce water demands and usage, thereby conserving groundwater in the aquifer, as well as comply with SGMA regulations and the GSP. As such, there would be no impact.

<sup>17</sup> (United States Census Bureau Kern County CA, 2020). Accessed August 4, 2020.

## 3.13 Mineral Resources

**Table 3-15. Mineral Resources Impacts**

Mineral Resources Impacts				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 3.13.1 Environmental Setting and Baseline Conditions

There are various mining activities and mineral resources throughout Kern County. The closest significant mineral resources are located off of the Porterville Highway 65 approximately 11.36 miles to the east of Shafter. The largest mineral deposits are located in and around Bakersfield approximately 16.48-miles southeast of Shafter<sup>18</sup>. Both mineral deposits are outside of the District MA-2.

### 3.13.2 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?**

**No Impact.** The proposed Project would not result in significant impacts associated with the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. The proposed Project would not involve any construction activities or ground disturbance other than tilling historically active agricultural lands to eliminate weeds and maintain the land according to the conditional agreement between the landowner and the District such that it could be returned to its baseline use for agricultural cultivation at the end of its contractual term. The proposed Project would not impact any mineral resources or mining operations. As such, there would be no impact.

**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?**

**No Impact.** The proposed Project is intended to reduce use of groundwater for irrigation, and conserve said water within the groundwater aquifer. The proposed Project would not alter any existing land uses. Therefore, the proposed Project would not result in the loss of availability of a locally important mineral resource recovery site to any degree beyond baseline conditions. As such, there would be no impact.

<sup>18</sup> (Mineral Resource Noes for Kern County. 2015). Accessed on August 19, 2020.

## 3.14 Noise

**Table 3-16. Noise Impacts**

Noise Impacts				
Would the project result in:	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Generation of excessive ground borne vibration or ground borne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 3.14.1 Environmental Setting and Baseline Conditions

Ambient noise levels in Kern County vary widely and are mainly generated by vehicle travel on roads, operations of agricultural equipment, airports, and rail lines. Kern County regulates noise by implementation and enforcement of the Kern County Code of Ordinances<sup>19</sup>. Construction noise is deemed acceptable between the hours of 6:00 am to 9:00 pm during the weekdays and between 8:00 am to 9:00 pm on weekends. Noise is generally defined as unwanted or objectionable sound. Sensitive receptors to noise include, but may not be limited to hospitals, schools, daycare facilities, elderly/convalescent housing, and residences. Some of these uses occur within the District but are already subjected to ambient noises from baseline conditions. The Project proposes no new noise generating sources.

### 3.14.2 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?

**No Impact.** The proposed Project involves the fallowing agricultural lands within the District MA-2 on a volunteer and rotational basis for SGMA compliance. There would be no construction or earthmoving activities other than the maintenance of existing agricultural lands per the conditions set forth in the agreement between landowners and the District. Activities necessary to maintain the program lands are the same activities and use the same equipment that currently used on agricultural fields throughout the planting and harvesting season. There would be no change to agricultural ambient noise levels. As such, would be no impact resulting from noise or vibration.

<sup>19</sup> (Kern County. Code of Ordinances, Title 8 Health and Safety, Chapter 8.36 – Noise Control, 2020) Accessed on August 11, 2020.

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### Voluntary Rotational Land Fallowing Program

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

No Impact. See analysis in impact 3.14.2 a) above. There would be no impact.

**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?**

No Impact. The proposed Project would not involve the building of habitable structures of any kind. Therefore, the Project would not expose people residing or working to an increase in noise levels beyond baseline conditions. As such, there would be no impact.

## 3.15 Population and Housing

Table 3-17. Population and Housing Impacts

Population and Housing Impacts				
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 3.15.1 Environmental Setting and Baseline Conditions

Kern County is located in the San Joaquin Valley, the southern portion of California's Central Valley. Kern County has approximately 900,202 residents<sup>20</sup>. The City of Wasco has approximately 28,710 residents and the City of Shafter has approximately 20,401 residents<sup>21</sup>. The proposed Project activities would not propose any new housing structures to be built, nor would it induce population growth.

### 3.15.2 Impact Assessment

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

**No Impact.** The proposed Project would incentivize landowners to fallow agricultural land on a volunteer and rotational basis to reduce the demand of irrigation water throughout the year. The proposed Project would not propose any new construction or earthmoving activities beyond tilling the land to reduce weeds and comply with the conditions of the agreement. The proposed Project would improve the reliability of the water supply to the existing planted agricultural lands within the District MA-2 and reduce surface and groundwater pumping to encourage and promote water saving practices. Implementation of the proposed Project would not indirectly or directly induce population growth in the area. There would be no impact.

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

**No Impact.** The Project would not propose any construction. No housing or people would be displaced, and no new housing would be constructed or required as a result of the fallowing Project. There would be no impact.

<sup>20</sup> (United States Census Bureau Kern County CA, 2020). Accessed August 4, 2020.

<sup>21</sup> Ibid.

## 3.16 Public Services

Table 3-18. Public Services Impacts

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

### 3.16.1 Environmental Setting and Baseline Conditions

Kern County maintains public services, provide fire and police protection, as well as schools, parks and other public facilities and services. The Project consists of fallowing agricultural lands within the District MA-2 on a volunteer and rotational basis in order reduce demand and assist with conservation of water in the groundwater aquifer and would not require additional public services to be provided to the area within the District MA-2 beyond baseline conditions.

### 3.16.2 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:**

**No Impact.** The Project would not include any construction of any kind. The landowners approved through the program would continue to utilize existing services as needed. There would not be an additional need for public services due to implementation of the agricultural land rotational fallowing program. As such, there would be no impact.

## 3.17 Recreation

Table 3-19. Recreation Impacts

Recreation Impacts				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 3.17.1 Environmental Setting and Baseline Conditions

Kern County offers a variety of recreational opportunities through their Parks and Recreation Departments and nearby State and federal lands. There are four (4) public parks within the City of Wasco and five (5) public parks within the City of Shafter<sup>22</sup>. The closest State Parks are The Tule Elk State Natural Reserve and the Colonel Allensworth State Historic Park and located to the south and west, respectively, of the District MA-2<sup>23</sup>. The closest National Parks are located to the east and include Sequoia and Kings Canyon National Parks<sup>24</sup>. The Project consists of rotational fallowing of agricultural land within the District MA-2 in order to preserve water for agricultural purposes. There may be recreational areas for the public to utilize surrounding the agricultural lands but implementation of the Project would not impact existing structures such as parks, camping and hiking trails, the Project area would provide agreements with private property agricultural landowners.

### 3.17.2 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 not result in either an influx of population (e.g. by creation of housing or creation of jobs) or relocation of persons from elsewhere into the Project area. The rotational land fallowing program would be implemented on currently privately owned and operated agricultural lands. As such, there would be no impact.

#### 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?

**No Impact.** The proposed Project would not include recreational facilities. As there is no population growth resulting directly or indirectly from Project implementation, construction or expansion of nearby recreational facilities would not be necessary. There would be no impact.

<sup>22</sup> (Google Earth Pro). Accessed on August 19, 2020.

<sup>23</sup> (California State Parks Map). Accessed on August 19, 2020.

<sup>24</sup> (National Parks Service Map. 2018). Accessed on August 19, 2020.



## 3.18 Transportation

**Table 3-20. Transportation Impacts**

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

### 3.18.1 Environmental Settings and Baseline Conditions

The main form of transportation in Kern County is through vehicle travel. Interstate 5 and State Routes 43, 65, 99, 58, 46, 119, 166, 178 and 223 are located in Kern County. The District is located in northwestern Kern County, specifically northwest of Bakersfield and southwest from Fresno, between Interstate 5 and SR 99. The northern portion of the District is bisected by Hwy 46. Hwy 43 runs north-south through the District. The City of Wasco is located in the northern portion of the District. The City of Shafter is located in the southern portion of the District. North Kern Transit provides public transportation through the cities of Wasco and Shafter from Bakersfield northeast to Lost Hills and north through McFarland up to Delano. These routes do not include rural transit routes<sup>25</sup>. There are several bicycle routes within the City of Wasco with one additional route located along Central Avenue between Filburn Street and Jackson Avenue and is the located in more of a rural setting a few miles outside of town<sup>26</sup>. There are also several bicycle routes in and around the City of Shafter with no rural routes inside the District MA-2. There may be the occasional pedestrian walking or biking along existing public roads, sidewalks, and canals within the District MA-2.

### 3.18.2 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 activities would not change or alter any existing public access areas including public transportation, roadways, bicycle, and pedestrian facilities. The Project would occur on existing private agricultural lands. There would be no conflict with any plan, ordinance or policy that addresses any transportation access for the surrounding public. As such there would be not impact.

<sup>25</sup> (North Kern Transit Guide. Kern Transit Public Transit Connecting Map, 2014). Accessed on August 21, 2020.

<sup>26</sup> (Map My Ride - Wasco Cycling Trails, 2020). Accessed on August 21, 2020.

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

**No Impact.** There is no population growth associated with the Project, nor would implementation of the Project result in an increase of staff or drivers utilizing roadways in the area. Therefore, implementation of the Project would not increase the demand for any changes to congestion management programs or interfere with existing level of service standards during the operational phase. As such, there would be 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)?**

**No Impact.** No roadway design features are associated with this Project and there would be no change in the existing land use designations that could result in an incompatible use of existing roadways. Program participants must have existing agricultural lands to fallow and would continue to manage the lands as per the conditions of the agreement. Although farm equipment would continue to be necessary to meet the conditions of the program, these actions would be maintaining current and historical uses of the area and would not change existing land maintenance practices. As such, there would be no impact.

**d) Would the project result in inadequate emergency access?**

**No Impact.** Roads would not be modified as a result of this Project. There would be no impact to any emergency access.

## 3.19 Tribal Cultural Resources

Table 3-21. Tribal Cultural Resources Impacts

Tribal Cultural Resources Impacts				
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:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i. Listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 3.19.1 Environmental Setting and Baseline Conditions

The Shafter-Wasco Irrigation District has not received any letters from any California recognized Native American Tribes, regarding consultation pursuant to California Statute Public Resources Code Section 21080.3.1. The proposed Project would not impact any Tribal resources as the Project would be taking place on well-established and maintained agricultural land within the District MA-2.

### 3.19.2 Impact Assessment

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

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

**No Impact.** The District has not received any letters from any California Native American Tribes regarding tribal resources within the proposed Project vicinity pursuant to AB 52 or otherwise. The agricultural lands that would be part of the Project are currently and historically disturbed through traditional agricultural practices

## Chapter 3 Impact Analysis – Tribal Cultural Resources

### Voluntary Rotational Land Fallowing Program

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(e.g. discing, tilling, planting, and harvesting). The Project would not propose to remove landmarks or alter or dismantle any building. The proposed Project landowners would continue to use existing equipment and infrastructure as needed with little to no change in land management practices. As such, there would be no impacts to historical Tribal resources.

*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. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.*

**No Impact.** As stated above, the lack of construction activities on already established agricultural lands precludes the disturbance of any potential Tribal resources as a result of the proposed Project. As such, there would be no impact to tribal resources.

## 3.20 Utilities and Service Systems

Table 3-22. Utilities and Service Systems Impacts

Utilities and Service Systems Impacts				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 3.20.1 Environmental Setting and Baseline Conditions

The proposed Project would reduce the utilization of irrigation water within the District MA-2 by incentivizing landowners to fallow their previously farmed lands on a voluntary and rotational basis. There would be no need for new utilities or services beyond the current and existing baseline needs of landowners. The intent of the rotational fallowing Project would be to decrease the demand of groundwater used for irrigation of up to 800 acres a year agricultural lands in the District's compliance with the governing GSP.

### 3.20.2 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?**

**No Impact.** The proposed Project would not involve the relocation or construction of any new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas or telecommunications facilities. The rotational fallowing Project would reduce the demand of irrigation water within the District MA-2 through incentivization of landowners to fallow their previously farmed lands on a voluntary and rotational basis in an effort to conserve water and comply with SGMA and the governing GSP. As such, there would be no impact.

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

**No Impact.** New or expanded water entitlements would not be required for the proposed Project, nor are they proposed. Baseline water demands for irrigation of up to 800 acres of farmland would be curtailed and instead be conserved within the groundwater aquifer. As such, there would be no impact.

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

**No Impact.** The proposed Project would not generate any wastewater. There would be 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?**

**No Impact.** As the proposed Project would not generate solid waste, there would be no need for an increase in solid waste capacity as a result of the Project. As such, there would be no impact.

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

**No Impact.** The Project would not generate solid waste. There would be no impact to any statutes or regulations related to solid waste.



## 3.21 Wildfire

**Table 3-23. Wildfire Impacts**

Wildfire Impacts				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrollable spread of wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 3.21.1 Environmental Setting and Baseline Conditions

The proposed Project is located in Kern County on agricultural lands located in and around the cities of Wasco and Shafter within the overall District's management area. The Project would be located in a local responsibility fire hazard severity area and categorized as moderate in severity<sup>27</sup>. In addition, there are two fire stations located within the District management area, Kern County Fire Department Station No. 31 Wasco and Station No. 32 Shafter. The proposed Project would not result in population growth and it would not involve the construction of structures, habitable or otherwise. The proposed Project would not increase any wildfire hazards of any kind. The rotational fallowing Project would require the fallowed plots to be maintained in such a way as to remain suitable for agricultural reuse, including weed abatement and erosion control following the expiration of the term of the contractual agreement between the landowner and the District.

### 3.21.2 Impact Assessment

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

**a) Substantially impair an adopted emergency response plan or emergency evacuation plan?**

**No Impact.** The proposed Project would not impair an adopted emergency response plan or evacuation plan due to a wildfire. Project participants must have existing agricultural lands to fallow and would continue to manage the lands as per the conditions of the agreement, including weed abatement. As such, there would be no impacts.

<sup>27</sup> California Fire Hazard Severity Zone Map (2020). Accessed on August 19, 2020.

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

No Impact. See analysis in impact 3.21.2.a) above. There would be no impact.

**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?**

No Impact. Project participants must have existing agricultural lands to fallow and would continue to manage the lands as per the conditions of the agreement. Participating landowners would continue to manage their lands as needed so that it remains viable for return to agricultural use upon expiration of the term of the contractual agreement. However, installation or maintenance of associated infrastructure is not proposed by the Project. As such, the Project would not exacerbate fire risk and there would be no impacts.

**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. As stated above, the rotational fallowing Project would require any fallowed lands to be maintained as per the outlined conditions of the Project agreement between the landowners and the District. The District MA-2 is located within a locally responsible area of low to moderate fire hazard severity. The closest location of a “very high severity hazard zone” is 24.74 miles west by southwest of the District management area. Although there would be less water received by various landowners of up to 800 acres, participants in the Project must continue to provide appropriate management of the approved fallow lands for up to one year including weed abate to reduce fire risk. As such, there would be no impacts to expose people or structures to significant risks associated with wildfires.

## 3.22 CEQA Mandatory Findings of Significance

Table 3-24. Mandatory Findings of Significance Impacts

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

### 3.22.1 Impact Assessment

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

**Less than Significant.** The analysis conducted in this Initial Study/ND results in a determination that the Project would have no impact or effect on the habitat of a fish, plant or wildlife species. This ND has also determined there is no potential for impacts to biological resources and cultural resources from the implementation of the Project as it would occur on existing farming land. Accordingly, the proposed Project would 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 an 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)?**

**No Impact.** 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

## Chapter 3 Impact Analysis – CEQA Mandatory Findings of Significance

### Voluntary Rotational Land Fallowing Program

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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 consists of providing a Project that would reduce the demand of irrigation water within the District management district through incentivization of landowners to fallow their previously farmed lands on a voluntary and rotational basis. The water that would otherwise be used for irrigation would be conserved within the groundwater aquifer. No additional roads would be constructed as a result of the Project, nor would any additional public services be required. The proposed Project is intended to improve groundwater levels and would not result in direct or indirect population growth. Therefore, implementation of the Project would not result in significant cumulative impacts. As such, there would be no impact.

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

**No Impact.** The proposed Project would include fallowing agricultural lands within the District MA-2 on a volunteer and rotational basis in order to conserve water use. The proposed Project in and of itself would not create a significant hazard to the public or the environment. On the contrary, implementation of the Project would help reverse groundwater over-draft by reducing demand for irrigation on up to 800 acres. Therefore, the proposed Project would not have any direct or indirect adverse impacts on humans. There would be no impact.

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### 3.23 Determination: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

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



Signature

8/26/2020

Date

Ken Bonesteel, MA-2 Manager

Printed Name/Position



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## Chapter 4 References

### Voluntary Rotational Land Fallowing Program

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# Appendix A

## NRCS Soils Report





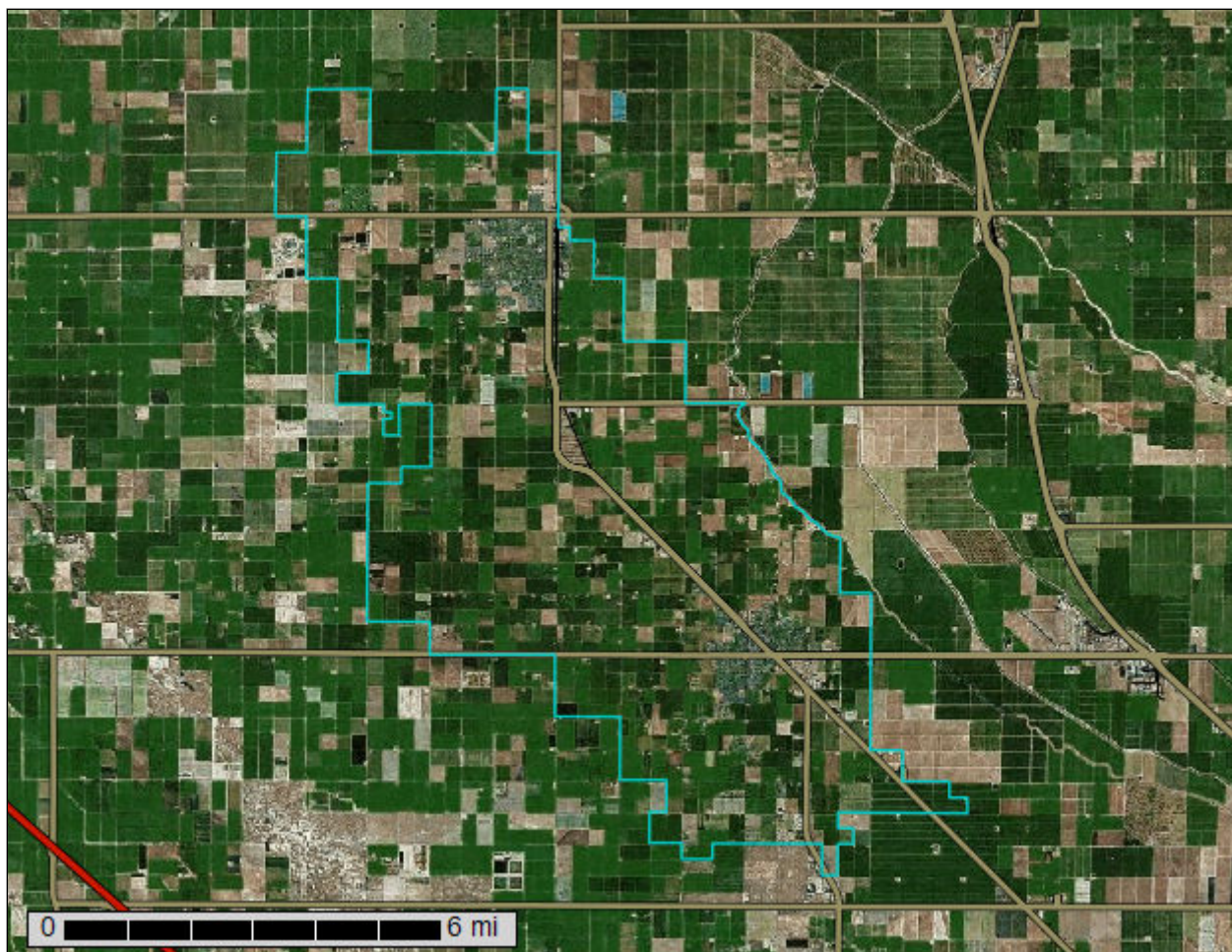
United States  
Department of  
Agriculture

**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 **Kern County, California, Northwestern Part**



July 31, 2020



# Preface

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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](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

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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

## Custom Soil Resource Report

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

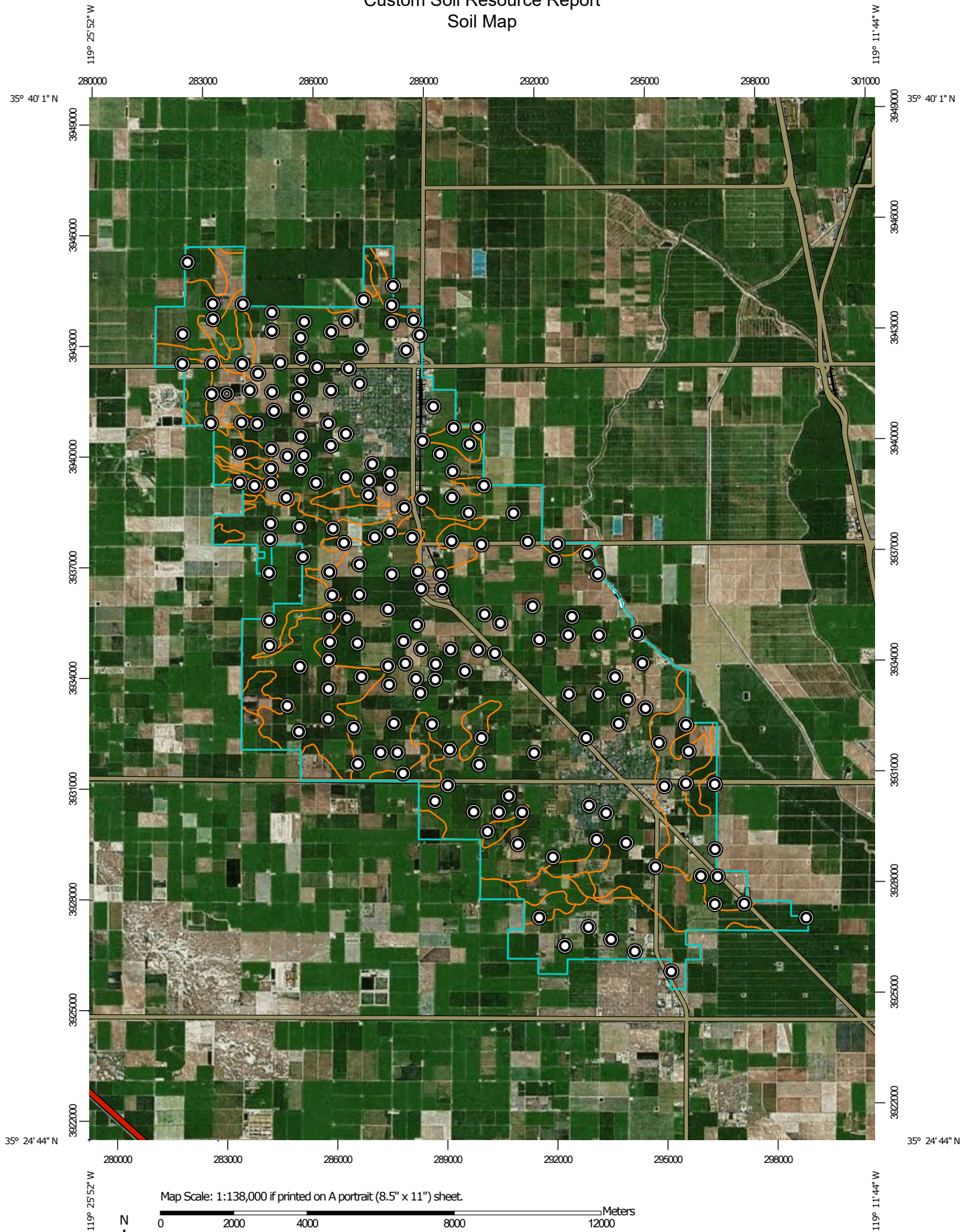


# Soil Map

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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: 1:138,000 if printed on A portrait (8.5" x 11") sheet.

0 2000 4000 8000 12000 Meters  
0 5000 10000 20000 30000 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge ticks: UTM Zone 11N WGS84

# Custom Soil Resource Report

## 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.

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: Kern County, California, Northwestern Part

Survey Area Data: Version 13, May 29, 2020

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

Date(s) aerial images were photographed: Feb 11, 2019—Feb 25, 2020

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
156	Garces silt loam	1,828.4	4.7%
174	Kimberlina fine sandy loam, 0 to 2 percent slopes MLRA 17	6,284.8	16.2%
184	Lewkalb sandy loam, 0 to 2 percent slopes	1,722.3	4.4%
192	McFarland loam	994.4	2.6%
196	Milham sandy loam, 0 to 2 percent slopes MLRA 17	254.0	0.7%
211	Panoche clay loam, 0 to 2 percent slopes	995.1	2.6%
214	Calflax clay loam, saline-sodic, 0 to 2 percent slopes, MLRA 17	765.8	2.0%
243	Wasco sandy loam	26,041.1	67.0%
257	Water	0.5	0.0%
<b>Totals for Area of Interest</b>		<b>38,886.5</b>	<b>100.0%</b>

## 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.

## Kern County, California, Northwestern Part

### 156—Garces silt loam

#### Map Unit Setting

*National map unit symbol:* hkj3

*Elevation:* 200 to 400 feet

*Mean annual precipitation:* 5 to 8 inches

*Mean annual air temperature:* 63 to 64 degrees F

*Frost-free period:* 250 to 300 days

*Farmland classification:* Farmland of statewide importance

#### Map Unit Composition

*Garces and similar soils:* 85 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Garces

##### Setting

*Landform:* Rims on basin floors

*Landform position (two-dimensional):* Toeslope

*Landform position (three-dimensional):* Talf

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Alluvium derived from granite

##### Typical profile

*A - 0 to 2 inches:* silt loam

*Bt - 2 to 9 inches:* clay loam

*Btk - 9 to 23 inches:* sandy clay loam

*Ck - 23 to 37 inches:* loam

*C - 37 to 60 inches:* stratified sandy loam to clay loam

##### Properties and qualities

*Slope:* 0 to 2 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Well drained

*Runoff class:* Very high

*Capacity of the most limiting layer to transmit water (Ksat):* Very low (0.00 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* Rare

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 10 percent

*Maximum salinity:* Moderately saline to strongly saline (8.0 to 16.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 200.0

*Available water capacity:* Moderate (about 6.2 inches)

##### Interpretive groups

*Land capability classification (irrigated):* 3s

*Land capability classification (nonirrigated):* 7s

*Hydrologic Soil Group:* D

*Ecological site:* R017XG045CA - LOAMY SALINE ALKALI

*Hydric soil rating:* No



### Minor Components

#### Kimberlina

*Percent of map unit:* 4 percent

*Hydric soil rating:* No

#### Panoche

*Percent of map unit:* 3 percent

*Hydric soil rating:* No

#### Wasco

*Percent of map unit:* 3 percent

*Hydric soil rating:* No

#### Milham

*Percent of map unit:* 3 percent

*Hydric soil rating:* No

#### Playas

*Percent of map unit:* 1 percent

*Landform:* Playas

*Hydric soil rating:* Yes

#### Unnamed

*Percent of map unit:* 1 percent

*Landform:* Depressions

*Hydric soil rating:* Yes

## 174—Kimberlina fine sandy loam, 0 to 2 percent slopes MLRA 17

### Map Unit Setting

*National map unit symbol:* 2ss96

*Elevation:* 120 to 1,160 feet

*Mean annual precipitation:* 4 to 8 inches

*Mean annual air temperature:* 63 to 64 degrees F

*Frost-free period:* 240 to 300 days

*Farmland classification:* Prime farmland if irrigated

### Map Unit Composition

*Kimberlina and similar soils:* 85 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Kimberlina

#### Setting

*Landform:* Alluvial fans

*Landform position (two-dimensional):* Footslope

*Landform position (three-dimensional):* Talf

*Down-slope shape:* Linear

*Across-slope shape:* Linear

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*Parent material:* Alluvium derived from igneous and sedimentary rock

### Typical profile

*Ap - 0 to 9 inches:* fine sandy loam

*C - 9 to 45 inches:* fine sandy loam

*2C - 45 to 71 inches:* silt loam

### Properties and qualities

*Slope:* 0 to 2 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Well drained

*Runoff class:* Very low

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.57 to 1.98 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* RareNone

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 10 percent

*Maximum salinity:* Nonsaline to slightly saline (0.3 to 4.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 4.0

*Available water capacity:* Moderate (about 8.7 inches)

### Interpretive groups

*Land capability classification (irrigated):* 1

*Land capability classification (nonirrigated):* 7e

*Hydrologic Soil Group:* A

*Hydric soil rating:* No

### Minor Components

#### Wasco

*Percent of map unit:* 7 percent

*Landform:* Alluvial fans

*Landform position (two-dimensional):* Footslope

*Landform position (three-dimensional):* Talf

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Hydric soil rating:* No

#### Milham

*Percent of map unit:* 6 percent

*Landform:* Alluvial fans

*Landform position (two-dimensional):* Footslope

*Landform position (three-dimensional):* Talf

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Hydric soil rating:* No

#### Unnamed

*Percent of map unit:* 2 percent

*Landform:* Flood plains

*Landform position (two-dimensional):* Footslope

*Landform position (three-dimensional):* Talf

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Hydric soil rating:* Yes

## 184—Lewkalb sandy loam, 0 to 2 percent slopes

### Map Unit Setting

*National map unit symbol:* hkk0  
*Elevation:* 500 to 1,000 feet  
*Mean annual precipitation:* 6 to 8 inches  
*Mean annual air temperature:* 63 to 64 degrees F  
*Frost-free period:* 250 to 300 days  
*Farmland classification:* Prime farmland if irrigated

### Map Unit Composition

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

### Description of Lewkalb

#### Setting

*Landform:* Terraces, alluvial fans  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Alluvium derived from granite

#### Typical profile

*A - 0 to 23 inches:* sandy loam  
*Ckq - 23 to 40 inches:* sandy loam  
*2Ckq - 40 to 65 inches:* stratified loamy sand to loam

#### Properties and qualities

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* More than 80 inches  
*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  
*Calcium carbonate, maximum content:* 10 percent  
*Maximum salinity:* Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 45.0  
*Available water capacity:* Moderate (about 6.4 inches)

#### Interpretive groups

*Land capability classification (irrigated):* 2s  
*Land capability classification (nonirrigated):* 7s  
*Hydrologic Soil Group:* C  
*Hydric soil rating:* No

## Minor Components

### Wasco

*Percent of map unit:* 8 percent

*Hydric soil rating:* No

### Soils with hardpan below 48 c

*Percent of map unit:* 7 percent

*Hydric soil rating:* No

## 192—McFarland loam

### Map Unit Setting

*National map unit symbol:* hkk8

*Elevation:* 290 to 400 feet

*Mean annual precipitation:* 5 to 7 inches

*Mean annual air temperature:* 63 to 66 degrees F

*Frost-free period:* 250 to 275 days

*Farmland classification:* Prime farmland if irrigated

### Map Unit Composition

*Mcfarland and similar soils:* 85 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Mcfarland

#### Setting

*Landform:* Alluvial fans, flood plains

*Landform position (two-dimensional):* Footslope

*Landform position (three-dimensional):* Tread

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Alluvium derived from granite

#### Typical profile

*A - 0 to 24 inches:* loam

*C - 24 to 64 inches:* loam

#### Properties and qualities

*Slope:* 0 to 2 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Well drained

*Runoff class:* Low

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.57 to 1.98 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* Rare

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 5 percent

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*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Available water capacity:* High (about 9.3 inches)

### Interpretive groups

*Land capability classification (irrigated):* 1

*Land capability classification (nonirrigated):* 7c

*Hydrologic Soil Group:* B

*Hydric soil rating:* No

### Minor Components

#### Panoche

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

#### Wasco

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

#### Kimberlina

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

## 196—Milham sandy loam, 0 to 2 percent slopes MLRA 17

### Map Unit Setting

*National map unit symbol:* 2ss91

*Elevation:* 200 to 1,200 feet

*Mean annual precipitation:* 5 to 8 inches

*Mean annual air temperature:* 63 to 65 degrees F

*Frost-free period:* 250 to 300 days

*Farmland classification:* Prime farmland if irrigated

### Map Unit Composition

*Milham and similar soils:* 85 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Milham

#### Setting

*Landform:* Alluvial fans, plains, fan remnants, terraces

*Landform position (three-dimensional):* Tread, rise

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Alluvium derived from igneous and sedimentary rock

#### Typical profile

*Ap - 0 to 4 inches:* sandy loam

*Bk - 4 to 10 inches:* sandy loam

*Btk1 - 10 to 22 inches:* loam

*Btk2 - 22 to 49 inches:* clay loam

## Custom Soil Resource Report

2Ck - 49 to 60 inches: sandy loam

### Properties and qualities

*Slope:* 0 to 2 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Well drained

*Runoff class:* Medium

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high (0.20 to 0.60 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* Rare

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 10 percent

*Gypsum, maximum content:* 1 percent

*Maximum salinity:* Nonsaline to moderately saline (0.0 to 8.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 25.0

*Available water capacity:* High (about 9.1 inches)

### Interpretive groups

*Land capability classification (irrigated):* 1

*Land capability classification (nonirrigated):* 7c

*Hydrologic Soil Group:* C

*Ecological site:* R017XG043CA - Loamy 6-8" P.Z.

*Hydric soil rating:* No

### Minor Components

#### Kimberlina

*Percent of map unit:* 5 percent

*Landform:* Alluvial fans

*Hydric soil rating:* No

#### Garces

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

#### Panoche

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

## 211—Panoche clay loam, 0 to 2 percent slopes

### Map Unit Setting

*National map unit symbol:* 2ycb1

*Elevation:* 270 to 890 feet

*Mean annual precipitation:* 6 to 9 inches

*Mean annual air temperature:* 62 to 65 degrees F

*Frost-free period:* 305 to 326 days

*Farmland classification:* Prime farmland if irrigated



### Map Unit Composition

*Panoche, clay loam, and similar soils: 87 percent*

*Minor components: 13 percent*

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Panoche, Clay Loam

#### Setting

*Landform: Alluvial fans*

*Landform position (three-dimensional): Tread*

*Down-slope shape: Linear*

*Across-slope shape: Linear*

*Parent material: Alluvium derived from calcareous sedimentary rock*

#### Typical profile

*Ap - 0 to 7 inches: clay loam*

*Bw - 7 to 16 inches: loam*

*Bk1 - 16 to 27 inches: loam*

*Bk2 - 27 to 43 inches: loam*

*Bk3 - 43 to 57 inches: loam*

*Bk4 - 57 to 72 inches: sandy loam*

#### Properties and qualities

*Slope: 0 to 2 percent*

*Depth to restrictive feature: More than 80 inches*

*Drainage class: Well drained*

*Runoff class: Low*

*Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.01 to 0.14 in/hr)*

*Depth to water table: More than 80 inches*

*Frequency of flooding: NoneVery rare*

*Frequency of ponding: None*

*Calcium carbonate, maximum content: 4 percent*

*Gypsum, maximum content: 2 percent*

*Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)*

*Sodium adsorption ratio, maximum: 8.0*

*Available water capacity: High (about 9.4 inches)*

#### Interpretive groups

*Land capability classification (irrigated): 1*

*Land capability classification (nonirrigated): 7c*

*Hydrologic Soil Group: C*

*Hydric soil rating: No*

### Minor Components

#### Calflax

*Percent of map unit: 4 percent*

*Landform: Fan skirts*

*Landform position (three-dimensional): Tread*

*Down-slope shape: Linear*

*Across-slope shape: Linear*

*Hydric soil rating: No*

#### Cerini

*Percent of map unit: 3 percent*

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*Landform:* Alluvial fans  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

### **Ciervo**

*Percent of map unit:* 2 percent  
*Landform:* Fan skirts  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

### **Posochanet**

*Percent of map unit:* 2 percent  
*Landform:* Fan skirts  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

### **Wasco**

*Percent of map unit:* 1 percent  
*Landform:* Alluvial fans  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

### **Kimberlina**

*Percent of map unit:* 1 percent  
*Landform:* Alluvial fans  
*Landform position (three-dimensional):* Talf  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

## **214—Calflax clay loam, saline-sodic, 0 to 2 percent slopes, MLRA 17**

### **Map Unit Setting**

*National map unit symbol:* 2vncm  
*Elevation:* 160 to 730 feet  
*Mean annual precipitation:* 6 to 11 inches  
*Mean annual air temperature:* 61 to 66 degrees F  
*Frost-free period:* 230 to 250 days  
*Farmland classification:* Farmland of statewide importance

### **Map Unit Composition**

*Calflax, clay loam, saline-sodic, and similar soils:* 85 percent  
*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Calflax, Clay Loam, Saline-sodic**

#### **Setting**

*Landform:* Fan skirts  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Alluvium derived from calcareous sedimentary rock

#### **Typical profile**

*Ap - 0 to 8 inches:* clay loam  
*Bw - 8 to 26 inches:* clay loam  
*Bny - 26 to 33 inches:* loam  
*Bnyz1 - 33 to 47 inches:* silt loam  
*Bnyz2 - 47 to 65 inches:* loam

#### **Properties and qualities**

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* Low  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high (0.20 to 0.57 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* NoneVery rare  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 3 percent  
*Gypsum, maximum content:* 5 percent  
*Maximum salinity:* Very slightly saline to strongly saline (2.0 to 16.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 30.0  
*Available water capacity:* Moderate (about 7.8 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* 2s  
*Land capability classification (nonirrigated):* 7s  
*Hydrologic Soil Group:* C  
*Hydric soil rating:* No

### **Minor Components**

#### **Calflax, clay loam, saline-sodic, wet**

*Percent of map unit:* 3 percent  
*Landform:* Fan skirts  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Talf  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

#### **Posochanet, clay, saline-sodic**

*Percent of map unit:* 2 percent  
*Landform:* Fan skirts  
*Hydric soil rating:* No

**Lethent**

*Percent of map unit:* 1 percent

*Hydric soil rating:* No

**Kimberlina, sandy loam**

*Percent of map unit:* 1 percent

*Hydric soil rating:* No

**Cerini, clay loam**

*Percent of map unit:* 1 percent

*Landform:* Alluvial fans

*Hydric soil rating:* No

**Garces, silt loam**

*Percent of map unit:* 1 percent

*Hydric soil rating:* No

**Westhaven**

*Percent of map unit:* 1 percent

*Hydric soil rating:* No

**Unnamed hydric**

*Percent of map unit:* 1 percent

*Hydric soil rating:* Yes

**Twisselman, clay, saline-alkali**

*Percent of map unit:* 1 percent

*Hydric soil rating:* No

**Panoche**

*Percent of map unit:* 1 percent

*Hydric soil rating:* No

**Ciervo, clay, saline-sodic**

*Percent of map unit:* 1 percent

*Landform:* Fan skirts

*Hydric soil rating:* No

**Avenal**

*Percent of map unit:* 1 percent

*Hydric soil rating:* No

**243—Wasco sandy loam**

**Map Unit Setting**

*National map unit symbol:* hklx

*Elevation:* 250 to 3,700 feet

*Mean annual precipitation:* 4 to 7 inches

*Mean annual air temperature:* 61 to 64 degrees F

*Frost-free period:* 210 to 275 days

*Farmland classification:* Prime farmland if irrigated

**Map Unit Composition**

*Wasco and similar soils: 85 percent*

*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Wasco**

**Setting**

*Landform: Alluvial fans, flood plains*

*Landform position (two-dimensional): Footslope*

*Landform position (three-dimensional): Tread*

*Down-slope shape: Linear*

*Across-slope shape: Linear*

*Parent material: Alluvium derived from granite*

**Typical profile**

*Ap - 0 to 15 inches: sandy loam*

*C - 15 to 60 inches: sandy loam*

**Properties and qualities**

*Slope: 0 to 2 percent*

*Depth to restrictive feature: More than 80 inches*

*Drainage class: Well drained*

*Runoff class: Very low*

*Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)*

*Depth to water table: More than 80 inches*

*Frequency of flooding: Rare*

*Frequency of ponding: None*

*Calcium carbonate, maximum content: 5 percent*

*Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)*

*Available water capacity: Moderate (about 6.4 inches)*

**Interpretive groups**

*Land capability classification (irrigated): 2s*

*Land capability classification (nonirrigated): 7s*

*Hydrologic Soil Group: A*

*Hydric soil rating: No*

**257—Water**

**Map Unit Composition**

*Water: 100 percent*

*Estimates are based on observations, descriptions, and transects of the mapunit.*

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United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\\_054242](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242)

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