

## **Attachment 3.1 – Supporting Documents Workplan**

### **Madera Region – IRWM Implementation Grant Application Round 2**

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#### **Electronic Attachments**

Project C - MD8 North Fork/ South Fork Sewer Improvements	
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Attachment 3.2C b – Preliminary Engineering Report Wastewater Upgrade*	
Project D - Brockman Flood Control Basin	
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\*Also provided in Supplemental Documentation

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## Attachment 3.1, Overview of Projects

### **I. Overview of Projects**

#### **A. Introduction**

The Madera IRWMP does not include a prioritized project list, but established priority goals, objective and concerns to be addressed by projects brought forward by member agencies. In February, 2013, the Madera Region IRWVG approved the included five projects as being high-priority to the Project Applicant and that implement the Region's priority goals and objectives.

This grant application includes five projects from the Madera IRWM region that serve to meet those goals as well as the overall objectives of the State's IRWM effort. The projects included in this application provide a range of local and regional benefits including increasing water supply and reliability, improving water quality, water conservation, flood damage reduction, and helping meet the critical water supply and water quality needs of multiple Disadvantaged Communities.

The table on the following page presents a list of the proposed projects together with abstracts of the project scopes and the status of project progress. Following are detailed project descriptions including step by step work plans demonstrating how the County of Madera as Applicant and Project Proponent will implement each of the projects within the budget provided in Attachment 4 and the schedules provided in Attachment 5.

## B. Project Summaries

The Madera Region proposal includes five projects. For purposes of consistency with the budget, the overall grant administration is being considered as a sixth project.

Project	Project Proponent	Abstract	Status
A. Grant Administration	Applicant – County of Madera	Compilation of reports and invoices from project proponents and timely submission to DWR as well as oversight to ensure that tasks and timelines are proceeding in accordance with the Grant Agreement.	Applicant’s Engineering Department will perform day-to-day administration activities.
B. MD 19 Parkwood Water Supply and Water Meters	County of Madera	Design and construction of new water supply well to replace non-functional existing wells and meet state minimum water supply requirements; installation of self-reading water meters to realize 20% reduction in water usage.	All land acquired. Categorical Exemption, PS&E needed but Project will start within 6 months of award.
C. MD 8 North Fork/ South Fork Sewer System Improvements	County of Madera	Design and construction of wastewater collection system for South Fork, connection of South Fork to North Fork WWTP, expansion of North Fork WWTP and effluent spray fields to meet new demand, recharge of additional wastewater effluent via spray fields to benefit local groundwater table.	All land acquired. CEQA, PS&E needed but Project will start within 9 months of award.
D. Brockman Flood Control Basin	County of Madera	Design and construction of new flood control retention basin along east side of MID Lateral 6.2, north of Avenue 12 and east of Road 38, to provide flow control along Madera Ranchos South Drainage through Madera Ranchos, reducing flood damage impacts. Basin will also provide incremental groundwater recharge benefits in an area most severely impacted by decline in groundwater.	Land donated to County by surrounding landowner. CEQA, PS&E needed but Project construction will start within 9 months of award.
E. Chuk-Chanse	County of Madera	Eliminate sewer collector I&I by replacement of leaking sewer collector within drainage swale; will also reduce groundwater contamination due to wastewater exfiltration. Construct trench drain to allow percolation of seepage from WWTP levees which is currently causing monetary damages to tree crops in adjacent private orchards. Install self-reading water meters to realize 20% reduction in domestic water usage in the unmetered community.	All land acquired. Categorical Exemption, PS&E needed but Project will start within 6 months of award.
F. Fairmead Wastewater Planning, Pre-design and Design Project	County of Madera	Planning, Pre-Design and, Design components of the community of Fairmead’s proposed Wastewater Treatment Plant/Program	This funding will allow for the Planning, Environmental, Pre-Design and Design components for the construction of a sanitary sewer system and WWTP servicing the Disadvantaged Community of Fairmead.

**Please Note** – The Attachments to this grant application have been organized by project as follows.

- The main narrative and charts are in Attachments designated .1 (work plan = 3.1, budget = 4.1, etc.), with suffix letters A, B, C, and so on for the individual projects.
- The backup documentation for each individual project has consistent numbering:
  - Project B, MD 19 Parkwood Water Supply and Water Meters: 3.2, 4.2, 5.2, etc.
  - Project C, MD 8 North Fork/ South Fork Sewer System: 3.3, 4.3, 5.3, etc.
  - Project D, Brockman Flood Control Basin: 3.4, 4.4, 5.4, etc.
  - Project E, CSA 14 Chuk-Chanse Sewer System Improvements: 3.5, 4.5, 5.5, etc.
  - Project F, MD 33 Fairmead Sewer Collection, Treatment and Disposal System Plans: 3.6, 4.6, 5.6, etc.
  - Project A, Grant Administration, has no attachments and is mentioned only in the main narratives.

In sections where a project has no backup documentation, a blank placeholder has been inserted in order to keep the numbering consistent.

**Madera IRWM Implementation Round 2 Project List**

<b>Project</b>	<b>Project Title</b>	<b>Requested Grant Funds</b>	<b>Cost Share Commitment</b>	<b>Cost Share %</b>	<b>Project Total</b>
A	Grant Administration	\$152,500	\$40,000	19.75%	\$202,500
B	MD 19 Parkwood Water Supply and Water Meters	\$1,999,333	\$0	0*	\$1,999,333
C	MD 8 North Fork/ South Fork Sewer System Improvements	\$2,346,848	\$48,500	2.02%*	\$2,395,348
D	Brockman Flood Control Basin	\$750,490	\$264,500	26.06%	\$1,014,990
E	SA-14 Chuk-Chanse	\$339,825	\$0	0*	\$339,825
F	Fairmead Wastewater Planning, Pre-design and Design Project	\$831,000	\$0	0*	\$831,000
<b>Total =</b>		<b>\$6,419,996</b>	<b>\$353,000</b>	<b>25.01%</b>	<b>\$6,782,996</b>

Total DAC Request = \$5,517,006

Total Non-DAC Request = \$902,990

Non-DAC Cost Share %= 26.06%

\* DAC Waiver Requested

If partial funding of less than the total requested is awarded, proponents are interested in partial funding. The projects are listed in a prioritized order, and the decision within the region is to fund the projects in the order shown.

## **Project B: MD 19 Parkwood Water Supply and Water Meters**

Parkwood is located south of Avenue 13 between Highway 145 and Raymond Thomas Road and is bordered on three sides by the City of Madera. There are currently 633 existing connections. Water is supplied by three wells (Well No. 2, Well No. 3, and Well No. 4). In 2007 Well No. 2 reduced its production capability and began to generate excessive sand. In 2011 Well No. 4 also reduced its production capabilities and now both wells have been taken out of production. The remaining Well No. 3 has also lost production capacity (from 1,000 gpm originally to 400 gpm currently), is also producing some sand, and is the sole source of water for Parkwood. The district has no water storage tanks, and no additional supply pumping other than the single well.

The Parkwood Water System serves a Disadvantaged Community. Residences currently pay a flat rate of \$31.00 per quarter for unmetered water service. No water meters exist on the water services. Madera County is unable to fund meter reading at any of its special districts, including those which were constructed with water meters in place.

The Parkwood Water System has recently been issued Enforcement Letter 03-11-11E-007 from California Department of Public Health (CDPH). The enforcement letter was issued due to the inability of Well No. 3, the sole source supply for MD – 19, to meet the calculated maximum day demand of 680 gpm. Well No. 3 only produces 400 gpm.

### 1. Goals and Objectives

Goals:

- To increase the supply of potable water to this Disadvantaged Community, so that the supply will be adequate to meet the Maximum Daily Demand.
- To re-establish reliable water supply, which is threatened by the failure of two of the three original supply wells. With only a single well still in service, every failure of any kind interrupts community water service until a full repair can be made.
- Long term, merge MD 19's water service with the adjacent City of Madera system, to provide greatly enhanced water supply reliability and reduced per-connection overhead costs.
- Avoid the real threat of losing the third well when no back-up facility exists.

Objectives:

- Site and drill a new production well of at least 1,000 gpm.
- Prepare the District for annexation into the City of Madera by establishing a water supply sufficient to meet Max Day demand.

2. How this project meets the most critical goals of the Madera IRWMP – This project helps meet two of the Plan's major regional goals – municipal water conservation (IRWMP section 8.2.1.2) and improvement of County water system infrastructure (section 8.4.5).

- It implements municipal water meters where there are currently none, which is expected to bring a reduction in use of approximately 20%;

- It provides a new water well to replace old, non-functioning wells which will provide reliable service for many years.

### **Project C: MD 8 North Fork/ South Fork Sewer System Improvements**

The North Fork and South Fork areas were significantly impacted as a result of changes in legislation restricting lumbering in the Sierra Nevada mountains, which ultimately led to the closure of the North Fork lumber mill in 1994. South Fork is a Disadvantaged Community with Median Household Income of \$20,999. In addition to the economic challenges the community faces, the South Fork community is also dealing with deficiencies in their wastewater facilities that put these communities at risk for health and sanitation issues.

Madera County Maintenance District 8A, North Fork will implement a project to connect the unincorporated community of South Fork to its sewer system. The district currently serves 155 water and sewer customers. The unincorporated community of South Fork lies within the boundaries of MD8A. South Fork currently relies on individual septic tanks for wastewater disposal, with the exception of a single private wastewater system.

The South Fork Area to be served the project includes approximately 55 dwelling units, including 20 rental properties, 15 mobile homes, four motel units, eight bed and breakfast units, eight rest care units, and two commercial properties in South Fork. This private system is located at the North Fork Mill Housing Facility, which contains approximately 24 residential structures. It is subject to Waste Discharge Requirements Order No. 90-051, and Cleanup and Abatement Order No. 99-729, as issued by the Central Valley Regional Water Quality Control Board (RWQCB). The facility has been in violation of RWQCB regulations since 1986. According to the Mill Housing Wastewater Facility, one assessment of the problem is that untreated, raw sewage (effluent) is seeping into the ground and nearby Willow Creek (Facility Inspection Report 2005).

In addition to connecting South Fork to the MD8A sewer system, abandoning existing septic tanks and connecting private homes to the new sewer collection system, the project will contribute to a robust plan to recharge groundwater resources, which are currently overdrafted in this groundwater basin. The project will allow effluent that has been properly treated to recharge groundwater resources through a percolation process. The proposed gravity wastewater collection system will convey wastewater from the South Fork properties to a pump station, where it will be pumped via force main to another gravity wastewater collection system and then discharged to the existing MD8A WWTP.

The North Fork WWTP's current wastewater treatment capacity is 60,000 gpd on an average annual flow basis, and can easily accommodate the additional flows from South Fork. However, effluent disposal is limited to 38,000 gpd. The project includes expansion of the spray field capacity to accommodate South Fork sewer flows, by expanding the spray field areas, and constructing runoff control ditches and effluent return pump systems. The County can increase discharge to the spray fields as long as evidence is provided that the spray field has runoff controls and effluent return systems for discharges greater than 38,000 gpd and that spray field

percolation rates will allow for a 60,000 gpd effluent disposal capacity. Both of these requirements were outlined in WDR Order No. 94-343.

#### 1. Goals & Objectives:

- Protect Water Quality. The project will eliminate failing septic systems and a private wastewater treatment facility that has potential to degrade local shallow groundwater and surface water. Untreated wastewater contains excessive nutrients (nitrogen and phosphorus), which can harm native plant and fish populations. Wastewater's excessive organic matter can also use up the oxygen supply in streams and rivers. Increased levels of microbial populations (bacteria, viruses and other pathogens) may result from septic system failures.
- Mitigate and comply with Waste Discharge Requirements Order No. 90-051, as issued by the Regional Water Quality Control Board (RWQCB).
- Mitigate and comply with Cleanup and Abatement Order No. 99-729, as issued by the Regional Water Quality Control Board (RWQCB).
- Mitigate potential groundwater contamination from the existing septic systems.
- Provide groundwater recharge with effluent disposal.

2. How this project meets the most critical goals of the Madera IRWMP - This project helps meet one of the Plan's major regional goals -.

- Eliminates a source of potential groundwater contamination in a Disadvantaged Community (South Fork)

### **Project D: Brockman Flood Control Basin**

The Madera County Flood & Water Conservation Agency was established per Government Code Sections 65302, 65560, and 65800, and adopted floodplain management regulations to promote public health, safety and general welfare of its citizenry. The agency's purpose is to minimize public and private losses due to flood conditions in specific areas.

One such area with loss due to flood conditions is the Madera Ranchos in south east Madera County. The main portion of this rural community is impacted by both the Madera Ranchos South and Madera Ranchos North drainages. In 1984 the County completed a Master Drainage Plan for Madera Ranchos, Bonadelle Ranchos & Root Creek. Additionally, FEMA FIRM Maps exist for this area including Map Numbers 06039C1195E & 06039C1215E, Effective Date; Sept. 26, 2008 (see Electronic Attachments 3.2D a, b & c). Downstream of the project area along the Madera Ranchos South drainage an estimated 80 structures exist within the 100-yr floodway and Special Flood Hazard Area (SFHA) along with an additional 25 structures that have received flood certificates exempting them for the flood insurance requirements.

The County's 'Brockman Flood Control Basin Project' includes building an initial basin covering five acres of a proposed 13-acre site. Seasonal flood waters will be diverted from the Madera Ranchos South drainage to reduce flood damages. Additionally, a pipeline will be built to deliver surface water from the Madera Irrigation District's Lateral 6.2 to the basin for additional groundwater recharge. See Figure 3.6, page 57 for a regional map showing the location of the

project in Madera County. See Figure 3.7, page 58 for a project vicinity location map showing the rural development area that is currently impacted by the drainage channel flooding.

The project area currently experiences three to five feet of groundwater level decline annually (see Electronic Attachment 3.2D d), an amount considered extreme and which puts the sustainability of water production in the area at substantial risk. While the primary project benefit would be flood control, the diverted water would percolate into the local groundwater basin, providing a secondary groundwater level benefit from the project.

Funding is requested for constructing the flood control basin, flood water diversion structure, and surface water pipeline to convey surplus San Joaquin River Section 215 floodwater from Lateral 6.2 to the proposed basin.

Surface water would be delivered to Madera County through Madera Irrigation District (MID) facilities under existing water purchase, and conveyance agreements. Water would be diverted into the Brockman Flood Control Basin through a proposed turnout on MID's Lateral 6.2 shown in Figure 6.1, page 21 of Attachment 6.

### 1. Goals and Objectives

- Provide significant flood control protection to the Madera Ranchos structures/homes in the floodplain downstream of the Brockman Flood Control Basin by diverting peak flows to basin storage for percolation.
- Enhance the available ground water supply by recharging up to 15 AF of flood water into the area on an average annual basis.
- Enhance the available ground water supply by recharging up to 75 AF of new surface water into the area on an average annual basis. The imported surface water would be San Joaquin River Section 215 floodwater that will be diverted from the River during winter – spring flows. This water would otherwise not be utilized and potentially cause damage to crops in downstream areas that flood frequently.
- Improve water reliability by providing alternate water sources.
- Reduce groundwater overdraft by reducing the rate of groundwater pumping.
- Reduce groundwater pumping costs and the need to deepen wells or install new wells.
- Maintain the viability of irrigated agriculture in the area.
- Improve water quality by importing high quality surface water that will mix with lower quality groundwater.

2. How this project meets the most critical goals of the Madera IRWMP – This project helps meet one of the Plan's major regional goals – it provides significant flood control benefits in the Madera Ranchos area, reducing the size of a 100-year SFHA that runs through that residential area by creating a new storm drain retention basin (IRWMP section 7.4.5), and it follows a Plan recommendation (section 9.2.2.1) by providing a sustainable means of reducing groundwater overdraft in one of the areas with the greatest groundwater subsidence . It also preserves and improves the quality of available water by reversing groundwater subsidence; the groundwater

pumped for surrounding residential use will be higher quality shallow-level water instead of lower-quality waters found at greater depths.

### **Project E: CSA 14 Chuk-Chanse Sewer System Improvements**

County Service Area 14 (Chuk–Chanse) is a Disadvantaged Community located north of the City of Madera near Road 28-½ and 19-1/2. The County provides water and sewer services to 31 residential homes and also contracts sewer service to one commercial user. Sewer services include wastewater collection, treatment and final disposal.

The collection system consists of vitrified clay pipe and a sewage pumping station. The County operates the CSA 14 WWTP under Waste Discharge Requirements Order No. 85 – 025 issued by the Regional Water Quality Control Board. The WWTP is comprised of a facultative lagoon system capable of treating an average daily-dry weather discharge of 0.031 MGD. The WWTP consists of one primary lagoon, a secondary cell, a clarifier cell, and a polishing cell, which are located on a 3.5 acre fenced site. The treatment system relies on evaporation and percolation for effluent disposal.

The WWTP seems to operate well however in the past there was a concern about possible leaching of wastewater through and under the lagoon levees onto the adjacent orchard and farmland.

The water system serves a Disadvantaged Community and consists of one well producing about 31 gallons per minute into a 48,000 gallon storage tank. Booster pumps are used to supply pressure to the system. Water is distributed through asbestos-cement pipe. The system is not chlorinated and is unmetered. The CSA 14 community and WWTP are surrounded by agricultural farmland, which includes orchards of pistachios and figs.

The County is planning to replace 500 linear feet of sewer line that has recently been video inspected. The camera footage revealed root intrusion into the clay pipes. Due to the severe root intrusion there substantial inflow and infiltration that increase system flows. The replacement of this section of pipeline should eliminate a significant amount of inflow into the wastewater ponds.

In addition to conserving water and reducing water demands, water meters would be installed at each of the existing water services.

#### **1. Goals and Objectives**

The overall project goals are

- Provide safe, reliable and quality of water source to the Disadvantaged Community of Chuk-Chanse.
- Provide water meters to each water service to reduce water demands.

Specific objectives include:

- Install self-reading water meters on each water service to reduce water demands without increasing manpower requirements for reading manual meters.

2. How this project meets the most critical goals of the Madera IRWMP – This project helps meet two of the Plan’s major regional goals – municipal water conservation (IRWMP section 8.2.1.2) and improvement of County water system infrastructure (section 8.4.5).

- It implements municipal water meters where there are currently none, which is expected to bring a reduction in use of approximately 20%;
- It will fix two sources of current groundwater pollution, including the leaking sewer collector pipe and the seep from the WWTP levees.

## **Project F: MD 33 Fairmead Sewer Collection, Treatment and Disposal System Plans**

### 1. Goals and Objectives

The overall project goals are

- To improve and protect water quality in this Disadvantaged Community.
- To reduce the amount and concentration of nitrates and biological contaminants in ground water that may eventually infiltrate into the aquifer tapped by the community wells serving the community water system and the individual water wells serving outlying residences.
- To convert organic wastes into stable products
- To produce a final effluent which can be effectively reused for irrigation on surrounding agricultural parcels.

Specific objectives include:

- An engineering report examining the several alternative solutions to Fairmead’s wastewater issues (collection, treatment and effluent disposal) including recommendations of the most economical and environmentally sound methods of addressing each.
- Development of a sewer collection system network model using sewer system modeling software, to develop sewer line sizing requirements and system layout.
- Standard construction details and specifications for sewer construction.
- Final plans, specifications and cost estimates for the recommended construction project, which would allow Maintenance District 33 (Fairmead) to seek USDA RUS, State Revolving Fund and other grants for later construction.

### 2. How this project meets the most critical goals of the Madera IRWMP –

This project addresses two of the IRWMP’s major goals:

- The project would directly address drinking water quality in a Disadvantaged Community by removing a major source of nitrate contamination from the land directly above the aquifer that services the community.
- Treated effluent from this project would be available to replace pumped groundwater for irrigation of surrounding irrigation. This in-lieu irrigation provides gallon-for-gallon

benefits to the groundwater aquifer and reduces the overall quantity of groundwater pumped in the region.

### **I. B. Discussion of synergies and linkages among projects**

The Madera Region's selection of projects for funding reflects DWR's priorities and preferences in regards to the purpose and function of IRWM regions. These are set forth in the DWR RAP guidelines and include the following:

- An IRWM region must be designed or configured to diversify and strengthen the regional water management portfolio.
- The IRWM region encompasses water management system(s) containing natural and man-made components, considers watersheds, and identifies and prioritizes regional water-related projects through collaborative efforts to meet multiple water resource needs.
- The IRWM region is inclusive and utilizes a collaborative, multi-stakeholder process that provides mechanisms to assist disadvantaged communities (DAC); addresses water management issues; and promotes integrated, multi-benefit, regional solutions that incorporate environmental stewardship toward the development and implementation of the IRWM plan.
- The IRWM region is defined to maximize opportunities to integrate water management activities related to natural and man-made water system(s), including water supply reliability, water quality, environmental stewardship, and flood management.

The Madera Region projects reflect these priorities as follows:

1. The projects reflect a regional approach to solving problems and meeting the goals of the IRWMP. Two of the major goals of the Madera IRWMP are to mitigate flood hazards and manage groundwater so as to maximize beneficial water use and reduce the groundwater overdraft. The proposed projects will help to meet these goals as follows.

#### a. Flood Hazard Reduction –

Madera County is frequently subject to flooding during winter storms. The proposed Brockman project is part of a comprehensive set flood control and mitigation projects planned throughout the region, which will include channel enhancement, flood water diversion and other methodologies. The Brockman project will divert seasonal flood water, reducing flood damage potential and using those flood waters to enhance groundwater recharge in the most severely impacted portion of the groundwater basin.

b. Groundwater management to reduce overdraft – The Brockman flood control project directly addresses groundwater overdraft by supplying surface water to mitigate groundwater pumping. Other projects reduce municipal water consumption by installation of water meters, and enhance surface water supply in lieu of groundwater pumping by making treated wastewater effluent available for irrigation. All of these

projects have a positive impact on reducing the groundwater overdraft within the Madera Region.

2. The projects address regional priorities (flood control, water quality and groundwater recharge) through multiple activities. These include development of new man-made water system (Brockman flood control basin, Fairmead WWTP, North Fork-South Fork WWTP), restoration of existing man-made facilities (Chuk-Chanse sewer collector, Parkwood well) and protection of natural systems (Chuck-Chanse effluent pond underdrain).

3. The projects promote collaborative strategies involving multiple stakeholders in addressing regional issues.

a. On an individual project level, the Brockman flood control project allows the County to work with Madera Irrigation District to utilize surplus floodwater for direct groundwater recharge, thereby reversing local and regional overdraft and reducing flood damage. The groundwater enhancement will benefit the County at MD 10 (Madera Ranchos) and growers within Root Creek Water District, which is also a member of the Madera IRWMG.

b. On a macro level, the Madera Region is managed by multiple entities. It includes large areas of the Valley managed by water districts, areas outside of districts that are the management responsibility of the County, and a very large tract of public lands managed by the US Forest Service. The IRWM process has allowed these entities to share their knowledge and integrate their groundwater management strategies. This has resulted in a collaborative implementation proposal, including a group of projects which work together to meet some of the most critical needs of the region.

4. The projects are spatially located throughout the Valley watershed of the region, appropriately reflecting the collective impact on the underlying groundwater basin.

a. Although proposed projects are located throughout the region in areas where their impacts are particularly needed, together they will have a synergistic effect which will benefit the entire watershed. Groundwater recharge may primarily benefit one area but ultimately impacts the entire basin's resources.

**I. C. Why these projects are critical to the success of the Regional effort.** The Madera IRWM application focuses on three of the region's major regional goals - flood hazard protection, water quality and groundwater recharge. The proposed projects will directly further the region's goals, as stated above. Obtaining funding for these projects will have another major impact on the region: it will encourage stakeholder participation and contribution to the continued IRWM effort and promote investment in additional groundwater management activities.

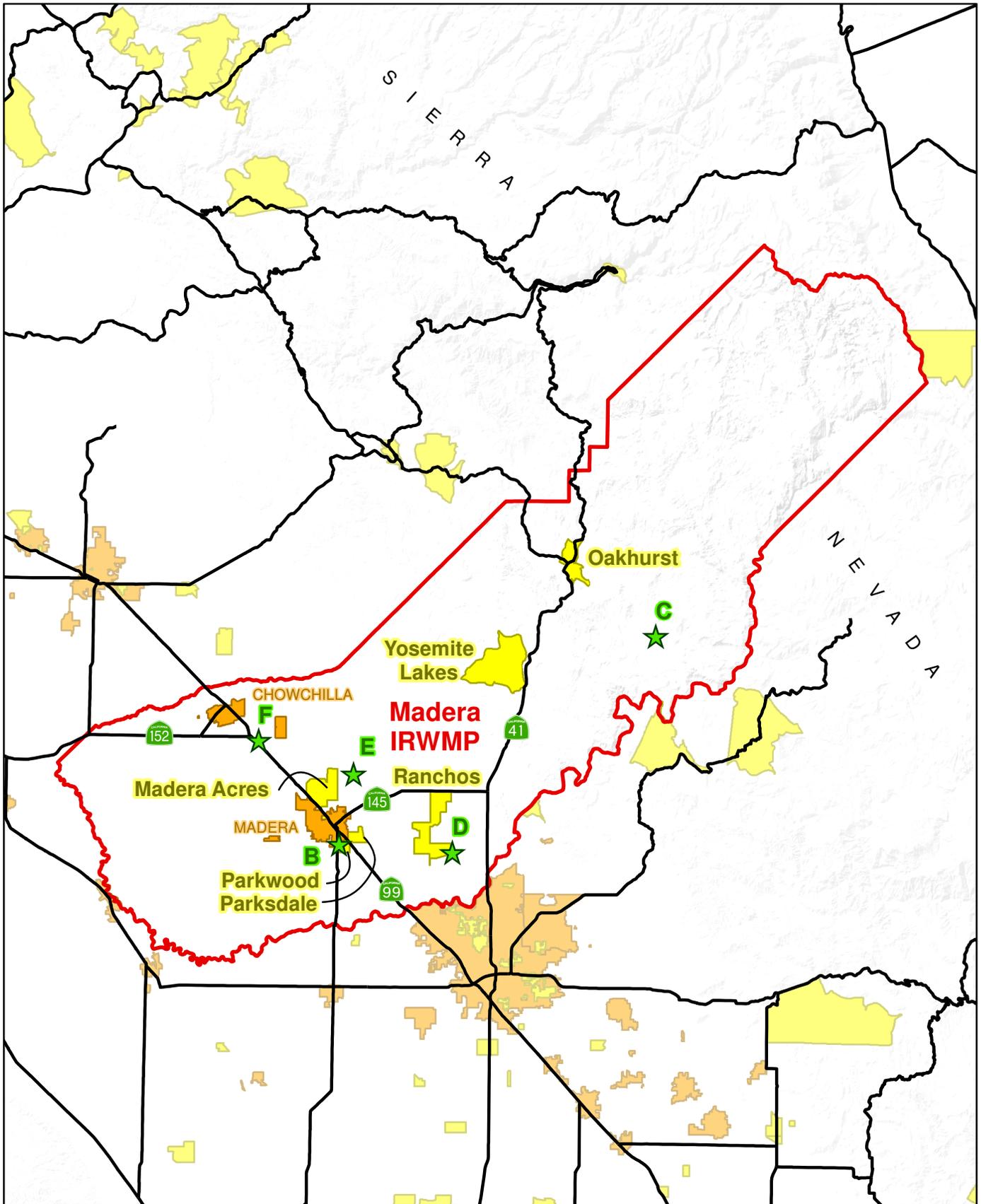
**I. D. How the applicant will coordinate with the project proponents and DWR.**

The Applicant will have quarterly meetings with the project proponents to discuss grant implementation issues and to review status reports. Local and State-wide DWR staff will be

invited to attend these meetings. Project proponents will provide quarterly reports to the Applicant, which will compile them and submit them to DWR.

**I. E. Project Scalability.** The Applicant and the Project Proponents recognize that DWR may not have sufficient funds to cover the complete budgets of all of the projects submitted. These projects are submitted at a scale which will have the maximum benefits within the available funding constraints.

If circumstances make it necessary, the Applicant and the Project Proponents will meet with DWR staff to produce a revised scope of work and budget.



0 5 10 15 Miles



-  Proposed Project
-  Madera IRWMP Boundary
-  Incorporated City
-  Census Designated Place

EST. 1988  
**PROVOST & PRITCHARD**  
 CONSULTING GROUP  
 An Employee Owned Company

286 W. Cromwell Ave.  
 Fresno, CA 93711-6162  
 (559) 449-2700

**Figure 3.1**  
 Regional Project Map  
 Madera Region - IRWM  
 Implementation Grant  
 Application

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## Project A – Overall Grant Administration

DWR Program staff recommended that Grant Administration be included as a Project in order to appropriately account for the budget costs. Because it is not an implementation project, the Work Plan information provided is simply the scope of work, as follows:

- **Task 1 Project Administration** - This task includes general administrative tasks including contract negotiations, correspondence and meetings.
  - Subtask 1.1 – Administer Contract: This task includes reviewing and negotiating the contract with DWR on behalf of the project participants. Comments on the draft contract will also be collected and consolidated from all of the project participants.  
*Deliverables: Comments on draft contract with DWR.*
  - Subtask 1.2 – Bi-weekly Phone Conversations with DWR: This task includes regular correspondence with DWR staff regarding contractual issues, reporting, invoicing, contract amendments, meetings, and other administrative issues. It is assumed that DWR is contacted, on average, once every two weeks.  
*Deliverables: None*
  - Subtask 1.3 – Quarterly Project Meetings: This task includes organizing quarterly meetings with the project participants, and when needed DWR staff. Responsibilities will include preparing agenda and meeting minutes covering general administrative issues. Meetings may be in person or by teleconference.  
*Deliverables: Agenda and meeting minutes (these will not be submitted to DWR but will be available upon request)*
  
- **Task 2 Project Accounting** - This task includes work related to tracking project costs, submitting pay requests, and disbursing funds to the project participants.
  - Subtask 2.1 – Establish Accounting System for Each Project: This task includes developing an accounting system to track costs, pay requests and payments for each of the projects and the overall grant administration phase.  
*Deliverables: None*
  - Subtask 2.2 – Track Project Expenditures - This task includes tracking project expenses, pay requests and payments for each project according to the main project tasks listed in the respective scope of work.  
*Deliverables: None*
  - Subtask 2.3 – Review and Submit Pay Requests to State - This task includes collecting, reviewing and submitting quarterly pay requests for each project to the DWR.  
*Deliverables: Quarterly Pay Requests.*
  - Subtask 2.4 – Disburse Funds to Project Participants - This task includes making payments to each of the project participants when they receive payment from the DWR.

*Deliverables: None.*

- **Task 3 Labor Compliance Plans:** This task includes collecting Labor Compliance Plans from each plan participant, performing a general review for completeness, and submitting them to DWR.

*Deliverables: Labor Compliance Plans for each project participant.*

- **Task 4 Reporting:** This task includes collecting information from the project participants to prepare and submit quarterly, annual and final reports to the DWR.
  - Subtask 4.1 – Quarterly Progress Reports - This task includes collecting, reviewing and consolidating quarterly progress reports for all of the projects and submitting them to DWR.

*Deliverables: Quarterly progress reports*

- Subtask 4.2 – Annual Progress Reports - This task includes compiling quarterly progress reports and other information provided by the project participants into annual reports covering all of the funded projects for submission to DWR.

*Deliverables: Annual progress reports.*

- Subtask 4.3 – Final Project Reports - This task includes compiling quarterly reports, annual reports, and other relevant information provided by the project participants, into one Final Report covering all of the funded projects.

*Deliverables: Final Report.*

- Subtask 4.4 – Data Management and Monitoring Reports - This task includes collecting and submitting relevant data management and monitoring reports for each project and submitting them to DWR.

*Deliverables: Copies of Data Management and Monitoring Reports.*

- Subtask 4.5 – Field Review Visits - This task includes field visits to each of the projects during major milestones, such as the beginning or end of a project. During the field visits progress will be verified and pictures and information will be collected for reporting. It is assumed that 8 total site visits will be performed.

*Deliverables: Copies of Field Verification Reports.*

- **Task 5 Development of Financing** - This task includes the identification of the means of cost share for each project, and providing documentation of the local cost shares.

*Deliverables: Documentation of local cost share*

Project costs will be tracked and invoiced according to the five main tasks, and not according to sub-task.

## Project B – MD19 Parkwood Water Supply and Water Meters

### **I. Project Introduction**

#### **A. Brief Description of Project and Implementing Agencies:**

Parkwood is located south of Avenue 13 between Highway 145 and Raymond Thomas Road and is bordered on three sides by the City of Madera. There are currently 633 existing connections. Water is supplied by three wells (Well No. 2, Well No. 3, and Well No. 4). In 2007 Well No. 2 reduced its production capability and began to generate excessive sand. In 2011 Well No. 4 also reduced its production capabilities and now both wells have been taken out of production. The remaining Well No. 3 has also lost production capacity (from 1,000 gpm originally to 400 gpm currently), is also producing some sand, and is the sole source of water for Parkwood. The district has no water storage tanks, and no additional supply pumping other than the single well.

The Parkwood Water System serves a Disadvantaged Community. Residences currently pay a flat rate of \$31.00 per quarter for unmetered water service. No water meters exist on the water services. Madera County is unable to fund meter reading at any of its special districts, including those which were constructed with water meters in place.

The Parkwood Water System has recently been issued Enforcement Letter 03-11-11E-007 from California Department of Public Health (CDPH). The enforcement letter was issued due to the inability of Well No. 3, the sole source supply for MD – 19, to meet the calculated maximum day demand of 680 gpm. Well No. 3 only produces 400 gpm.

#### **B. Project Goals, Objectives and Deliverables:**

##### Goals:

- Provide safe, reliable and quality of water source to Parkwood.
- Comply with the Enforcement Letter from CDPH for insufficient source water.
- Provide water meters to each water service to reduce water demands.
- Allow for metered water rates without requiring additional Madera County personnel for meter reading

##### Objectives:

- Drill a new well to provide an additional source and increase production to meet calculated Maximum Day water demands.
- Install water meters on each water service to reduce annual water demands.
- Meters must be auto-read to avoid the need for meter readers.

##### Deliverables:

- Plans and specifications
- Environmental Documentation
- Construction of a new well, hydro pneumatic tank standby power, and water main connection to the current distribution system.
- Installation of auto-read water meters on each water service connection.

### **C. Purpose and Need for Project:**

County Maintenance District 19 (MD-19) Parkwood is located in Madera County south of Avenue 13 between Highway 145 and Raymond Thomas Road, adjacent to the City of Madera limits. The District provides water and sewer service to 605 homes and 28 businesses. The existing water system has three wells, two of which are inactive due to sanding. The third well is active and only produces 400 gpm. This remaining sole source well does not meet the calculated maximum day demand of 680 gpm for Parkwood. CDPH has issued Enforcement Letter 03-11-11E-007, requiring that the District construct an additional well for the system to provide the calculated maximum day demand of at least 680 gpm.

The current Parkwood water system services are unmetered. The County plans to install water meters at each of the service connections to promote water conservation in advance of the 2020 metering requirement; however no funding for such a project has been budgeted or is currently available. The County plans to work with the Parkwood community to adopt metered rates similar to the City of Madera. If the County is successful in achieving a positive vote for a new rate structure they will be able to establish a Capital Projects fund within the District to offset the costs of future repairs and maintenance.

The Parkwood community is currently bordered on three sides by the City of Madera. The County of Madera, City of Madera and Madera County Local Agency Formation Commission (LAFCO) have discussed the possibility of an annexation of Parkwood by the City of Madera in the future. These discussions have raised the following concerns on the part of the City: lack of sufficient water supply, lack of water meters necessary for implementation of City metered rates, potential distribution system failings, and the current flat-rate billing structure.

Consistency with Basin Plan - This project is designed to be consistent with the basin plan for the San Joaquin Basin. The Project Proponents

## **II. Project Readiness**

This project is ready to begin immediately upon receiving a grant award. A Preliminary Engineer's Report has not been prepared. All the work will be performed in County rights-of-way and County owned property.

Work that has been (or will be) completed prior to the grant includes:

- Permits – San Joaquin Valley Air Pollution Control District, SWPPP, Dust Control

- CEQA – This project is exempt from CEQA requirements under section 8 since it involves drilling of a replacement well. A Notice of Exemption will be prepared and filed.
- There is no land acquisition involved. The County already owns the property where the well will be drilled and has right-of-ways (easements) to install the piping connection to the water system.
- Project design and bid solicitation – The Project Proponent (Madera County) will.

### **III. Data and Studies –**

No official reports or studies have been done by consultants. Madera County staff has investigated the seep issues as reported elsewhere.

### **IV. Plans and Specifications**

Plans and specifications for the project have not been started. As a Disadvantaged Community, no funds have been available to front such work in anticipation of securing a construction grant. The plans and specifications will include the new production well, electrical controls, water main connection to a new hydro pneumatic tank, a new hydro pneumatic tank, standby power, and self-reading water meters at each service connection. This funding source would facilitate CEQA environmental compliance, the development of plans and specifications to 100 percent completion, and construction of the project.

### **V. A Project Map**

A regional and a vicinity map (Figures 3.2 & 3.3) are included at the end of this section.

**VI. Project Timing and Phasing:** This project is complete without any additional phases. The project would be ready to be implemented immediately upon receiving a grant award. A request for qualifications for Preliminary Engineering Report, Environmental, Pre-design, and Design, including plans and specifications to 100 percent completion, would be advertised and subsequent pre-award and award meetings with the qualified contractors would be scheduled.

The project will be complete with all deliverables in hand within 24 months of the start date. A complete schedule is included in Attachment 5. This project is complete without additional phases in that the deliverables will be all that are needed to secure project construction funding and proceed to construction

### **VII. Attachments**

None

### **IX. Task List**

The County is anticipating the following tasks will need to be performed:

#### **Project Activities**

##### **(a): Direct Project Administration Costs**

Task 1: Administration

Preparation of invoices to Applicant. This task involves review of subcontractor invoices and compilation of invoices from subcontractors and County staff account work into required format for submission to the Applicant.

*Deliverable: Submission of invoices to Applicant*

**Task 2: Labor Compliance Program**

2.1 – Submission of County’s Labor Compliance program to DWR – This task involves creation of the Labor Compliance Plan and submission to DWR, as well as record-keeping required by the Plan. The County will prepare, or hire a sub-consultant to develop, and implement a Labor Compliance Program for the project in compliance with Local, State and Federal requirements.

*Deliverable: Submission of Labor Compliance Program*

**Task 3: Reporting –** These tasks involve collecting information from staff, contractors, outreach and monitoring and compiling them in the appropriate report format for submission to the Applicant and DWR.

3.1 – Preparation and submission of quarterly project reports to DWR in accordance with the grant contract requirements. This task will also include preparation of a project draft and final project report. The report will summarize the project activities identified within this work plan, including a comparison of the scope, budget and schedule of the items performed. The draft report will be prepared and submitted to DWR for review and comment. Upon receipt of DWR comments, a final project report will be prepared and resubmitted to DWR.

3.2 – Preparation and submission of annual project reports to DWR

3.3 – Preparation and submission of all other reporting obligations in accordance with the grant contract requirements

3.4 – Quarterly meetings of project proponents and DWR -

*Deliverable: Submission of quarterly, annual and final reports as specified in the Grant Agreement. Completion of Data Management and Monitoring reports.*

**Task 4: Development of Financing –** The County of Madera has the financial reserves to provide necessary capital to cover project costs while awaiting reimbursement from DWR. See the budget in Attachment 4.

*Deliverable: None.*

**(b) Land Purchase/Easement**

**Task 5 Land Acquisition/Easement–** No additional land purchase will be required. All work to be performed will be within existing easements, rights-of-way and County-owned property.

*Deliverables: No deliverables required since land has been acquired and easements have already been executed.*

**(c) Planning/Design/Engineering/Environmental Documentation**

Task 6: Assessment and Evaluation Deliverables and Technical Studies– This task includes retention of a qualified engineer and preparation of an Engineer’s report

6.1 The County will prepare a Request for Qualifications and solicit proposals from engineers qualified to prepare the necessary preliminary engineers report, preliminary design, and final plans, specifications and cost estimates.

6.2 The County will select the most qualified respondent firm, and will negotiate and enter into a contract for the engineer to provide the necessary services as detailed in Tasks 6.3, 6.4, 8 and 9. County staff will prepare the agreement and will appear before the Board of Supervisors as required to secure approval of the agreement.

6.3 The engineer will prepare a preliminary engineer’s report exploring alternatives for water source capacity and will make recommendations as to the most cost-effective alternatives for each. Specifically the report will include:

- Existing Facilities and Need for Project
- Water demand
- Water System Layout and Alternatives
- Determine standby power requirements
- Selection of Recommended Water Source Alternatives

6.4 Preliminary Design – The engineer will prepare preliminary design work for the recommended alternative including the following tasks:

- Topographic and utility location survey of the existing wells and existing water system connection points.
- Develop a test well design and a sampling procedure.
- Development of design standard plans and specifications for water well construction and well site design.
- Develop preliminary plans showing the location and layout of the well site and connection to the existing distribution system.

*Deliverables: Preliminary Engineer’s report including recommended alternatives and preliminary cost estimates, test well design and sampling procedure, draft standard plans and specifications for new well construction, approved standard plans and specifications for water meter construction, approved preliminary plans for the Project.*

Task 7: Engineering Design (30%, 90%, Final) – This task will include three subtasks.

7.1 Issue RFP for professional engineering services to prepare and develop construction drawings, plans, and cost estimates.

7.2 Approval of professional services contract by County – Attendance at Board meetings and other meetings as needed.

7.3 Preparation of plans, specifications and cost estimates for the new well, a hydro pneumatic tank, well site development, connection to existing water system, standby power generator, and water meters. These will include a preliminary design (30% complete), draft final design (90% complete) and final design (100% complete).

*Deliverables: Approved engineering services agreement, versions as stated of project plans, specifications and cost estimates.*

Task 8: Environmental Documentation – Preparation and filing of Notice of Exemption - This project is exempt under CEQA Class 8. Class 8 consists of actions taken by regulatory agencies to assure the maintenance, restoration, enhancement, or protection of the environment where the regulatory process involves procedures for protection of the environment. (Guidelines §15308). A Notice of Exemption will be prepared and filed for the project.

*Deliverable: Completion and filing of Notice of Exemption*

Task 9: Permitting – Permitting for this project will be required from State and Local agencies. Each of the identified agencies will be contacted and have jurisdiction over portions of the project. The permits identified herein are grouped into two areas. The first are permits that are required during the planning, regulatory and design phase. The other group consists of permits that are required for construction. RCWD does not anticipate any problems in securing these permits. All initial permit application fees will be billed under this task.

Planning, Regulatory and Design Phase

<i>Agency</i>	<i>Permit</i>	<i>Permit Obtained</i>	<i>Description/Status</i>
San Joaquin Valley Air Pollution Control District	Indirect Source Review (ISR)	No ISR Determination to be provided	To be obtained during planning stages. A determination needs to be given by the San Joaquin Valley Air Pollution Control District
PG&E	Rule 16 – Service Application	No	To be obtained during planning stages. Required for new PG&E power service for new well.

Construction Phase

<i>Agency</i>	<i>Permit</i>	<i>Permit required</i>	<i>Description/Status</i>
State Water Resources Control Board	Construction General Permit	Yes (to be obtained by contractor)	For control of drainage to/from property
San Joaquin Valley Air Pollution Control District	Permit	Yes (to be obtained by contractor)	Emissions on Equipment, Dust Control Plan
Madera County	Encroachment Permit	To be obtained by Contractor	Encroachment permit will be required for any construction or staging on Madera county right-of-way.

*Deliverables: SWPPP application, Dust Control Plan*

**(d) Construction/Implementation**

Task 10: Construction Contracting.

The task for Construction Contracting will include the following activities:

- Bidding documents will be prepared for all construction work.

- The County will conduct a public bid process in accordance with County and State requirements to secure a licensed contractor experienced with the required construction. This task also includes:
  - Pre-bid meetings
  - Answering questions during the bidding process
  - Bid opening meeting and evaluating submitted bids
  - Preparing construction contracts

*Deliverables: Prepare advertisement for bids; pre-bid contractors meeting; evaluation of bids; construction contract*

#### Task 11: Implementation

##### 11.1 – Project Mobilization/On-Going Duties

This task includes the pre-construction meeting, the project site clearing and construction equipment and material lay-down and staging area. This task also includes the onsite maintenance required to ensure that existing facilities are not interfered with and that all Stormwater Pollution Prevention and Dust Control Prevention measures are in place.

##### 11.2 Insurance and Bonds

This includes the insurance and bonds required by the contractor to procure for the duration of the project.

##### 11.3 Test Well: Drilling, Sampling, and Testing

This task includes the construction costs of drilling a test well, sampling the water, determining the air lifted water quantity and testing the water quality.

##### 11.4 Production Well: Drilling, Sampling, and Testing

This task includes the construction costs of purchasing materials, construction and installation of all required appurtenances to construct the new well.

##### 11.5 Furnish and Install Pump and Motor

This task includes the construction costs of purchasing materials, construction and installation of all required appurtenances to construct the new well pump and motor.

##### 11.6 Furnish and Install Electrical SCADA

This task includes the construction costs of purchasing materials, construction and installation of all required appurtenances to construct the new electrical and SCADA for the new well site.

##### 11.7 Site Development, Piping and Fencing

This task includes the construction costs of purchasing materials, construction and installation of all required appurtenances to develop the new well site, site piping and fencing.

##### 11.8 Furnish and Install Hydro Pneumatic Tank and Appurtenances

This task includes the construction costs of purchasing materials, construction and installation of all required appurtenances to construct a hydro pneumatic tank.

##### 11.9 Furnish and Install Standby Generator and Transfer Switch

This task includes the construction costs of purchasing materials, construction and installation of all required appurtenances to construct a standby generator and transfer switch.

#### 11.10 Furnish and Install Water Meters and Appurtenances

This task includes the construction costs of purchasing materials, construction and installation of all required appurtenances and/or pipeline to install self reading water meters throughout the district.

#### 11.11 Furnish and Install Meter Boxes

This task includes the construction costs of purchasing materials, construction and installation of all required appurtenances to install Meter Boxes at each water meter.

#### 11.12 Furnish and Install Hardware and Software for Meter Reading Equipment

This task includes the construction costs of purchasing materials, construction and installation of all required appurtenances to install hardware and software for meter reading equipment.

#### 11.13 – Project site Demobilization

This task includes the post-construction meeting and the project site cleanup.

This task also includes the onsite maintenance required to ensure that existing facilities are not interfered with and that all Stormwater Pollution Prevention and Dust Control Prevention measures have been completed.

*Deliverables: New well, pump and motor, standby power, hydro pneumatic tank, and appurtenances, water meters and meter boxes.*

### **(e) Environmental Compliance/Mitigation/Enhancement**

#### Task 12 – Environmental/ Mitigation/ Enhancement

The project is categorically exempt from CEQA under Class 8. Class 8 consists of actions taken by regulatory agencies to assure the maintenance, restoration, enhancement, or protection of the environment where the regulatory process involves procedures for protection of the environment. (Guidelines §15308) The Contractor will conform to San Joaquin Valley Air Pollution Control District requirements to reduce air pollution (dust) and Construction General Permit requirements to minimize construction impacts to water quality. Madera County will also ensure safe handling of any mineral or archeological objects should they be found on the construction sites or pipeline pathway.

Onsite work associated with adherence to the SWPPP during construction is included under Subtask 11.1 – Project Mobilization/On-Going Duties.

*Deliverables: No specific deliverables under this task; all are covered elsewhere.*

### **(f) Project Management/Construction Administration**

#### Task 13 – Construction Administration

##### 13.1 – Construction Administration

This task will include the project construction administration related work. Specific tasks will include meetings, conference calls, supplier/contractor requests and invoicing, engineering consultant management, and overall project coordination. This task also includes time for submittal review and invoicing review by County staff. This task includes all permit completion documents, annual reporting and final project reporting for the SWPPP.

*Deliverable: Preparation of project reimbursement requests and invoices.*

### 13.2 – Construction Observation and Inspection

This task includes construction administration and observation efforts. The County will do this task with in-house staff or hire a construction management sub-consultant to perform construction observation duties.

The County will provide a construction inspector to monitor construction of all facilities in the construction contract. The engineering consultant will make periodic visits to the project site during construction. Other roles of the engineering consultant will include:

- Attend project kickoff meetings
- Attend weekly meetings with County staff and contractors
- Review submittals
- Process monthly payment requests
- Review contract change orders requests.
- Hydro geologist on site during test well drilling and sampling
- Hydro geologist on site during new well construction, pump testing, and sampling
- Final inspection, Notice of Completion

*Deliverables: Daily construction observation and reporting; Meeting minutes; Review of submittals; Contractor progress payment approval and change order review.*

13.3 – Record Drawings – Upon completion of construction, the engineering consultant will modify the design drawings to reflect construction conditions using information provided by the contractor. The drawings will be signed by the project engineer.

*Deliverables: Record construction drawings.*

## **(g) Other Costs**

### Task 14: Permits, Monitoring and Reporting

14.1 - Legal fees – Legal counsel activities for this project will include assistance with contracts, negotiations, and permitting.

*Deliverables: Invoices from Legal Counsel to RCWD. Finalized contracts and recorded documents.*

14.2 – Stormwater Pollution Prevention Plan (SWPPP) annual fees. All annual fees associated with the Project's SWRCB Construction General Permit will be billed under this phase. The initial SWPPP application fee will be included under

Task 11.1– Permitting with the initial SWPPP preparation and permit submittal to the SWRCB will be completed by the contractor.

14.2.1 – Monitoring and inspection for SWPPP – An annual report on the SWPPP is required each September, and a final report/notice of termination is required at the end of the project. This work will be done by the Contractor.

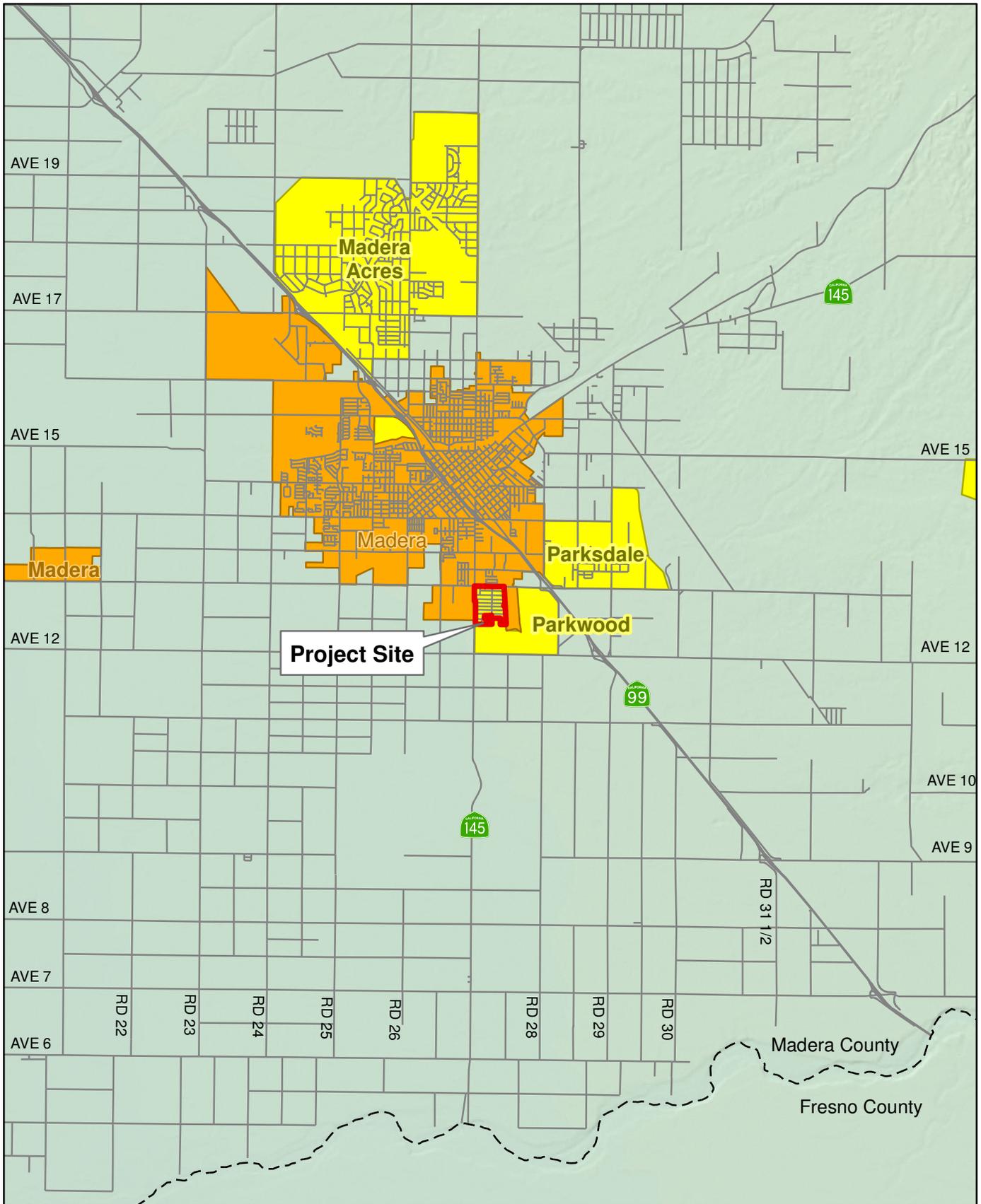
*Deliverables: Invoices from SWRCB for annual fees, SWPPP quarterly and annual reports, Notice of Termination.*

14.3 – Acquire Madera County Road Department encroachment permit for construction of infrastructure in road right of ways.

#### **(h) Construction/Implementation Contingency**

The contingency amount used for the Parkwood MD-19 A & B is 15%. The contingency accounts for neglected items and uncertainties in the design, material quantities, and unit prices. A value of 15% was selected due to the current level of planning and design efforts, which are only preliminary.

**All Project costs will be tracked and invoiced according to the main project tasks and not according to subtask.**



0 1 2 Miles

EST. 1988  
**PROVOST & PRITCHARD**  
 CONSULTING GROUP  
 An Employee Owned Company

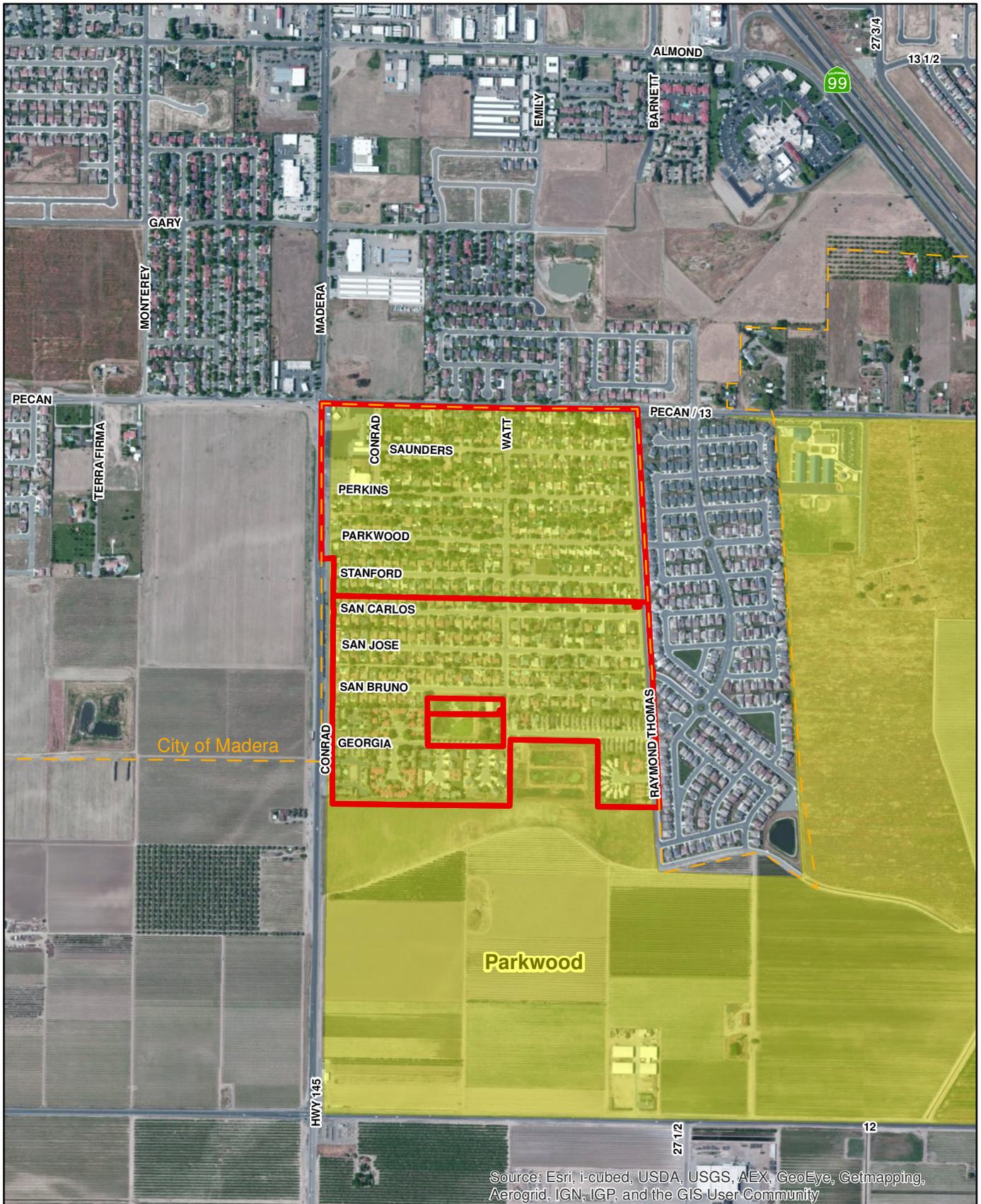
286 W. Cromwell Ave.  
 Fresno, CA 93711-6162  
 (559) 449-2700



- Incorporated City
- Census Designated Place
- Madera County Roads
- County Boundary

**Figure 3.2**

Project B - MD-19 Parkwood Regional Map



Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community



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 Fresno, CA 93711-6162  
 (559) 449-2700

- Incorporated City
- MD-19 Boundary
- Census Designated Place

**Figure 3.3**

Project B - MD-19 Parkwood  
 Vicinity Map

## Project C – MD8 North Fork/ South Fork Sewer System Improvements

### **I. Project Introduction**

**A. Brief Description of Project and Implementing Agencies:** County Maintenance District 8A, North Fork, is located in North Fork near Road 228 and Road 225. The district will provide sewer and water service to approximately 200 homes, apartments and businesses when final build out is complete. About 155 housing units are currently served by the water and/or sewer systems. The unincorporated community of South Fork lies within the boundaries of MD-8. South Fork currently relies on individual septic tanks for wastewater disposal, with the exception of a single private wastewater system.

The North Fork Mill Housing Facility's private wastewater system serves a residential neighborhood of approximately 24 residential structures. The residential neighborhood is known as the North Fork Mill Housing Facility. The North Fork Mill Housing Facility private wastewater system is subject to Waste Discharge Requirements Order No. 90-051, and Cleanup and Abatement Order No. 99-729, as issued by the Regional Water Quality Control Board (RWQCB). It has a long history of chronic noncompliance with RWQCB regulations, dating from 1986.

The County, which operates and manages Maintenance District 8, desires to plan, design and construct a wastewater collection and conveyance system for the South Fork community to allow many of the existing septic tanks and the failing North Fork Mill Housing Facility private wastewater system to be taken out of service. The system is expected to consist of a gravity wastewater collection system, a wastewater pump station, and a sewer force main. The gravity wastewater collection system would convey wastewater from the properties served to the pump station, where it would be pumped via the force main to another gravity wastewater collection system and then discharge to the existing MD-8 wastewater treatment system.

### **B. Project Goals, Objectives and Deliverables:**

#### Goals:

- Provide safe, reliable, and economical sewer service to North Fork Mill Housing Facility.
- Mitigate and comply with Waste Discharge Requirements Order No. 90-051, as issued by the Regional Water Quality Control Board (RWQCB).
- Mitigate and comply with Cleanup and Abatement Order No. 99-729, as issued by the Regional Water Quality Control Board (RWQCB).
- Mitigate potential groundwater contamination from the existing septic systems.
- Provide groundwater recharge with effluent disposal.

#### Objectives:

- Connect South Fork Sewer system to North Fork WWTP.

- Expand WWTP effluent disposal spray field capacity to accommodate South Fork flows.
- Remove, disconnect, and abandon existing private septic and leach systems.
- Recharge approximately 1.76 AFY through treated effluent percolation

Deliverables:

- Plans, Specifications and Construction Cost Estimates (10%, 30%, 60%, 90%, 100%) for all planned improvements including gravity sewer mains, lift stations, sewer force mains and sewer laterals necessary to connect existing residences and businesses in the South Fork community to the North Fork WWTF, and for expansion of North Fork effluent disposal spray field areas, additional runoff control ditches and effluent return pump systems needed to accommodate additional flows from the South Fork Community.
- Construct all improvements included in the Plans and Specifications.

**C. Purpose and Need:**

The North Fork and South Fork areas were significantly impacted as a result of changes in legislation restricting lumbering in the Sierra Nevadas, which ultimately led to the closure of the North Fork lumber mill in 1994. South Fork is a disadvantaged community with Median Household Income of \$20,999. In addition to the economic challenges the community faces, the South Fork community is also dealing with deficiencies in their waste water facilities that put these communities at risk for health and sanitation issues.

The project is critically needed to mitigate water quality problems and public health hazards that exist in South Fork. Connecting South Fork with new sewer lines to tie into the Madera County District 8A, North Fork Wastewater Treatment Plant is the optimal solution for eliminating the wastewater problems in South Fork.

Wastewater generated by the North Fork Mill Housing Facility private wastewater system in South Fork is discharged to multiple septic tanks and three concrete settling tanks. Wastewater is then conveyed to a sump tank and periodically pumped one-quarter mile to four evaporation/percolation ponds. A leach field is located just south of the settling tanks and receives wastewater overflows only during emergencies. South Fork residences and businesses that rely on individual septic tanks include 15 mobile homes, three apartments, a nursing home, a bed and breakfast, a motel and commercial buildings. Since these individual septic systems are all privately owned, there are no known operations and maintenance procedures.

On November 14, 2006, the Madera County Board of Supervisors adopted Resolution No. 2006-234, "A Resolution Proclaiming Existence of a Public Health Hazard" due to the conditions in South Fork. Subsequently, on January 25, 2007, the RWQCB adopted Resolution No. R5-2007-0007, "Approving and Accepting the County of Madera's Proclamation of the Existence of a Public Health Hazard and Time Schedule for Compliance for the North Fork Mill Housing Facility, Madera County."

As described in the County resolution, a public health hazard exists due to multiple failures of the inadequately designed, constructed and maintained North Fork Mill Housing Facility

wastewater system, resulting in sewage discharges to the ground surface and to a nearby seasonal drainage that is a tributary to the South Fork of Willow Creek. The resolution also describes a depth to groundwater of approximately 30 feet, and potential groundwater pollution by the system.

**Solving the Problem.** This Madera County project will plan, design and construct a wastewater collection and conveyance system for the South Fork community to allow many of the existing septic tanks and the failing North Fork Mill Housing Facility private wastewater system to be taken out of service. The system is expected to consist of a gravity wastewater collection system, a wastewater pump station, and a sewer force main. The gravity wastewater collection system would convey wastewater from the properties served to the pump station, where it would be pumped via the force main to another gravity wastewater collection system and then discharged to the existing Madera County District-8A wastewater treatment system. Wastewater from South Fork would be treated and disposed of along with wastewater from North Fork at the County-owned and operated WWTP.

The North Fork WWTP's current treatment capacity is 60,000 gpd and can easily accommodate the additional flows from South Fork. Once the South Fork wastewater collection system is fully operational, the North Fork WWTP can expect wastewater flows as high as 33,486 gpd based on calculated average daily flow, or as low as 26,472 gpd based on adjusted average daily flow from South Fork and North Fork combined. The projected 40-year flow into the North Fork WWTP from South Fork and North Fork combined could potentially be as high as 62,736 gpd based on calculated average daily flow or as low as 42,800 gpd based on the adjusted average daily flow. This value will depend on the actual growth and development of North Fork and South Fork.

The project will require an expansion of the spray field capacity by expanding the spray field areas, constructing runoff control ditches and effluent return pump systems. The County can increase discharge capacity to the spray fields as long as evidence is provided that the spray field has runoff controls and effluent return systems for discharges greater than 38,000 gpd and that spray field percolation rates will allow for a 60,000 gpd effluent disposal capacity. Both of these requirements were outlined in WDR Order No. 94-343.

**Groundwater Quality Benefits:** The project will eliminate the discharge of untreated effluent from septic tanks to the groundwater and potential spills from the North Fork Mill House Facility treatment facility. The depth to groundwater is approximately 30 feet, removal/abandonment of the existing private septic and leach systems will negate the potential pollution and contamination of the groundwater.

**Groundwater Recharge Benefits:** The treated effluent will be discharged via spray fields. The treated effluent will be disposed by percolation, evaporation, and evapo-transpiration. Excess flows will be recaptured by the effluent return ditches and pumped back to be re-circulated.

Surface Water Quality Benefits and Ecosystems Impacts: The private wastewater system is subject to Waste Discharge Requirements Order No. 90-051, and Cleanup and Abatement Order No. 99-729, as issued by the RWQCB. A Facility Inspection Report dated February 7, 2005 from the Central Valley RWQCB details severe violations of the WDR Orders by the North Fork Mill Housing Facility private wastewater system such as raw sewage spilling from the settling tanks and wastewater entering into a seasonal drainage which flows to the South Fork of Willow Creek. The South Fork of Willow Creek is west of the North Fork Housing Facility and the RV Park. Due to the topography, there is a high potential that sewer overflows could be directed to the nearby creek and contaminate the existing ecosystem, threatening the endangered Valley Long Horned Elderberry Beetle. This beetle lives in the elderberry bushes that, according to Live Oak Associates, Inc., are within close proximity of the creek.

### **Relation of proposal to the Madera Region IRWM Plan**

The project is directly related to stated goals in the Madera County IRWMP. Specifically, the three project goals correlate to Chapter 9 Conclusions and Recommendations in the IRWMP:

### **Basin Plan**

The project area is in the San Joaquin River watershed, which is tributary to the area covered by the Sacramento River and San Joaquin River Basin Plan and the area covered by the Tulare Lake Basin Plan. This project is designed to be consistent with both of these Basin Plans. Protecting water quality (surface and underground) is of the utmost importance in the Basin Plan. Recharging groundwater is also a Best Management Practice employed by the project. Consolidating septic systems and a small, failed, wastewater treatment plant with a larger treatment plant producing effluent useful for landscape irrigation is directly in line with RWQCB groundwater anti-degradation goals. The project will significantly reduce impacts to groundwater in an area where useable groundwater is limited by hard rock hydrogeology.

## **II. Project Readiness**

This project is ready to begin implementation immediately upon receiving a grant award. A notice of exemption will be prepared for CEQA.

Work that has been (or will be) completed prior to the grant includes:

- Preliminary Engineering – Four preliminary engineering reports have been completed. Two in particular will be relied upon for this project. The 2010 BC&F report provided recommendations for the sewer collection, lift station and force main portions of the project. The 2006 Wallace Report recommended the WWTP be upgraded with ECO-Chambers. Both reports included cost estimate data that this grant application relies upon for project costing. The project will implement these items as recommended in the reports. No further preliminary engineering is required. The preparation of detailed plans and specifications can begin as soon as a consultant engineer is selected and contracted.
- A Biotic Evaluation was completed by Live Oak Associates as part of the 2010 Facility Plan.

- There is no land acquisition involved. The County already has all parcels and rights-of-way (easements) necessary to construct the project.

### **III. Data and Studies**

The County has authorized several studies by engineering consultants over these years, which have led to development of a great deal of information about the current situation, the reasons for its non-compliance, and potential pathways to success. The documents listed below, they are not attached due to space limitations but are available upon request by DWR staff. These studies include:

- A report entitled, *“Madera County Maintenance District 8A, Wastewater Treatment and Disposal Systems, Preliminary Engineering Report,”* dated April 1999 (1999 Report) by Provost & Pritchard Engineering Group, evaluated the South Fork sewer flows, treatments and disposal alternatives.
- A report entitled *“Preliminary Engineering Report Wastewater Upgrade,”* dated December 2003 (2003 Report) by Wallace Swanson International, evaluated the South Fork sewer flows, treatments and disposal alternatives.
- A report entitled *“Engineering Report For Effluent Disposal System Expansion,”* dated March 2006 (2006 Report) by Wallace Group, evaluated the WWTP expansion of the spray fields.
- A report entitled *“South Fork Sewer System, Facilities Plan,”* dated June 16, 2010 (2010 Report) by Blair, Church and Flynn Consulting Engineers, sets forth a plan for South Fork capital facilities needed to address solution of the issue on a long-term basis.

The BC&F report provided recommendations for the sewer collection, lift station and force main portions of the project. The 2006 Wallace Report recommended the WWTP be upgraded with ECO-Chambers. Both reports included cost estimate data that this grant application relies upon for project costing. The project will implement these items as recommended in the reports.

### **IV. Plans and Specifications**

Plans and specifications have not been prepared, and will be developed as part of the project. The plans and specifications will include the gravity wastewater collection system, wastewater pump station, sewer force main, expansions and modifications to the existing storage pond, spray field, return ditches, and recirculation pumps.

### **V. Project Map**

A regional and a vicinity map (Figures 3.4 & 3.5) are included at the end of this section.

## **VI. Project Timing and Phasing**

This project is complete without any additional phases. Should actual WWTP flows ever exceed 60,000 gpd, additional construction at both the WWTP and the effluent disposal site would be required, however the likelihood of that is considered slight even over the full project horizon, and no funding is being sought for that contingency.

## **VII. Attachments**

None

## **VIII. Task List**

The County is anticipating the following tasks will need to be performed:

### **Project Activities**

#### **(a): Direct Project Administration Costs**

##### Task 1: Administration

Preparation of invoices to Applicant. This task involves review of subcontractor invoices and compilation of invoices from subcontractors and County staff account work into required format for submission to the Applicant.

*Deliverable: Submission of invoices to Applicant*

##### Task 2: Labor Compliance Program

2.1 – Submission of County’s Labor Compliance program to DWR – This task involves creation of the Labor Compliance Plan and submission to DWR, as well as record-keeping required by the Plan. The County will prepare, or hire a sub-consultant to develop, and implement a Labor Compliance Program for the project in compliance with Local, State and Federal requirements.

*Deliverable: Submission of Labor Compliance Program*

Task 3: Reporting – These tasks involve collecting information from staff, contractors, outreach and monitoring and compiling them in the appropriate report format for submission to the Applicant and DWR.

- 3.1 – Preparation and submission of quarterly project reports to DWR in accordance with the grant contract requirements. This task will also include preparation of a project draft and final project report. The report will summarize the project activities identified within this work plan, including a comparison of the scope, budget and schedule of the items performed. The draft report will be prepared and submitted to DWR for review and comment. Upon receipt of DWR comments, a final project report will be prepared and resubmitted to DWR.
- 3.2 – Preparation and submission of annual project reports to DWR
- 3.3 – Preparation and submission of all other reporting obligations in accordance with the grant contract requirements
- 3.4 – Quarterly meetings of project proponents and DWR -

*Deliverable: Submission of quarterly, annual and final reports as specified in the Grant Agreement. Completion of Data Management and Monitoring reports.*

Task 4: Development of Financing – County MD 8 is prepared to finance the required match from operating revenues. See the budget in Section 8.

*Deliverable:*

**(b) Land Purchase/Easement**

Task 5 Land Purchase/Easement– No additional land purchase will be required. All work to be performed will be within existing easements, rights-of-way and County-owned property.

*Deliverables: No deliverables required since land has been acquired and easements have already been executed.*

**(c) Planning/Design/Engineering/Environmental Documentation**

Task 6: Assessment and Evaluation – No further work remains to be done under this task. Feasibility and Preliminary Engineer’s Reports for the project as proposed have been prepared and completed. A Biotic Evaluation for the project area was completed as part of the 2010 Report.

*Deliverables: No deliverables required since all studies have been completed.*

Task 7: Final Design, Deliverables: – This task will include three subtasks.

7.1 Issue RFP for professional engineering services to prepare and develop construction drawings, plans, and cost estimates.

7.2 Approval of professional services contract by County – Attendance at Board meetings and other meetings as needed.

7.3 Preparation of plans, specifications and cost estimates for the gravity wastewater collection system, a wastewater pump station, and a sewer force main, WWTP expansions, modifications to the existing storage pond, spray field, return ditches, and recirculation pumps. These will include a preliminary design (30% complete), draft final design (90% complete) and final design (100% complete).

*Deliverables: Approved engineering services agreement, versions as stated of project plans, specifications and cost estimates.*

Task 8: Environmental Documentation – Preparation and filing of Notice of Exemption - This project is exempt under CEQA Class 8. Class 8 consists of actions taken by regulatory agencies to assure the maintenance, restoration, enhancement, or protection of the environment where the regulatory process involves procedures for protection of the environment. (Guidelines §15308). A Notice of Exemption will be prepared and filed for the project.

*Deliverable: Completion and filing of Notice of Exemption*

Task 9: Permitting – Permitting for this project will be required from State and Local agencies. Each of the identified agencies will be contacted and have jurisdiction over portions of the project. The permits identified herein are grouped into two areas. The first are permits that are required during the planning, regulatory and design phase. The other group consists of permits that are required for construction. RCWD does not anticipate any problems in securing these permits. All initial permit application fees will be billed under this task.

Planning, Regulatory and Design Phase

<i>Agency</i>	<i>Permit</i>	<i>Permit Obtained</i>	<i>Description/Status</i>
San Joaquin Valley Air Pollution Control District	Indirect Source Review (ISR)	No ISR Determination to be provided	To be obtained during planning stages. A determination needs to be given by the San Joaquin Valley Air Pollution Control District
Central Valley Regional Water Quality Control Board	Report of Waste Discharge , new Waste Discharge Requirements	No	To be prepared and applied for during project design phase. WDRs must be received prior to project operation.
PG&E	Rule 16 – Service Application	No	To be obtained during planning stages. Required for new PG&E power service for lift station.

Construction Phase

<i>Agency</i>	<i>Permit</i>	<i>Permit required</i>	<i>Description/Status</i>
State Water Resources Control Board	Construction General Permit	Yes (to be obtained by contractor)	For control of drainage to/from property
San Joaquin Valley Air Pollution Control District	Permit	Yes (to be obtained by contractor)	Emissions on Equipment, Dust Control Plan
Madera County	Encroachment Permit	To be obtained by Contractor	Encroachment permit will be required for any construction or staging on Madera county right-of-way.

*Deliverables: Report of Waste Discharge, SWPPP application, Dust Control Plan*

**(d) Construction/Implementation**

Task 10: Construction Contracting.

The task for Construction Contracting will include the following activities:

- Bidding documents will be prepared for all construction work.
- The County will conduct a public bid process in accordance with County and State requirements to secure a licensed contractor experienced with the required construction. This task also includes:
  - Pre-bid meetings
  - Answering questions during the bidding process
  - Bid opening meeting and evaluating submitted bids
  - Preparing construction contracts

*Deliverables: Prepare advertisement for bids; pre-bid contractors meeting; evaluation of bids; construction contract*

#### Task 11: Implementation

##### 11.1 – Project Mobilization/On-Going Duties

This task includes the pre-construction meeting, the project site clearing and construction equipment and material lay-down and staging area. This task also includes the onsite maintenance required to ensure that existing facilities are not interfered with and that all Stormwater Pollution Prevention and Dust Control Prevention measures are in place.

##### 11.2 Construct WWTP Spray field Expansion

11.2.1 This task includes the construction costs of purchasing materials, construction and installation of all required appurtenances to modify the spray field area and add additional spray field area to accommodate the planned additional capacity.

11.2.2 This task includes the construction costs of purchasing materials, construction and installation of all required appurtenances to construct return ditches and install recirculation pumps at the spray field to prevent effluent runoff from leaving the County property, in accordance with the Waste Discharge Requirements.

##### 11.3 Construct Sewer Collection System and Lift Station

11.3.1 This task includes the construction costs of purchasing materials, construction and installation of all required appurtenances to install the new gravity sewer collection system to the lift station, and connect existing services.

11.3.2 This task includes the construction costs of purchasing materials, construction and installation of all required appurtenances to install the new sewer lift station and force mains to the WWTP.

11.3.3 This task includes the construction costs of purchasing materials, construction and installation of all required appurtenances to abandon existing septic systems which are replaced by the sewer collection system.

*Deliverables: WWTP spray field modifications and expansion, completed sewer collection system and lift station.*

#### **(e) Environmental Compliance/Mitigation/Enhancement**

##### Task 12 – Environmental Compliance/Mitigation/Enhancement

The project is categorically exempt from CEQA under Class 8. Class 8 consists of actions taken by regulatory agencies to assure the maintenance, restoration, enhancement, or protection of the environment where the regulatory process involves procedures for protection of the environment. (Guidelines §15308) The Contractor will conform to San Joaquin Valley Air Pollution Control District requirements to reduce air pollution (dust) and Construction General Permit requirements to minimize construction impacts to water quality. Madera County will also ensure safe handling of any mineral or archeological objects should they be found on the construction sites or pipeline pathway.

Onsite work associated with adherence to the SWPPP during construction is included under Subtask 11.1 – Project Mobilization/On-Going Duties.

*Deliverables: No specific deliverables under this task; all are covered elsewhere.*

**(f) Project Management/Construction Administration**

Task 13 – Construction Administration

13.1 – Construction Administration

This task will include the project construction administration related work. Specific tasks will include meetings, conference calls, supplier/contractor requests and invoicing, engineering consultant management, and overall project coordination. This task also includes time for submittal review and invoicing review by County staff. This task includes all permit completion documents, annual reporting and final project reporting for the SWPPP.

*Deliverable: Preparation of project reimbursement requests and invoices.*

13.2 – Construction Observation and Inspection

This task includes construction administration and observation efforts. The County will do this task with in-house staff or hire a construction management sub-consultant to perform construction observation duties.

The County will provide a construction inspector to monitor construction of all facilities in the construction contract. The engineering consultant will make periodic visits to the project site during construction. Other roles of the engineering consultant will include:

- Attend project kickoff meetings
- Attend weekly meetings with County staff and contractors
- Review submittals
- Process monthly payment requests
- Review contract change orders requests.
- Final inspection, Notice of Completion

*Deliverables: Daily construction observation and reporting; Meeting minutes; Review of submittals; Contractor progress payment approval and change order review.*

13.3 – Record Drawings – Upon completion of construction, the engineering consultant will modify the design drawings to reflect construction conditions using information provided by the contractor. The drawings will be signed by the project engineer.

*Deliverables: Record construction drawings.*

13.4 Data Collection and Monitoring Oversight – Data collection and monitoring oversight will include overseeing the activities of monitoring and inspections for the SWPPP and WWTP flow monitoring. This will involve pre and post- meetings with the monitors/inspectors, as well as preparation for these meetings and site

inspections when appropriate. This task also involves making sure that information is properly stored and disseminated: Data and reports will be stored as part of the Madera County Special Districts.

**(g) Other Costs**

Task 14: Permits, Monitoring and Reporting

14.1 - Legal fees – Legal counsel activities for this project will include assistance with contracts, negotiations, and permitting.

*Deliverables: Invoices from Legal Counsel to RCWD. Finalized contracts and recorded documents.*

14.2 – Stormwater Pollution Prevention Plan (SWPPP) annual fees. All annual fees associated with the Project’s SWRCB Construction General Permit will be billed under this phase. The initial SWPPP application fee will be included under Task 9 – Permitting with the initial SWPPP preparation and permit submittal to the SWRCB.

14.2.1 – Monitoring and inspection for SWPPP – An annual report on the SWPPP is required each September, and a final report/notice of termination is required at the end of the project. This work will be done by the Contractor.

*Deliverables: Invoices from SWRCB for annual fees, SWPPP quarterly and annual reports, Notice of Termination.*

14.3 – Acquire new RWQCB Waste Discharge Requirements for WWTP modifications.

*Deliverables: Report of Waste Discharge, revised Waste Discharge Requirements from RWQCB.*

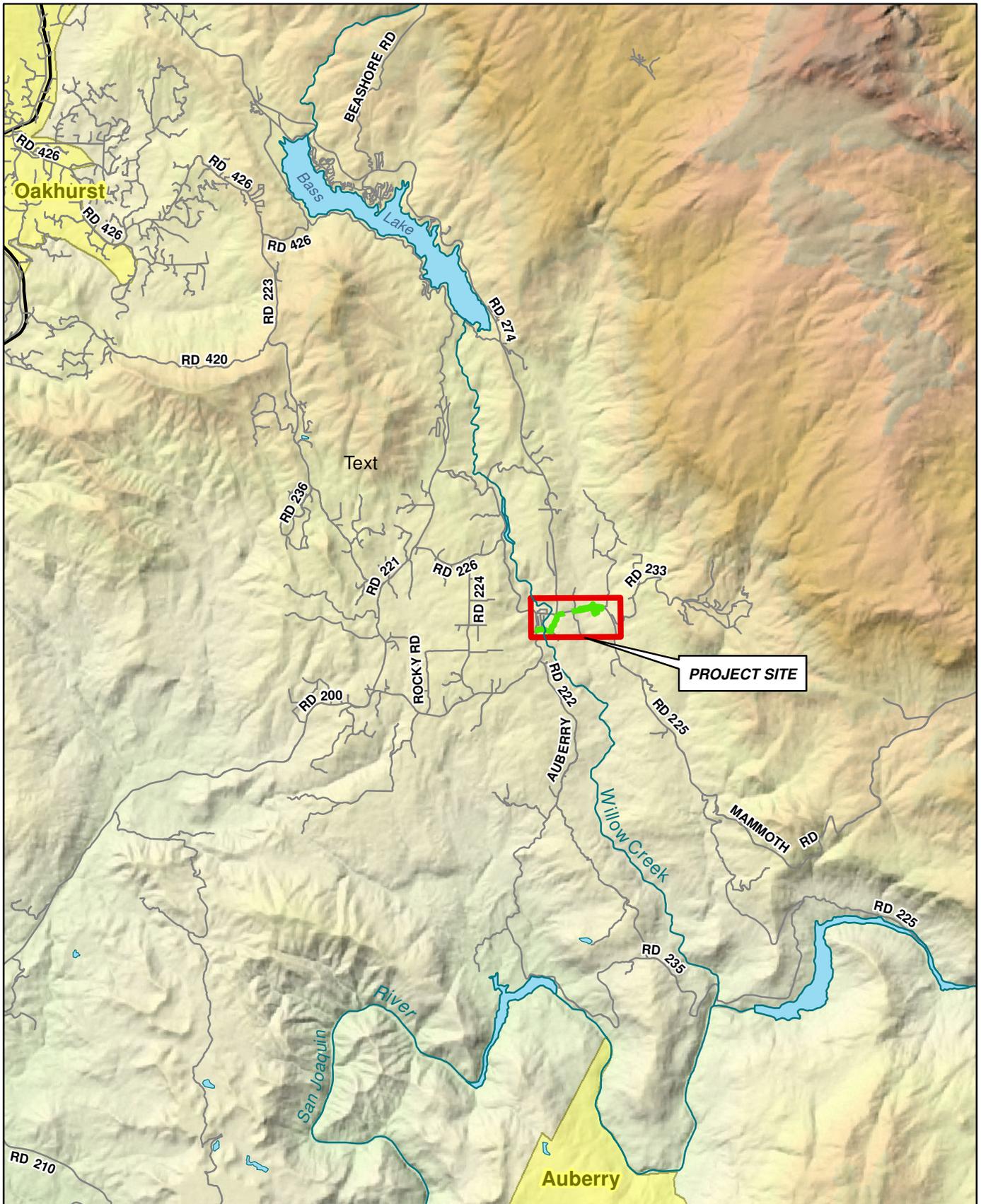
14.4 – Acquire Madera County Road Department encroachment permit for construction of infrastructure in road right of ways.

**(h) Construction/Implementation Contingency**

The contingency amount used for the North Fork/ South Fork Project is 15%. The contingency accounts for neglected items and uncertainties in the design, material quantities, and unit prices. A value of 15% was selected due to the current level of planning and design efforts, which are only preliminary.

**All Project costs will be tracked and invoiced according to the main project tasks and not according to subtask.**

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0 1 2 Miles



EST. 1988  
**PROVOST & PRITCHARD**  
 CONSULTING GROUP  
 An Employee Owned Company

286 W. Cromwell Ave.  
 Fresno, CA 93711-6162  
 (559) 449-2700



Project Site



Census Designated Place

**Figure 3.4**

Project C - North Fork/  
 South Fork  
 Regional Map



Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community



EST. 1968  
**PROVOST & PRITCHARD**  
 CONSULTING GROUP  
 An Employee Owned Company

286 W. Cromwell Ave.  
 Fresno, CA 93711-6162  
 (559) 449-2700

Parcel

**Sewer Line**

Force Main

Gravity

**Figure 3.5**

Project C - North Fork/  
 South Fork  
 Vicinity Map

## Project D – Brockman Flood Control Basin

### **I. Project Introduction**

#### **A. Brief Description of Project and Implementing Agencies:**

The Madera County Flood & Water Conservation Agency was established per Government Code Sections 65302, 65560, and 65800, and adopted floodplain management regulations to promote public health, safety and general welfare of its citizenry. The agency's purpose is to minimize public and private losses due to flood conditions in specific areas.

One such area with loss due to flood conditions is the Madera Ranchos in south east Madera County. The main portion of this rural community is impacted by both the Madera Ranchos South and Madera Ranchos North drainages. In 1984 the County completed a Master Drainage Plan for Madera Ranchos, Bonadelle Ranchos & Root Creek. Additionally, FEMA FIRM Maps exist for this area including Map Numbers 06039C1195E & 06039C1215E, Effective Date; Sept. 26, 2008 (see Electronic Attachments 3.2D a,b&c). Downstream of the project area along the Madera Ranchos South drainage an estimated 80 structures exist within the 100-yr floodway and Special Flood Hazard Area (SFHA) along with an additional 25 structures that have received flood certificates exempting them for the flood insurance requirements.

The County's 'Brockman Flood Control Basin Project' includes building an initial basin covering five acres of a proposed 13-acre site. Seasonal flood waters will be diverted from the Madera Ranchos South drainage to reduce flood damages. Additionally, a pipeline will be built to deliver surface water from the Madera Irrigation District's Lateral 6.2 to the basin for additional groundwater recharge. See Figure 3.6, page 57 for a vicinity map showing the location of the project in Madera County. See Figure 3.7, page 58 for a project location map showing the rural development area that is currently impacted by the drainage channel flooding.

The project area currently experiences three to five feet of groundwater level decline annually (see Electronic Attachment 3.2D d), an amount considered extreme and which puts the sustainability of water production in the area at substantial risk. While the primary project benefit would be flood control, the diverted water would percolate into the local groundwater basin, providing a secondary groundwater level benefit from the project.

Funding is requested for constructing the flood control basin, flood water diversion structure, and surface water pipeline to convey surplus San Joaquin River Section 215 floodwater from Lateral 6.2 to the proposed basin.

Surface water would be delivered to Madera County through Madera Irrigation District (MID) facilities under existing water purchase, and conveyance agreements. Water would be diverted into the Brockman Flood Control Basin through a proposed turnout on MID's Lateral 6.2 shown in Figure 6.1, page 21 of Attachment 6.

Using available surface water supplies per existing agreements, the proposed turnout could deliver, on average, 75 AF/year to the project area from wet year surplus surface water. Water would be delivered during the irrigation season, typically running from April to September. The project yield could be increased if the project area is expanded to buildout the basin over the entire 13-acre site. The proposed project is the first phase in a potentially larger project that could recharge up to approximately 425 AF/year of water in addition of its beneficial flood control capabilities.

The project would import new surface water supplies into Madera County. Every acre-foot of surface water delivered by the project will offset an acre-foot of groundwater pumping and reduce overdraft in the local area and surrounding communities. The project will help to reverse the net overdraft in Southeastern Madera County of 22,000 AF/year, as referenced in a report by Kenneth D. Schmidt Associates entitled 'Hydrogeologic Investigation – Southeastern Madera County', prepared in 1998 and updated in 2001. The estimated overdraft for the adjacent MD-10A (Maintenance District 10A) is 9500 AF, which can be calculated from the same study and a 2009, 'Technical Evaluation and Rate Study for MD-10A Madera Ranchos', prepared by AECOM. The initial project yield of 75 AF and especially the future build-out yield of 425 AF will help to reduce this local overdraft. The surface water delivery will also help to improve local water quality and improve water reliability.

#### **A. Project Goals, Objectives and Deliverables**

The project goals and objectives include the following:

- Provide significant flood control protection to the Madera Ranchos structures/homes in the floodplain downstream of the Brockman Flood Control Basin by diverting peak flows to basin storage for percolation.
- Enhance the available ground water supply by recharging up to 25 AF of flood water into the area on an average annual basis.
- Enhance the available ground water supply by recharging up to 75 AF of new surface water into the area on an average annual basis. The imported surface water would be San Joaquin River Section 215 floodwater that will be diverted from the River during winter – spring flows. This water would otherwise not be utilized and potentially cause damage to crops in downstream areas that flood frequently.
- Improve water reliability by providing alternate water sources.
- Reduce groundwater overdraft by reducing the rate of groundwater pumping.
- Reduce groundwater pumping costs and the need to deepen wells or install new wells.
- Maintain the viability of irrigated agriculture in the area.
- Improve water quality by importing high quality surface water that will mix with lower quality groundwater.

#### **Deliverables:**

1. Biological Assessment and Evaluation prior to preparation of plans.
2. Land Donation completed (per Agreement).

3. 90% Final Design.
4. Mitigated Negative Declaration (MND) and CEQA.
5. 100% Final Design and Specifications.
6. Construction.

## **B. Purpose and Need**

The project is needed in order to help reduce flooding to homes in the Madera Ranchos South floodplain downstream of the basin and to help reduce the overdraft situation in this region of Madera County. The proposed imported surface water will be used to help recharge the regional groundwater aquifer. The project would deliver surface water from outside of the region adding a new groundwater resource. MD-10A and the surrounding areas experience an average 3-5 foot annual decrease in groundwater elevation and groundwater quality testing has shown poorer quality water with increasing depth.

Ground Water Quality Benefits: The project will help improve ground water quality by recharging higher quality surface water and storm water to the aquifer below. Existing groundwater in the southeast region of the County has increasingly poor water quality as depths increase in the aquifer below approximately 500 feet below ground surface. At this depth concentrations that exceed regulatory limits have been found for Nitrate, Iron, Arsenic and Manganese. Recharge will help to improve the groundwater quality. Water above this elevation is “fresh,” water below is brackish and considered unusable for most domestic and agricultural purposes. As groundwater levels continue to decline, the available fresh water layer becomes thinner and more difficult to access.

Ground Water Recharge Benefits: The estimated initial benefit is approximately 75 AF/yr of surface water recharge possible in addition to any captured flood waters. In the future expansion of the basin along with securing a water supply agreement will significantly boost the recharge benefits.

Ecosystems Impacts: The proposed Brockman Basin will be adjacent to the Madera Ranchos South drainage channel in a highly disturbed dry farmed (winter wheat) agricultural parcel. Construction of the basin is not anticipated to have any significant environmental impacts. The site is located within designated critical habitat for the San Joaquin Orcutt Grass, however due to the yearly disturbances from growing winter wheat and grazing sheep in the late springtime, it is anticipated that no presence will be found or mitigation needed.

Consistency with Basin Plan: The IRWMP Section 1.3 Plan Scope includes objectives to maximize groundwater recharge (1.3.1 Water Resources Management Optimization) along with enhancing the flood control program (1.3.4 Flood Control Planning).

## **C. Linkages**

The Madera County Flood & Water Conservation Agency will be purchasing surplus Central Valley Project waters from Madera Irrigation District (MID) and Chowchilla Water District (CWD). These waters are available when short-term supplies exceed local demands in MID and

CWD. By purchasing this water, Madera County FWCA will help to ensure that MID and CWD's allocations are fully utilized and do not flow out of the IRWMP area, thus benefitting the entire region.

## **II. Project Readiness**

Following the grant award date in October, 2013, the project will commence immediately with surveying the potential project area and determining the optimal location(s) for the 13-acre site out of the total 80-acre parcel. The geotechnical investigation can also be completed that fall before significant rainfall occurs.

The biological assessment will be completed in early spring 2014 per the timeline requirements to determine no presence for the San Joaquin Orcutt Grass. In summer, 2014, the permitting and design documents will be completed and will go through the appropriate approval process with the County and other agencies as needed. Prior to final approval of the project, the land donation will be finalized.

The County's water purchase/conveyance contract for Section 215 water is complete and in place. There is no site environmental mitigation expected. The basin and flood control turnout structure will be constructed after the end of the winter rainfall season for 2014, while the MID Lateral 6.2 turnout structure will need to be constructed between November 2013 and April 2014 to avoid the months that MID delivers irrigation water to its customers. The project is anticipated to be ready to start construction in October, 2014, approximately one year after project award.

## **III. Data and Studies**

Numerous supporting documents and studies have been prepared that are relevant to the MCFWCA "Brockman Flood Control & Recharge Basin" Project. The documents listed below, they are not attached due to space limitations but are available upon request by DWR staff.

- AB303 Project Summary Report, Provost & Pritchard Engineering Group and Kenneth D. Schmidt & Associates, May 2003.
- Hydrogeologic Investigation – Southeastern Madera County, Kenneth D. Schmidt & Associates, October 2001.
- Hydrogeologic Investigation – Southeastern Madera County, Kenneth D. Schmidt & Associates, June 1998.
- Groundwater Management Plan, Provost and Pritchard Engineering Group, October 13, 1997.
- Master Drainage Plan for Madera Ranchos, Bonadelle Ranchos, Root Creek, County of Madera, Gill & Pulver Engineers Inc., June 1984.

## **IV. Plans and Specifications, Project D – Brockman Flood Control Basin**

Plans and specifications will be developed as part of the project. The plans and specifications shall include the initial basin excavation, fencing, a flood control turnout structure, and a turnout structure on the MID 6.2 lateral canal.

Soils testing and a Preliminary Engineers Reports to site the Basin will be prepared after completion of the Biological Assessment. Work will be performed in MID rights-of-way and on County-owned property. The plans and specifications for the turnout structure at the MID canal will require approval by the Madera Irrigation District and by USBR.

**V. Project Map**

A regional and a vicinity map (Figures 3.6 & 3.7) are included at the end of this section.

**VI. Project Timing and Phasing**

The Brockman Flood Control Basin project could be completed prior to the start of the rainy season in the fall of 2015 and will first be used for flood control at that time. The following spring (2016), the basin can be used to recharge San Joaquin River Section 215 floodwater, if any is available. In future years, when the basin is expanded, additional Section 215 water can be recharged. The basin could potentially recharge a much greater volume of water throughout most of the summer months, if water were to become available. However, future project water supplies are conceptual and no funding is being requested for them at this time.

**VII. Attachments**

The following is the list of attached figures that pertain to/are referenced in support of topics within Attachment 3 – Work Plan:

- Attachment 3.2,a – FIRM, Map Number 06039C1195E, Effective Date: Sept. 26, 2008
- Attachment 3.2,b – FIRM, Map Number 06039C1215E, Effective Date: Sept. 26, 2008.
- Attachment 3.2,c – Flood Insurance Study, Madera County, FIS Number 06039CV000A, Sept. 26, 2008.
- Attachment 3.2,d – Valley Floor Groundwater Level Decline Exhibit
- Attachment 3.2,e – Agreement 9105-C-2010, Brockman Park Memorandum of Understanding

**VIII. Task Descriptions, Project D – Brockman Flood Control Pond**

**Project Tasks, Project D – Brockman Flood Control Pond**

**(a) Direct Project Administration Costs**

Task 1 – Project Administration

This task will include the project administration related work involved in the project. Specific tasks will include meetings, conference calls, reimbursement requests, engineering consultant management, and overall project coordination.

*Deliverable: Preparation of project reimbursement requests and invoices.*

Task 2 – Labor Compliance

RCWD will prepare, or hire a sub-consultant to develop, and implement a Labor Compliance Program for the project in compliance with Local, State and Federal requirements.

*Deliverable: Submission of Labor Compliance Program*

#### Task 3 – Reporting

This task will include quarterly and annual project reports and all other reporting obligations in accordance with the grant contract requirements. This task will also include preparation of a project draft and final project report. The report will summarize the project activities identified within this work plan, including a comparison of the scope, budget and schedule of the items performed. The draft report will be prepared and submitted to DWR for review and comment. Upon receipt of DWR comments, a final project report will be prepared and resubmitted to DWR.

This task also includes all project performance measure monitoring and reporting.

*Deliverables: Submission of quarterly, annual and final reports as specified in the Grant Agreement. Monitoring report.*

#### Task 4 – Financing Development

The grant guidelines require at least a 25% funding match, which equates to \$264,500. Madera County is providing the necessary land and the County will provide the remaining matching funds to the project in in-kind services, and/or will provide as contract services.

*Deliverables: Submission of proof of cash reserves once paid.*

### **(b) Land Purchase/Easement**

#### Task 5 – Land Purchase/Easement

Madera County has a signed agreement to receive a donation of the project site from a private landowner (see Electronic Attachment 3.2D e). Current market prices of approximately \$10,000 to \$12,000 per acre would result in a land value of between \$130,000 to \$156,000 dollars for donation of the project site. The land value is estimated at approximately \$149,500 for a 2014 transaction.

*Deliverables: Submission of a Certified Appraisal Report for land value along with final closing document for property acquisition.*

### **(c) Planning/Design/Engineering/Environmental Documentation**

#### Task 6 – Assessment and Evaluation, Deliverable, and Technical Studies

No Assessment or Evaluation of the project site have been completed. A Geotechnical Investigation Report and a Biological Evaluation will be completed first. The Feasibility and Preliminary Engineers Report will be prepared using the information from the first two reports. The completed Studies will determine the final site location and basin depth.

*Deliverables: Geotechnical Investigation, Biotic Report, and Feasibility and Preliminary Engineers Report.*

**Task 7 – Final Design**

This task will include the update of the 95% design of the turnout structures, main pipeline, pump station connections, and preparation of plans, and cost estimates. The update of the 30% project specification bidding documents and costs estimates will also be completed as part of this task. The plans and specifications for the lateral pipelines will also be prepared. These will include a preliminary design (30% complete), draft final design (90% complete) and final design (100% complete).

*Deliverables: Completion of project plans and specifications.*

**Task 8 – Environmental Documentation**

This task includes the required environmental processing, and documentation involved in the project. Both of these items are closely interrelated, so are described here together. Environmental documentation will include preparation of a CEQA Initial Study and other pertinent studies as identified in the initial study. The two environmental regulations that need compliance relate to NEPA and CEQA. Since the project will not involve Federal monies, nor a Federal decision NEPA does not apply. CEQA consists of 1) preparation of initial studies to identify potential project impacts, 2) undertaking scientific and biological reviews to identify the existing conditions and potential impacts from construction and/or operations of the proposed project and 3) public input through meetings, public hearings and the formalized process of publication, circulation and adoption.

*Planning and Regulatory Environmental Documents*

<i>Agency</i>	<i>Description</i>	<i>Determination/Status</i>
Madera County	Prepare a CEQA Initial Study for the project, and adopt a Negative Declaration.	TBD
USBR	Review and accept the biological study for the project.	TBD
USBR	The District has negotiated for a long-term Section 215 floodwater contract with the USBR. The District needs to provide a down payment for final acceptance.	Contract pending down payment to USBR (see attachment 3.2, page 233)

**Task 9 – Permitting**

Permitting for this project will be required from State and Local agencies. Each of the identified agencies will be contacted and have jurisdiction over portions of the project. The permits identified herein are grouped into two areas. The first are permits that are required during the planning, regulatory and design phase. The other group consists of permits that are required for construction. Madera County does not anticipate any problems in securing these permits. All initial permit application fees will be billed under this task. No permit required from the

DWR, Division of Safety of Dams, the excavation and water impoundment will be below grade and not trigger this permit.

Planning, Regulatory and Design Phase

<i>Agency</i>	<i>Permit</i>	<i>Permit Obtained</i>	<i>Description/Status</i>
San Joaquin Valley Air Pollution Control District	Indirect Source Review	ISR Determination to be provided	To be obtained during planning stages.

Construction Phase

<i>Agency</i>	<i>Permit</i>	<i>Permit required</i>	<i>Description/Status</i>
State Water Resources Control Board	Construction General Permit	Yes (to be obtained by contractor)	For control of drainage to/from property during and after construction;
San Joaquin Valley Air Pollution Control District	Permit	Yes (to be obtained by contractor)	Emissions of Equipment
Madera Irrigation District	Encroachment Permit	To be obtained by Contractor	Encroachment permit will be required for any construction or staging on MID right-of-way.

*Deliverables: Section 215 Water Contracting, SWRCB Construction General Permit SWPPP documentation, San Joaquin Valley Air Board documentation*

Planning, Regulatory and Design Phase

<i>Agency</i>	<i>Permit</i>	<i>Permit Obtained</i>	<i>Description/Status</i>
San Joaquin Valley Air Pollution Control District	Indirect Source Review (ISR)	ISR Determination to be provided	To be obtained during planning stages. A determination needs to be given by the San Joaquin Valley Air Pollution Control District

Construction Phase

<i>Agency</i>	<i>Permit</i>	<i>Permit required</i>	<i>Description/Status</i>
State Water Resources Control Board	Construction General Permit	Yes (to be obtained by contractor)	For control of drainage to/from property
San Joaquin Valley Air Pollution Control District	Permit	Yes (to be obtained by contractor)	Emissions on Equipment
Madera County	Encroachment Permit	To be obtained by Contractor	Encroachment permit will be required for any construction or staging on Madera county right-of-way.
Madera Irrigation District	Encroachment Permit	To be obtained by Contractor	Encroachment permit will be required for any construction or staging on MID right-of-way.

*Deliverables: Section 215 Water Contract, SWRCB Construction General Permit SWPPP documentation, San Joaquin Valley Air Board documentation*

**(d) Construction/Implementation**

Task 10 – Construction Contracting

The task for Construction Contracting will include the following activities:

- Bidding documents will be prepared for all construction work.
- RCWD will conduct a public bid process in accordance with RCWD and State requirements to secure a licensed contractor experienced with the required construction. This task also includes:
  - Pre-bid meetings
  - Answering questions during the bidding process
  - Bid opening meeting and evaluating submitted bids
  - Preparing construction contracts

*Deliverables: Prepare advertisement for bids; pre-bid contractors meeting; evaluation of bids; construction contract*

## Task 11 – Construction

This task includes the construction activities of the proposed facilities. All construction will meet all applicable local, state and federal codes and regulations.

- o Subtask 11.1 – Project Mobilization/On-Going Duties

This task includes the construction costs of purchasing materials, construction and installation of all required appurtenances to mobilize, bond, insure and administer the contract, to prepare the DCP and SWPPP and to carry out related ongoing duties through the life of the project.

- o Subtask 11.2 – MID Turnout & Metering Structure

This task includes the construction costs of purchasing materials, construction and installation of all required appurtenances to connect the existing MID Lateral 6.2 to the proposed Brockman Basin.

- o Subtask 11.3 – Outfall to Basin

This task includes the construction costs of purchasing materials, construction and installation of all required pipeline and appurtenances to connect to the proposed metering structure in Subtask 11.2.

- o Subtask 11.4 – In-Channel Bypass/Turnout

This task includes the construction costs of purchasing materials, construction and installation of all required appurtenances and/or pipeline to divert flood flows from the Madera Ranchos South drainage into the Brockman Basin.

- o Subtask 11.5 – Earthwork – Clearing & Excavation of Basin

This task includes the construction costs of clearing the site, excavating the initial 5-acre basin and stockpiling the excavated soil on the remaining site for future sale and or use for other County projects.

- o Subtask 11.6 – In-Channel Grading & Finish Grading

This task includes the construction costs of any filling of soil in the drainage for the bypass and finish grading (smoothing out) for the basin.

- o Subtask 11.7 – 6’ Chainlink Perimeter Fencing

This task includes the construction costs of purchasing materials, construction and installation of all required fencing and gates to secure the perimeter of the Brockman Basin.

- o Subtask 11.8 – Project Site Cleanup/De-Mobilization

This task includes the project site and construction equipment and material lay-down and staging area clean-up.

### **(e) Environmental Compliance/Mitigation/Enhancement**

#### Task 12 – Environmental Compliance/Mitigation/Enhancement

There will not be any land impacted off site that would require mitigation or protection. Onsite work associated with adherence to the SWPPP during construction is included under Subtask 11.1 – Project Mobilization/On-Going Duties. It is anticipated that some considerations will need to be made per the Biological Evaluation once it is completed. Due to the highly disturbed nature of

the site and degradation of nature habitat from existing agricultural use, this is expected to be minimal.

*Deliverables: Potentially a document to show compliance with any measures determined by the Environmental Documentation under Task 8.*

#### **(f) Construction Administration**

##### Task 13 – Construction Administration

###### ▪ Subtask 13.1 – Construction Administration

This task will include the project construction administration related work. Specific tasks will include meetings, conference calls, supplier/contractor requests and invoicing, engineering consultant management, and overall project coordination. This task also includes time for submittal review and invoicing review by Madera County staff. This task includes all permit completion documents, annual reporting and final project reporting for the SWPPP.

*Deliverable: Preparation of project reimbursement requests and invoices.*

###### ▪ Subtask 13.2 – Construction Observation and Inspection

- This task includes construction administration and observation efforts. Madera County will do this task or hire a construction management sub-consultant to perform construction observation duties.
- Madera County will provide a construction inspector to monitor construction of the turnout structure, drainage channel bypass/diversion, and outfall connections. The consultant will make periodic visits to the project site during construction. Other roles of the engineering consultant will include: Attend project kickoff meetings.
- Attend weekly meetings with County staff and contractors
- Review submittals
- Process monthly payment requests
- Review contract change orders requests.

*Deliverables: Daily construction observation and reporting; Meeting minutes; Review of submittals; Contractor progress payment approval and change order review.*

###### ▪ Subtask 13.3 – Record Drawings.

Upon completion of construction, the design drawings will be modified by the project engineer to reflect construction conditions using information provided by the contractor. The drawings will be signed by the project engineer.

*Deliverables: Record construction drawings.*

## **(g) Other Costs**

### Task 14 – Other Costs

- Subtask 14.1 - Legal fees

Legal counsel activities for this project will include assistance with contracts, negotiations, and permitting.

*Deliverables: Invoices from Legal Counsel to Madera County. Finalized contracts and recorded documents.*

- Subtask 14.2 – Stormwater Pollution Prevention Plan (SWPPP) annual fees

All annual fees associated with the Project’s SWRCB Construction General Permit will be billed under this phase. The initial SWPPP application fee will be included under Task 9 – Permitting with the initial SWPPP preparation and permit submittal to the SWRCB.

*Deliverables: Invoices from SWRCB for annual fees.*

- Subtask 14.3 – County monitoring and assessment reporting during construction & initial water diversion

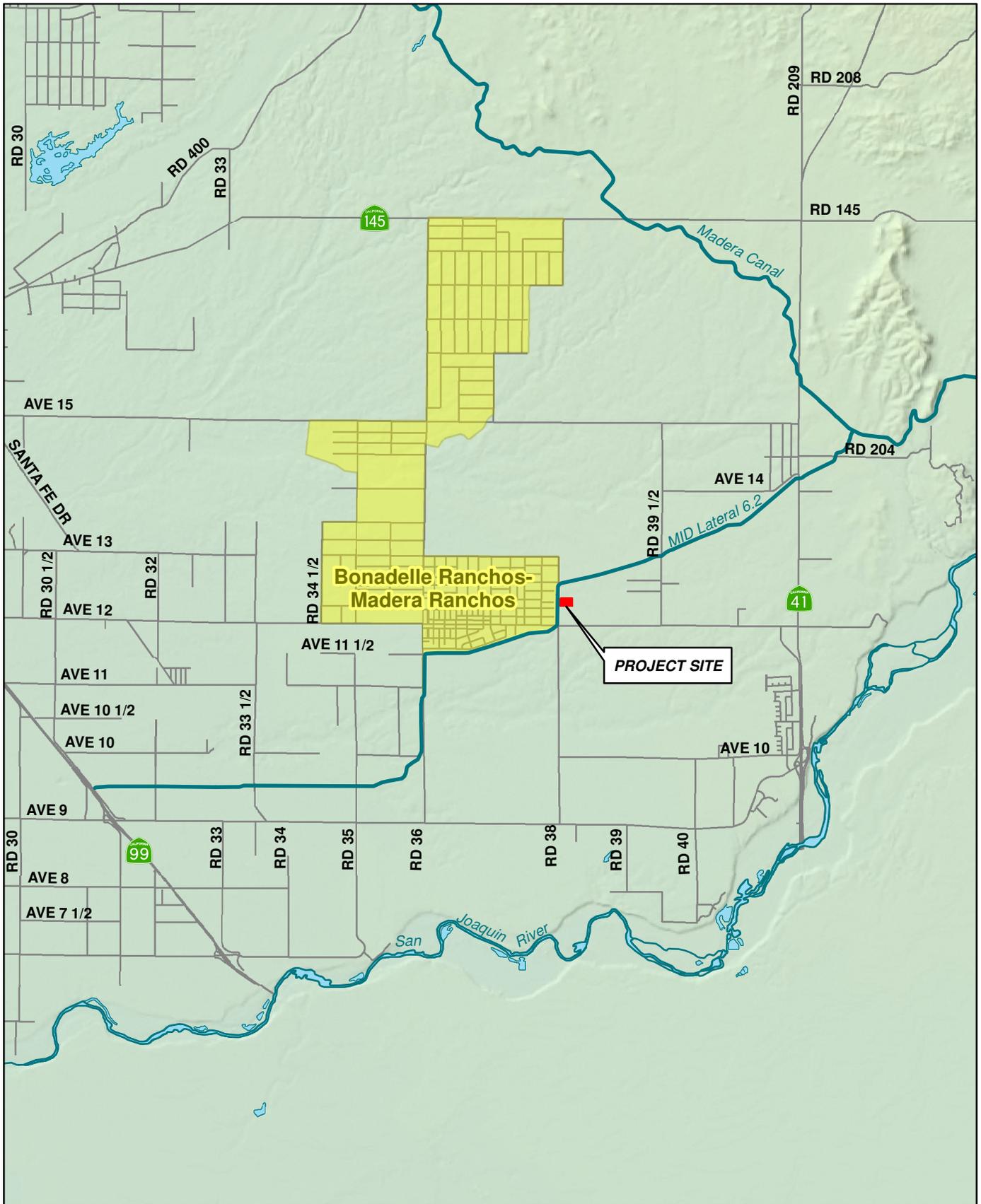
This task includes the work performed during construction and facility testing to survey the environmental monitoring aspects of the project and to prepare the required reports if necessary. The reporting required by DWR on the monitoring and testing of the diversion structure will also be included.

*Deliverables: Monitoring data sheets and corresponding reports.*

## **(h) Construction/Implementation Contingency**

The contingency amount used for the Madera County Brockman Flood Control Basin Project is 15%. The contingency accounts for neglected items and uncertainties in the design, material quantities, and unit prices. A value of 15% was selected due to the current level of planning and design efforts, which are mostly complete.

**All Project costs will be tracked and invoiced according to the main project tasks and not according to subtask.**



0 1 2 Miles

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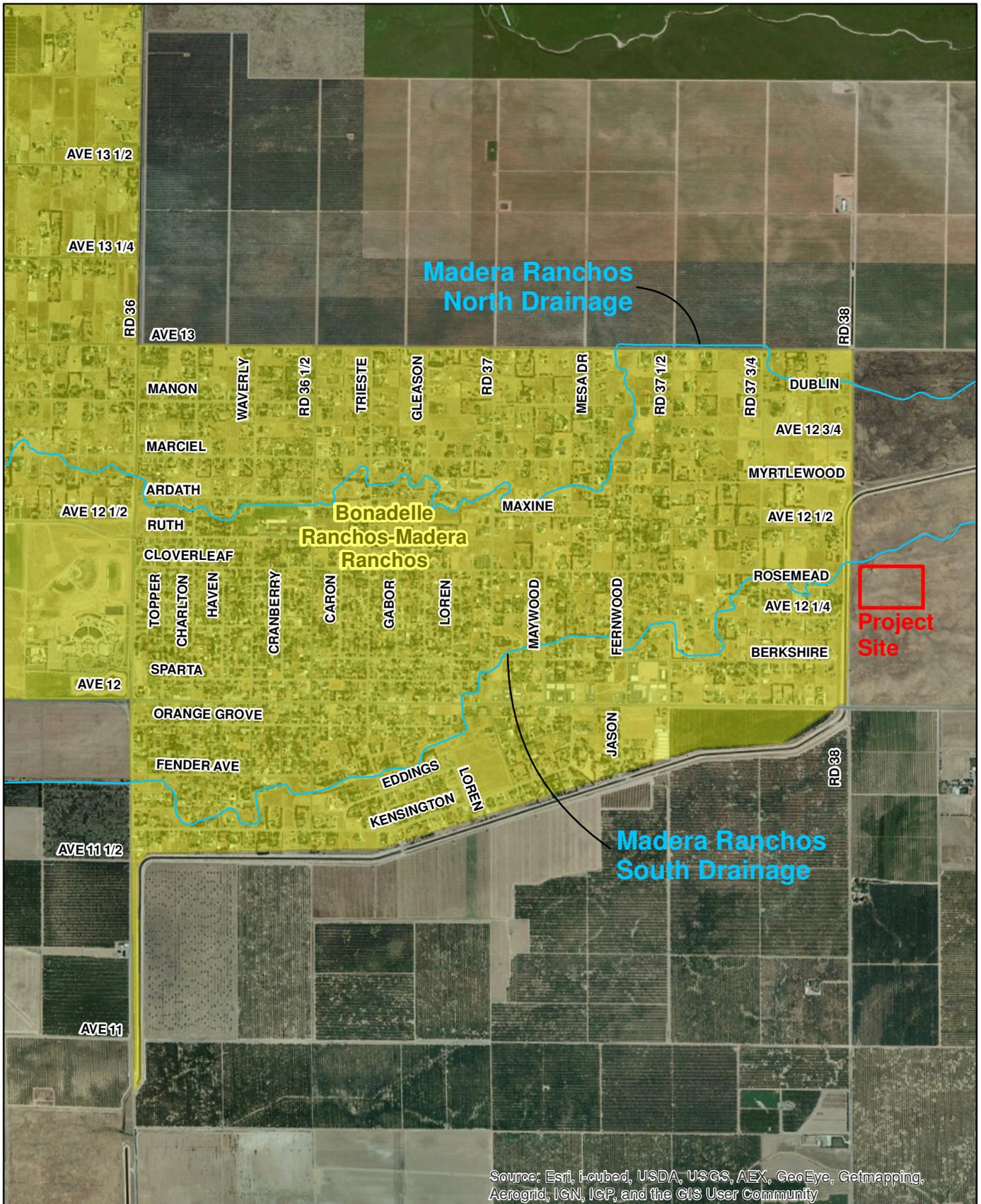
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 Fresno, CA 93711-6162  
 (559) 449-2700



-  Major Waterway
-  Project Site
-  Census Designated Place

**Figure 3.6**

Project D - Brockman Flood Control Basin Regional Map



Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

<p>0 1,000 2,000 Feet</p>  <p><b>PROVOST &amp; PRITCHARD</b> EST. 1968 CONSULTING GROUP An Employee Owned Company</p> <p>286 W. Cromwell Ave. Fresno, CA 93711-6162 (559) 449-2700</p>	<ul style="list-style-type: none"> <li> Natural Drainage (FEMA Designated Flowline)</li> <li> Census Designated Place</li> <li> Project Site</li> </ul>	<p><b>Figure 3.7</b> Project D - Brockman Flood Control Basin Vicinity Map</p>
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## Project E – CSA14 Chuk-Chanse Sewer System Improvements

### **I. Project Introduction**

#### **A. Brief Description of Project and Implementing Agencies:**

County Service Area 14 (Chuk–Chanse) is located north of the City of Madera near Road 28 ½ and 19 1/2. The County provides water and sewer services to 31 residential homes and also contracts sewer service to one commercial user. Sewer services include wastewater collection, treatment and final disposal.

The collection system consists of clay pipe and sewage pumping station. The County operates the CSA 14 WWTP under Waste Discharge Requirements Order No. 85 – 025 WDRs issued by the Regional Water Quality Control Board. The WWTP is comprised of a facultative lagoon system capable of treating an average daily-dry weather discharge of 0.031 MGD. The WWTP consists of one primary lagoon, a secondary cell, a clarifier cell, and a polishing cell, which are located on a 3.5 acre fenced site. The treatment system relies on evaporation and percolation for effluent disposal.

The WWTP seems to operate well however in the past there was a concern about leaching of wastewater through and under the lagoon levees onto the adjacent orchard and farmland. In 2005, Marty Duvall and Joe Beck from Madera County dug a backhoe pit just outside the southwestern corner of the existing percolation and evaporation ponds. They were investigating the algae plumb and wet areas that were in the adjacent orchard to the west of the ponds. The backhoe pit was dug to a depth of 6 to 7 feet. A layer of hard pan was encountered at a depth of 2 to 3 feet for a depth of 2 feet. Below the hard pan was brownish silt-y sand. After about 30 to 45 minutes after the backhoe pit was dug, water from the pond started to infiltrate the backhoe pit from the top of the hard pan.

The water system serves a disadvantaged community and consists of one well producing about 31 gallons per minute into a 48,000 gallon storage tank. Booster pumps are used to supply pressure to the system. Water is distributed through asbestos-cement pipe. The system is not chlorinated and is unmetered.

The CSA 14 community and WWTP are surrounded by agricultural farmland, which includes orchards of pistachios and figs.

The County is planning to replace 500 linear feet of sewer line that has recently been video inspected. The camera footage revealed root intrusion into the clay pipes. Due to the severe root intrusion there is a lot of inflow and infiltration that increase system flows. The replacement of this section of pipeline should eliminate a significant amount of inflow into the wastewater ponds.

The County is also planning to excavate a trench to a depth of 7 to 8 feet along the western boundary of the evaporation and percolation ponds. The trench will be 4 feet wide and filled 3 to 4 feet in depth with round river rock covered with 1.0 mil plastic and soil compacted to 85%. This will create a drain at the base of the toe of the pond levees to eliminate the infiltration of the percolation water into the adjacent orchard.

In addition to conserve water and reduce water demands water meters would be installed at each of the existing water services.

## **B. Project Goals, Objectives and Deliverables:**

**Goals:** The overall project goals are

- To improve and protect drinking water quality in this Disadvantaged Community.
- Provide sewer line without intrusion of roots.
- Provide a drain on the western boundary of the ponds to eliminate the infiltration of percolation water into the adjacent orchard.
- Provide water meters to each water service to reduce water demands.

**Objectives:** Specific objectives include:

- Replace 500 lineal feet of sewer line to eliminate infiltration of storm water into the wastewater treatment plant and evaporation and percolation ponds
- Add a rock drain along the western boundary of the evaporation percolation ponds to intercept percolation before it infiltrates the adjacent orchard.
- Install self-reading water meters at each water service to reduce water demands and satisfy pending State requirement.

**Deliverables:** The proposed project will result in the following deliverables:

- Plans and specifications for 500 lineal feet of sewer line.
- Plans and specifications for a new trench drain along the western boundary of the evaporation percolation ponds.
- Installation of self-reading water meters on each water service connection along with a central control computer to receive the data.

## **C. Purpose and Need:**

County Service Area 14 (CSA 14) Chuk-Chanse is located in Madera County near Road 28 and Avenue 18. It provides sewer and water service to 31 homes and one commercial service. The wastewater treatment plant consists of a series of facultative treatment lagoons and relies on evaporation and percolation for effluent disposal.

**Need 1 – Replacement of Leaking Sewer Collector:** The County has reviewed the camera footage from Video Inspection Specialists of the interior condition of approximately 3,000 linear feet of sewer pipeline. The County staff has determined that approximately 1,600 lineal feet of pipe has experienced severe root intrusion, causing storm water infiltration into the sewer piping and ultimately into the evaporation percolation ponds. This additional water during the

winter and spring months have the evaporation percolation ponds reaching their capacity. The conclusion is that the 500 LF of the failed pipeline should be replaced.

**Benefit:** Elimination of the storm drain water from the sewer collector, extending the capacity of the evaporation basin and providing enhanced wastewater treatment capacity.

**Benefit:** Replacement of leaking sewer also eliminates the chances of raw sewage leaking into the groundwater when there is no storm water in the failed pipe area.

**Need 2 – Repair of Seeps from WWTP Pond Flooding Neighboring Orchard:** The adjacent orchard west of the evaporation percolation ponds experiences puddles of water which are subject to algae blooms. The County suspected the source of the water was the adjacent wastewater pond, and this was investigated by Madera County Special Districts staff Marty Duvall and Joe Beck in the spring of 2005. A backhoe pit was dug just west of the north western corner of the evaporation percolation ponds. After 30 to 45 minutes, percolation from the ponds started running off the top of the hard pan layer at about 3 to 4 feet depth into the pit. The hard pan was about 2 feet in thickness and the pit was 7 to 8 feet in depth. The soil below the 2-foot-thick hard pan layer was silty sand.

Solving the problem would be straightforward. A trench should be cut along the western edge of the evaporation percolation pond to a depth of 8 feet, and filled with 1-1/2-inch natural river rock to a depth of 4 feet. The rock should be covered with 10 mil plastic and native soil compacted over the plastic to a relative compaction of 85% of maximum dry density, up to the natural ground elevation.

**Benefits:** This drain would allow seepage from the ponds to penetrate below the shallow hardpan layer rather than transporting on top of the layer to the neighboring property, and would not only eliminate the puddles and algae blooms in the future but would avoid contamination of the soil in the orchard with secondary effluent from the WWTP.

**Need 3 – Water Meters:** The Chuck-Chanse water system serves a Disadvantaged Community. The residents currently pay a flat rate for water services. The water system consists of a single well that produces about 31 gallons per minute to a 48,000 gallon storage tank. Booster pumps are used to supply pressure to the system. Water is distributed through asbestos cement pipe. In order to conserve water and reduce demands, water meters need to be installed at each of the existing water services.

**Benefit:** The community could expect to see the typical 20% reduction in water use per connection, conserving groundwater in the Basin.

**Benefit:** The Disadvantaged Community would be able to meet the 2020 requirement for metered water service.

#### **D. Consistency with Basin Plan**

The Basin Plan discusses water quality objectives for groundwater within the Basin, and provides standards for bacteriological contamination and chemical constituents that cannot be obtained in areas where sewer collection lines are leaking. Replacement of the sewer collection pipeline helps achieve these groundwater objectives by removing the primary source of biological contaminants from the project area.

#### **II. Project Readiness**

The project would be ready to be implemented immediately upon receiving a grant award. A request for qualifications for Planning, Environmental and engineering services, including plans and specifications, would be advertised and subsequent pre-award and award meetings with the qualified contractors would be scheduled. An updated project schedule would be developed, and additional sources of construction funding would be pursued.

#### **III. Data and Studies –**

To date, the data available is limited to water testing data collected regularly by Madera County in the normal operation of CSA14. No feasibility study or formal engineer's report, other than the County's empirical investigation described above, has been prepared and no environmental work has been started.

#### **IV. Plans and Specifications**

Plans and specifications for the project have not been started. As a Disadvantaged Community, no funds have been available to front such work in anticipation of securing a construction grant. This funding source would facilitate CEQA environmental compliance and the development of plans and specifications to 100 percent completion.

#### **V. Project Map**

A project map of the Community of Chuk-Chanse (CSA 14) is included with this workplan. A regional and a vicinity map (Figures 3.8 & 3.9) are included at the end of this section.

#### **VI. Project Timing and Phasing:**

The project would be ready to be implemented immediately upon receiving a grant award. A request for qualifications for Planning, Environmental, Pre-design, and Design, including plans and specifications to 100 of percent completion, would be advertised and subsequent pre-award and award meetings with the qualified contractors would be scheduled.

The project will be complete including construction within 22 months of the start date. A complete schedule is included in Attachment 5. This project is complete without additional phases.

#### **VII. Attachments**

None

## **VIII. Task List**

The County is anticipating the following tasks will need to be performed to carry out Project E, CSA14 Chuk-Chanse Sewer System Improvements:

### **Project Activities**

#### **(a): Direct Project Administration Costs**

##### Task 1: Administration

Preparation of invoices to Applicant. This task involves review of subcontractor invoices and compilation of invoices from subcontractors and County staff account work into required format for submission to the Applicant. The County has in house staff with qualifications to provide grant administration. The County also has the option to contract with various consultants for grant administration.

*Deliverable: Submission of invoices to Applicant*

##### Task 2: Labor Compliance Program

2.1 – Submission of County’s Labor Compliance program to DWR – This task involves creation of the Labor Compliance Plan and submission to DWR, as well as record-keeping required by the Plan. The County will prepare, or hire a sub-consultant to develop, and implement a Labor Compliance Program for the project in compliance with Local, State and Federal requirements.

*Deliverable: Submission of Labor Compliance Program*

Task 3: Reporting – These tasks involve collecting information from staff, contractors, outreach and monitoring and compiling them in the appropriate report format for submission to the Applicant and DWR.

3.1 – Preparation and submission of quarterly project reports to DWR in accordance with the grant contract requirements. This task will also include preparation of a project draft and final project report. The report will summarize the project activities identified within this work plan, including a comparison of the scope, budget and schedule of the items performed. The draft report will be prepared and submitted to DWR for review and comment. Upon receipt of DWR comments, a final project report will be prepared and resubmitted to DWR.

3.2 – Preparation and submission of annual project reports to DWR

3.3 – Preparation and submission of all other reporting obligations in accordance with the grant contract requirements

3.4 – Quarterly meetings of project proponents and DWR -

*Deliverable: Submission of quarterly, annual and final reports as specified in the Grant Agreement. Completion of Data Management and Monitoring reports.*

Task 4: Development of Financing – The County of Madera has the financial reserves to provide necessary capital to cover project costs while awaiting reimbursement from DWR. See the budget in Attachment 4.

*Deliverable: None.*

**(b) Land Purchase/Easement**

Task 5 Land Purchase/Easement– An easement will need to be purchased from the adjacent land owner because there is not enough room from the base of the levee to the adjacent property line to excavate and install the drainage trench. The land owner is amenable to the required easement to eliminate the algae blooms in his orchard.

*Deliverables: Recorded easement from adjacent land owner.*

**(c) Planning/Design/Engineering/Environmental Documentation**

Task 6: Assessment and Evaluation Deliverables and Technical Studies – This task includes retention of a qualified engineer and preparation of an Engineer’s report

6.1 The County will prepare a Request for Qualifications and solicit proposals from engineers qualified to prepare the preliminary design, and final plans, specifications and cost estimates.

6.2 The County will select the most qualified respondent firm, and will negotiate and enter into a contract for the engineer to provide the necessary services as detailed in Tasks 6.3, 8 and 9. County staff will prepare the agreement and will appear before the Board of Supervisors as required to secure approval of the agreement.

6.3 Preliminary Design – The engineer will prepare preliminary design work for the recommended alternative including the following tasks:

- Topographic and utility location survey of the project area.
- Develop preliminary plans for the pipeline replacement and trench drain.

*Deliverables: Engineer’s report including recommended alternatives and preliminary cost estimates, approved preliminary plans for the Project.*

Task 7: Final Design, Deliverables – Preparation of plans, specifications and cost estimates for the proposed improvements. These will be based on the preliminary design, which will serve as a 30% complete submittal. Submittals under this task will include draft final design (90% complete) and final design (100% complete).

*Deliverables: Approved versions as stated of project plans, specifications and cost estimates*

Task 8: Environmental Documentation – This task includes the required environmental processing, and documentation involved in the project. Specific items of work will include the following:

- Prepare an Initial Study including Environmental Checklist.
- Assume Mitigated Negative Declaration required,
- County staff will prepare MND with identified technical studies.
- Submit Final environmental documents to the Madera County Clerk.
- Resolution(s) approving CEQA documents

*Deliverable: CEQA Notice of Determination complete and filed at Madera County Clerk*

Task 9: Permitting – No design-phase permitting required for the planned work. Other permits are required for construction.

Construction Phase Permits

<i>Agency</i>	<i>Permit</i>	<i>Permit Obtained</i>	<i>Description/Status</i>
San Joaquin Valley Air Pollution Control District	Dust Control Permit	No	To be obtained during by Contractor prior to construction.
Central Valley Regional Water Quality Control Board	SWPPP	No	To be obtained during by Contractor prior to construction.

*Deliverables: DCP, SWPPP uploaded to SMARTs and project covered under CGP*

**(d) Construction/Implementation**

Task 10 – Construction Contracting

The task for Construction Contracting will include the following activities:

- Bidding documents will be prepared for all construction work.
- Madera County will conduct a public bid process in accordance with RCWD and State requirements to secure a licensed contractor experienced with the required construction. This task also includes:
  - Pre-bid meetings
  - Answering questions during the bidding process
  - Bid opening meeting and evaluating submitted bids
  - Preparing construction contracts

*Deliverables: Prepare advertisement for bids; pre-bid contractors meeting; evaluation of bids; construction contract*

Task 11 – Construction

This task includes the construction activities of the proposed facilities. All construction will meet all applicable local, state and federal codes and regulations.

- o Subtask 11.1 – Project Mobilization/On-Going Duties  
This task includes the construction costs of purchasing materials, construction and installation of all required appurtenances to mobilize, bond, insure and administer the contract, to prepare the DCP and SWPPP and to carry out related ongoing duties through the life of the project.
- o Subtask 11.2 – Insurance and Bonds  
This includes the insurance and bonds required by the contractor to procure for the duration of the project.
- o Subtask 11.3 – 500 Lin feet of 12”Sewer Pipe Replacement  
This task includes the construction costs of purchasing materials, construction and installation of all required appurtenances to replace 500 LF of the existing sewer collection pipeline.

- o Subtask 11.4 – Furnish and Install 4-48 inch Manholes  
This task includes the construction costs of purchasing materials, construction and installation of all required appurtenances for 4- 48 inch manholes.
- o Subtask 11.5 – 300 Lin feet of Trenching Rock and Back fill for drain  
This task includes the construction costs of purchasing materials, construction and installation of all required rock and 10 mil plastic and appurtenances to construct the trench drain along the west side of the wastewater percolation pond
- o Subtask 11.6 – Furnish and Install Water Meters and Appurtenances  
This task includes the construction costs of purchasing materials, construction and installation of all required appurtenances and/or pipeline to install self reading water meters throughout the district including the necessary base station, antennae, computer, software, installation and training.
- o Subtask 11.7 -- Furnish and Install Meter Boxes  
This task includes the construction costs of purchasing materials, construction and installation of all required appurtenances to install Meter Boxes at each water meter.
- o Subtask 11.8 Furnish and Install Hardware and Software for self reading meters  
This task includes the construction costs of purchasing materials, construction and installation of all required appurtenances to install hardware and software for meter reading equipment.
- o Subtask 11.9 – Project Site Cleanup/Demobilization  
This task includes the project site and construction equipment and material lay-down and staging area clean-up.

**(e) Environmental Compliance/Mitigation/Enhancement**

Task 12 – Environmental/ Mitigation/ Enhancement

There will not be any land impacted off site that would require mitigation or protection. Onsite work associated with adherence to the SWPPP during construction is included under Subtask 11.1 – Project Mobilization/On-Going Duties. It is anticipated that some considerations will need to be made per the Biological Evaluation once it is completed. Due to the highly disturbed nature of the site and degradation of nature habitat from existing agricultural use, this is expected to be minimal.

*Deliverables: Potentially a document to show compliance with any measures determined by the Environmental Documentation under Task 8.*

**(f) Construction Administration**

Task 13 – Construction Administration

- Subtask 13.1 – Construction Administration

This task will include the project construction administration related work. Specific tasks will include meetings, conference calls, supplier/contractor requests and invoicing, engineering consultant management, and overall project coordination. This task also includes time for submittal review and invoicing review by Madera County staff. This task includes all permit completion documents, annual reporting and final project reporting for the SWPPP.

*Deliverable: Preparation of project reimbursement requests and invoices.*

- Subtask 13.2 – Construction Observation and Inspection
  - This task includes construction administration and observation efforts. Madera County will do this task or hire a construction management sub-consultant to perform construction observation duties.
  - Madera County will provide a construction inspector to monitor construction of the turnout structure, drainage channel bypass/diversion, and outfall connections. The consultant will make periodic visits to the project site during construction. Other roles of the engineering consultant will include: Attend project kickoff meetings.
  - Attend weekly meetings with County staff and contractors
  - Review submittals
  - Process monthly payment requests
  - Review contract change orders requests.

*Deliverables: Daily construction observation and reporting; Meeting minutes; Review of submittals; Contractor progress payment approval and change order review.*

- Subtask 13.3 – Record Drawings.

Upon completion of construction, the design drawings will be modified by the project engineer to reflect construction conditions using information provided by the contractor. The drawings will be signed by the project engineer.

*Deliverables: Record construction drawings.*

## **(g) Other Costs**

### Task 14 – Permits, Monitoring and Reporting

- Subtask 14.1 - Legal fees

Legal counsel activities for this project will include assistance with contracts, negotiations, and permitting.

*Deliverables: Invoices from Legal Counsel to Madera County. Finalized contracts and recorded documents.*

- Subtask 14.2 – Permitting

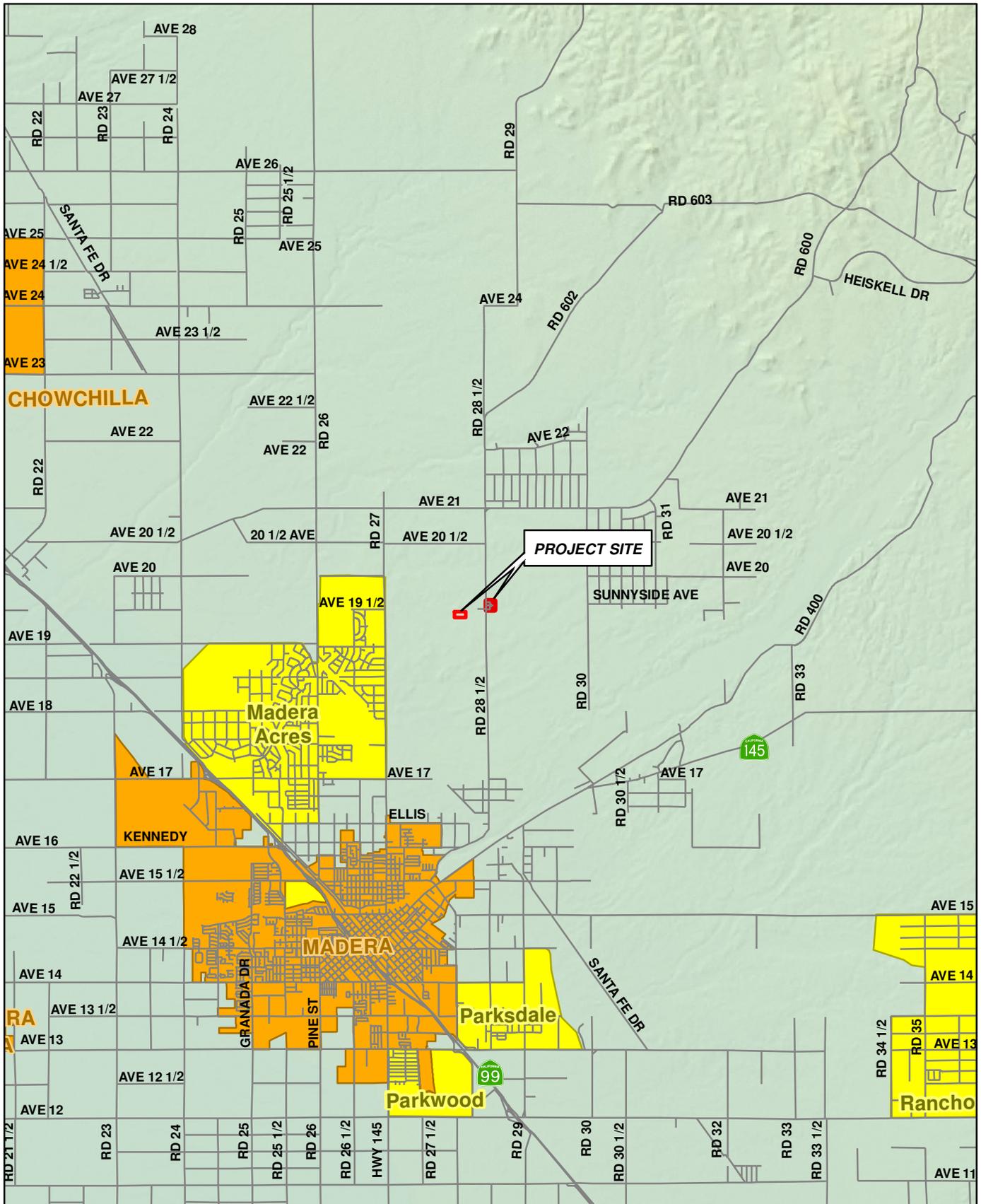
All annual fees associated with the Project's SWRCB Construction General Permit will be billed under this phase. The initial SWPPP application fee will be included under Task 9 – Permitting with the initial SWPPP preparation and permit submittal to the SWRCB.

*Deliverables: Invoices from SWRCB for annual fees.*

#### **(h) Construction/Implementation Contingency**

The contingency amount used for the CSA14 Chuk-Chanse Sewer Improvement Project is 15%. The contingency accounts for neglected items and uncertainties in the design, material quantities, and unit prices. A value of 15% was selected due to the current level of planning and design efforts, which are mostly complete.

**All Project costs will be tracked and invoiced according to the main project tasks and not according to subtask.**



0 1 2 Miles



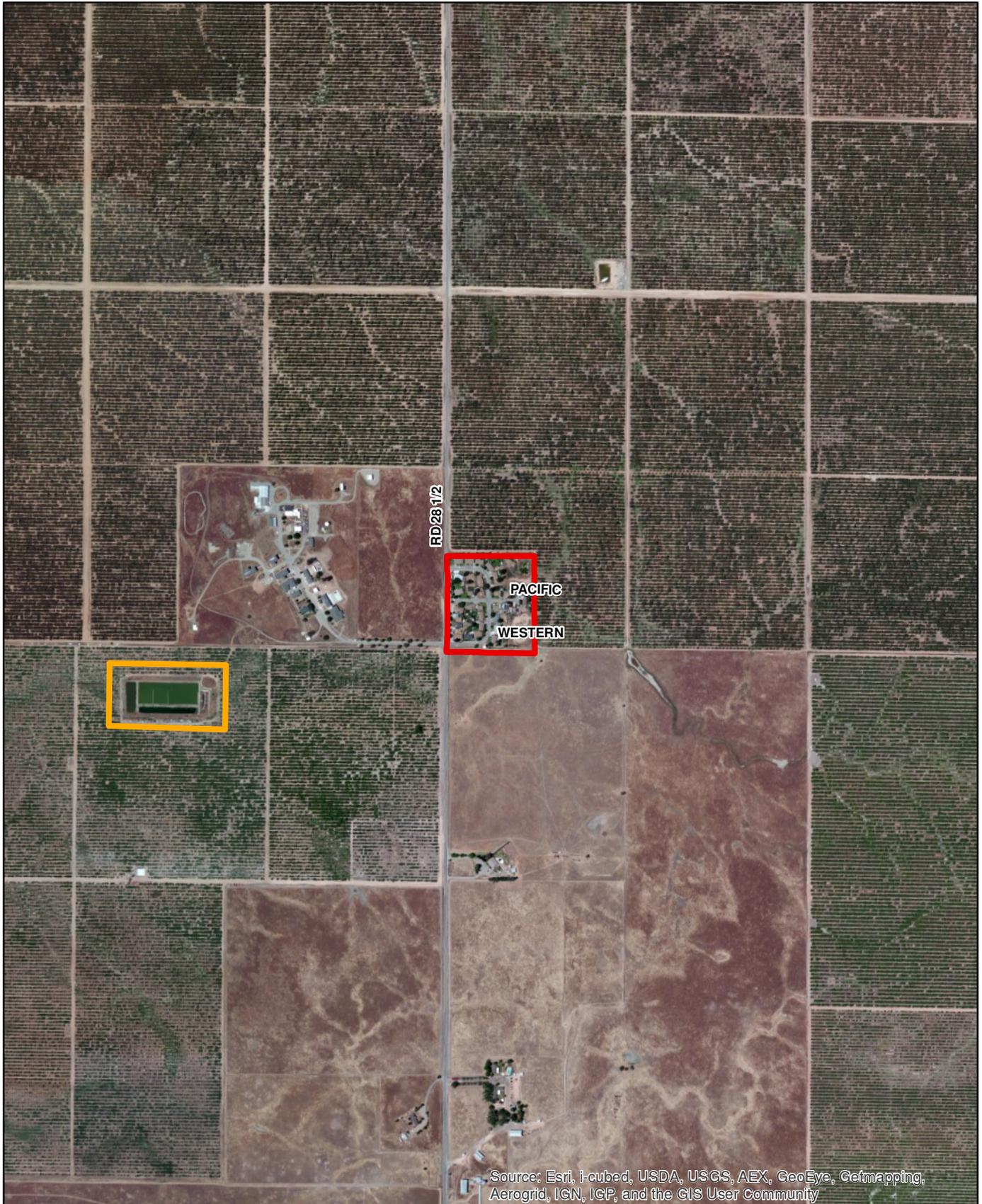
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 (559) 449-2700

- Project Site
- Incorporated City
- Census Designated Place

**Figure 3.8**

Project E - CSA-14  
 Chuk-Chanse  
 Regional Map



0 500 1,000  
Feet

EST. 1968  
**PROVOST & PRITCHARD**  
CONSULTING GROUP  
An Employee Owned Company

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Chuk-Chanse 31 Residence



Chuk-Chanse WWTP

**Figure 3.9**  
Project E - CSA-14  
Chuk-Chanse  
Vicinity Map

## Project F – MD33 Fairmead Sewer Collection, Treatment and Disposal System Plans

### **I. Project Introduction**

#### **A. Brief Description of Project and Implementing Agencies:**

This project involves the evaluation of options to address the wastewater disposal issues in the unsewered Madera County community of Fairmead, which is within Madera County Maintenance District 22. MD22 currently provides public water service but does not provide any wastewater treatment services.

The Implementing Agency will be Madera County. The County's Maintenance District 33 now owns and operates the community water system in the community of Fairmead. Fairmead is located southeast of the City of Chowchilla near State Highways 99 and 152 in Madera County. The District water system provides service to 167 homes and the Fairmead School; there are roughly 687 residents.

According to a 2008 income survey, conducted by Self-Help, ninety percent of the community is considered as low income, with 72 percent considered very low income by HUD's standards, utilizing the State Department and Community Development web site for a listing of Madera County income limits. The overcrowded conditions in many homes indicate that more than one family share a dwelling. A 2008 income survey, conducted by Self-Help and County of Madera Staff, using an approved CDBG form, determined that medium household income (MHI) for Fairmead was \$27,800, which categorizes Fairmead as a Disadvantaged Community. (See attached income survey and income survey data information, Electronic Attachment 10.1F a)

The proposed work for this Disadvantaged Community would include preparation of an Engineer's report, to include a description of the community's need for sewerage, alternatives considered, constraints on the feasibility of such alternatives, capital and operating costs of feasible alternatives, and the preferred alternative with its resulting sewer rates. A best alternative will be recommended for providing sewer service to the community of Fairmead.

The second phase of the project will include the preparation of environmental documents for compliance with the California Environmental Quality Act. This will include an early consultation with the Regional Water Quality Control Board as well as other jurisdictional State and Federal agencies; the preparation of an Initial Study including Environmental Checklist; and may include the preparation of an Environmental Impact Report should prospective project impacts be considered significant after feasible mitigation.

The third phase will be the preparation of a Report of Waste Discharge for submission to the Central Valley Regional Water Quality Control Board, along with the companion Report of Water Reclamation, submitted to the California Department of Public Health. This pair of

actions will initiate processes that will have the Regional Board develop discharge requirements to guide the project's design engineer. This phase also includes preliminary design work on the recommended WWTP and collection system, design topographical survey, and geotechnical studies, which will allow the engineer to provide an accurate description of the proposed construction and basis of design, along with actual design data.

The fourth phase of the project will be final design, entailing preparation of detailed plans, specifications, contract documents and cost estimates.

The community is currently served by a public water system, but has no community sewer system. The water sources are supplied by two wells. The homes in Fairmead are on individual septic systems. The community has been in need of a sewer; where the treated effluent could be used for irrigation of nearby agricultural lands as in-lieu irrigation, thereby reducing both groundwater contaminations from septic tanks and groundwater use from agricultural pumping.

## **B. Project Goals, Objectives and Deliverables:**

**Goals:** The overall project goals are

- To improve and protect drinking water quality in this Disadvantaged Community.
- To reduce the amount and concentration of nitrates and biological contaminants discharged to groundwater that will eventually infiltrate into the aquifer tapped by the community wells serving the community water system and the individual water wells serving outlying residences.
- To convert organic wastes into stable products
- To produce a final treated effluent which can be effectively used as a source of in-lieu irrigation water supply for surrounding agricultural lands, lessening the dependence of those lands on groundwater pumping and addressing the issue of groundwater overdraft.

**Objectives:** Specific objectives include:

- Engineer's report addressing the various alternative solutions to Fairmead's wastewater issues including collection, treatment and disposal, and including a recommendation of the most economical and environmentally sound alternatives.
- Engineer's report to include a sewer collection system network, created using sewer system modeling software, which will provide sewer line sizing requirements and optimized system layout.
- Development of standard drawings and specifications for sewer construction
- Development of final plans, specifications and cost estimates for the selected construction project, which would allow Maintenance District 33 (Fairmead) to seek USDA RUS, State Revolving Fund and other grant funds for construction.

**Deliverables:** The proposed project will result in the following deliverables:

- Preliminary Engineer's Report

- Environmental Compliance (CEQA)
- Preliminary Design
- Report of Waste Discharge
- Project Design; plans, specifications and cost estimate
- Quarterly Reporting during project duration; yearly reporting thereafter.

### **C. Purpose and Need:**

The target area of this project is the community of Fairmead, a small rural San Joaquin Valley community located southeast of the City of Chowchilla, near State Highways 99 and 152, in Madera County. Fairmead receives public water service from Maintenance District 33. The district provides water service to 167 homes and Fairmead School.

The Community has very limited public utility services, with only a water system. The water system is supplied by two wells. The homes and the school in Fairmead are on individual septic systems. The community is in need of a sewer collection system and a publicly-owned treatment works. With such facilities, wastewater could be treated to a level that would allow effluent to be recycled as in-lieu agricultural irrigation water for use on surrounding lands which currently irrigate with groundwater, in accordance with the requirements of Title 22 and the anti-degradation rules in the Basin Plan. The anticipated benefits are therefore improved water quality and reduced groundwater pumping.

Since septic systems are the only current method of wastewater disposal, the community is at risk of experiencing high bacteriological levels and nitrate levels in the local water wells. When nitrate is absorbed in the blood, the hemoglobin (the oxygen-carrying component of blood) is converted to methemoglobin. Methemoglobin does not carry oxygen efficiently. This results in reduced oxygen supply to vital tissues such as the brain. Methemoglobin in infant blood cannot change back to hemoglobin, which normally occurs in adults. Severe methemoglobin can result in brain damage and death.

A wastewater collection, treatment and disposal system conforming with the requirements of the Water Board would improve groundwater quality for the two community well systems and surrounding private wells, and would lead to a reduction of the occurrence of nitrate and biological contaminants in the community wells and surrounding private wells.

Converting the concentration of individual septic systems to a community sewer and wastewater treatment system will reduce the amount of nitrates that can get into the groundwater.

### **D. Consistency with Basin Plan**

Failed septic systems are an expressed Water Quality Concern in the Sacramento River and San Joaquin River Basin Plan, published by the Regional Water Quality Control Board in 1998. The project would eliminate the possibility of failed septic systems within the MD 22 service area by replacing all of the current septic systems with a new WWTP. The Basin Plan also discusses water quality objectives for groundwater within the Basin, and provides standards for

bacteriological contamination and chemical constituents that are not easily attainable in areas where septic systems are as prevalent as they are in Fairmead. Replacement of the septic systems with a new WWTP helps achieve these groundwater objectives by removing the primary source of biological contaminants from the project area.

## **II. Project Readiness**

The project would be ready to be implemented immediately upon receiving a grant award. A request for qualifications for Planning, Environmental and engineering services, including plans and specifications, would be advertised and subsequent pre-award and award meetings with the qualified contractors would be scheduled. An updated project schedule would be developed, and additional sources of construction funding would be pursued.

## **III. Data and Studies –**

To date, the data available is limited to water testing data collected regularly by Madera County in the normal operation of MD22. No feasibility study or engineer’s report has been prepared and no environmental work has been started.

## **IV. Plans and Specifications**

Plans and specifications for the project have not been started. As a Disadvantaged Community, no funds have been available to front such work in anticipation of securing a construction grant. This funding source would facilitate CEQA environmental compliance and the development of plans and specifications to 100 percent completion, which would leave the District in position to seek construction funding from USDA RUS, the State Revolving Fun and other sources.

## **V. Project Map**

A project map of the Community of Fairmead (Maintenance District 33) is included with this workplan. The exact site of the proposed WWTP and effluent recycling area will be determined by the resultant Engineer’s report. A regional and a vicinity map (Figures 3.10 & 3.11) are included at the end of this section.

## **VI. Project Timing and Phasing:**

The project would be ready to be implemented immediately upon receiving a grant award. A request for qualifications for Planning, Environmental, Pre-design, and Design, including plans and specifications to 100 of percent completion, would be advertised and subsequent pre-award and award meetings with the qualified contractors would be scheduled.

The project will be complete with all deliverables in hand within 20 months of the start date. A complete schedule is included in Attachment 5. This project is complete without additional phases in that the deliverables will be all that are needed to secure project construction funding and proceed to construction. Additional funds will be required to construct the project, but are not solicited with this application.

## **VII. Attachments**

1. Fairmead income Survey Statistics and Report (See Attachment 10)

2. Fairmead Population Census Statistics (See Attachment 10)
3. Fairmead Community Survey Results (See Attachment 10)

### **VIII. Task List**

The County is anticipating the following tasks will need to be performed to carry out Project F:

#### **Project Activities**

##### **(a): Direct Project Administration Costs**

###### Task 1: Administration

Preparation of invoices to Applicant. This task involves review of subcontractor invoices and compilation of invoices from subcontractors and County staff account work into required format for submission to the Applicant. The County has in house staff with qualifications to provide grant administration. The County also has the option to contract with various consultants for grant administration.

*Deliverable: Submission of invoices to Applicant*

###### Task 2: Labor Compliance Program

2.1 – Submission of County’s Labor Compliance program to DWR – This task involves creation of the Labor Compliance Plan and submission to DWR, as well as record-keeping required by the Plan. The County will prepare, or hire a sub-consultant to develop, and implement a Labor Compliance Program for the project in compliance with Local, State and Federal requirements.

*Deliverable: Submission of Labor Compliance Program*

Task 3: Reporting – These tasks involve collecting information from staff, contractors, outreach and monitoring and compiling them in the appropriate report format for submission to the Applicant and DWR.

3.1 – Preparation and submission of quarterly project reports to DWR in accordance with the grant contract requirements. This task will also include preparation of a project draft and final project report. The report will summarize the project activities identified within this work plan, including a comparison of the scope, budget and schedule of the items performed. The draft report will be prepared and submitted to DWR for review and comment. Upon receipt of DWR comments, a final project report will be prepared and resubmitted to DWR.

3.2 – Preparation and submission of annual project reports to DWR

3.3 – Preparation and submission of all other reporting obligations in accordance with the grant contract requirements

3.4 – Quarterly meetings of project proponents and DWR -

*Deliverable: Submission of quarterly, annual and final reports as specified in the Grant Agreement. Completion of Data Management and Monitoring reports.*

Task 4: Development of Financing – The County of Madera has the financial reserves to provide necessary capital to cover project costs while awaiting reimbursement from DWR. See the budget in Section 8.

*Deliverable: None.*

**(b) Land Purchase/Easement**

Task 5 Land Purchase/Easement– No additional land purchase will be required within the scope of work of this project.

Prior to construction, a site for the WWTP would be required. Depending upon the type of WWTP recommended in the Engineer’s report, construction of the project would necessitate a site of approximately five to ten acres. Current market prices of approximately \$5,000 to \$8,000 per acre would result in a cost of between \$25,000 to \$80,000 dollars to acquire a project site. The total cost of entitlements, per County of Madera entitlement fee schedule, for a proposed 5-acre site in or in the proximity of the Community of Fairmead is estimated at approximately \$30,000.

*Deliverables: No deliverables required no land is required within this project’s scope of work.*

**(c) Planning/Design/Engineering/Environmental Documentation**

Task 6: Assessment and Evaluation – This task includes retention of a qualified engineer and preparation of an Engineer’s report

6.1 The County will prepare a Request for Qualifications and solicit proposals from engineers qualified to prepare the necessary feasibility study, preliminary design, Report of Waste Discharge, Report of Water Reclamation, and final plans, specifications and cost estimates.

6.2 The County will select the most qualified respondent firm, and will negotiate and enter into a contract for the engineer to provide the necessary services as detailed in Tasks 6.3, 6.4, 8 and 9. County staff will prepare the agreement and will appear before the Board of Supervisors as required to secure approval of the agreement.

6.3 The engineer will prepare a feasibility study and engineer’s report exploring alternatives for wastewater collection, treatment and disposal, and will make recommendations as to the most cost-effective alternatives for each. Specifically the report will include:

- Existing Facilities and Need for Project
- Wastewater Flows and Loads
- Collection System Layout and Alternatives
- Wastewater Effluent Requirements and Process Alternatives
- Effluent Disposal Alternatives
- Development and Screening of Alternatives Considered
- Selection of Recommended Collection, Treatment and Disposal Alternatives

6.4 Preliminary Design – The engineer will prepare preliminary design work for the recommended alternative including the following tasks:

- Topographic and utility location survey of the entire service area. This would include locating all the private wells and existing water system connection points.
- Develop a wastewater collection system network model using wastewater system modeling software. This will provide for sizing requirements and overall system layout.
- Development of design standard plans and specifications for wastewater collection system construction.
- Develop preliminary plans showing the layout and sizing of the sanitary sewer collection system.

*Deliverables: Feasibility study, Engineer's report including recommended alternatives and preliminary cost estimates, sewer collection network model, , sewer collection network model, draft standard plans and specifications for sewer construction, approved standard plans and specifications for sewer construction, approved preliminary plans for the Project.*

Task 7: Environmental Documentation – This task includes the required environmental processing, and documentation involved in the project. Specific items of work will include the following:

- Initiate Early Consultation with SWRCB, other State Agencies and Federal Agencies
- Prepare an Initial Study including Environmental Checklist.
- Assume Environmental Impact Report required
- Submit the draft environmental documents to the Governor's Office of Planning and Research (State Clearinghouse) and RWQCB for comments.
- Submit Final environmental documents to the Madera County Clerk, State Clearinghouse and RWQCB.
- Resolution(s) approving CEQA documents

*Deliverable: CEQA Notice of Determination complete and filed at Madera County Clerk and State Clearinghouse.*

Task 8: Final Design, Deliverables – Preparation of plans, specifications and cost estimates for the gravity wastewater collection system, a wastewater pump station, and a sewer force main, WWTP expansions, modifications to the existing storage pond, spray field, return ditches, and recirculation pumps. These will be based on the preliminary design, which will serve as a 30% complete submittal. Submittals under this task will include draft final design (90% complete) and final design (100% complete).

*Deliverables: Approved versions as stated of project plans, specifications and cost estimates.*

Task 9: Permitting – Concurrent with Final Design, permitting for this project will be required from State and Local agencies. Each of the identified agencies will be contacted and have jurisdiction over portions of the project. The permits identified

herein are required during the planning, regulatory and design phase. Other permits are required for construction. This project does not contemplate any construction at this time, therefore the construction-phase permits will not be applied for at this time.

The County does not anticipate any unusual problems in securing these planning-phase permits. All initial permit application fees will be billed under this task.

Planning, Regulatory and Design Phase

<i>Agency</i>	<i>Permit</i>	<i>Permit Obtained</i>	<i>Description/Status</i>
San Joaquin Valley Air Pollution Control District	Indirect Source Review (ISR)	No ISR Determination to be provided	To be obtained during planning stages. URBEMIS calculation to be prepared by consultant engineer.
Central Valley Regional Water Quality Control Board	Report of Waste Discharge , new Waste Discharge Requirements	No	To be prepared and applied for during project design phase. ROWD to be prepared by consultant engineer. WDRs must be received prior to project operation.
California Department of Public Health	None – Must file Report of Water Reclamation for approval prior to issuance of WDRs	No	To be prepared and applied for during project design phase. RWR to be prepared by consultant engineer. CDPH reviews this permit and passes approval to RWQCB which incorporates into new WDRs. CDPH does not issue a permit.

*Deliverables: Report of Waste Discharge, ISR application (URBEMIS calculation)*

**(d) Construction/Implementation**

No construction is included in this application

*Deliverables: None*

**(e) Environmental Compliance/Mitigation/Enhancement**

Task 12 – Environmental Compliance/Mitigation/Enhancement

None applicable to this project since there is no included construction.

*Deliverables: None.*

**(f) Project Management/Construction Administration**

Task 13 – Construction Administration

No Construction tasks are included since no construction is involved.

**(g) Other Costs**

Task 14: Permits, Monitoring and Reporting

14.1 - Legal fees – Legal counsel activities for this project will include assistance with contracts, negotiations, and permitting.

14.2 – Monitoring – No monitoring required at this non-construction stage. However, the proposed feasibility study and engineer’s report will incorporate public outreach components that must be properly undertaken. Public outreach

tasks will be led by the consultant engineer and will be supported by County staff. In particular these tasks will include the following:

- Holding occasional public meetings to present project progress and
- Providing discussion of project alternatives with community residents and property owners for public input
- Incorporating community responses into project design.

*Deliverables: Invoices from Legal Counsel to the County. Finalized contracts and recorded documents. Record of public input and decisions made pursuant to that input.*

#### **(h) Construction/Implementation Contingency**

Task 15: Assessment and Performance Measures

Each of the following will be an objective measure of the significant milestones accomplished pursuant to this project.

15.1 – Completion of Feasibility Study and Engineer’s Report

15.2 – Completion of two (2) public information meetings where project feedback is received and considered.

15.3 – Completion and certification of Project environmental documentation

15.4 – Completion of preliminary engineering

15.5 – Completion and approval of Report of Waste Discharge by RWQCB

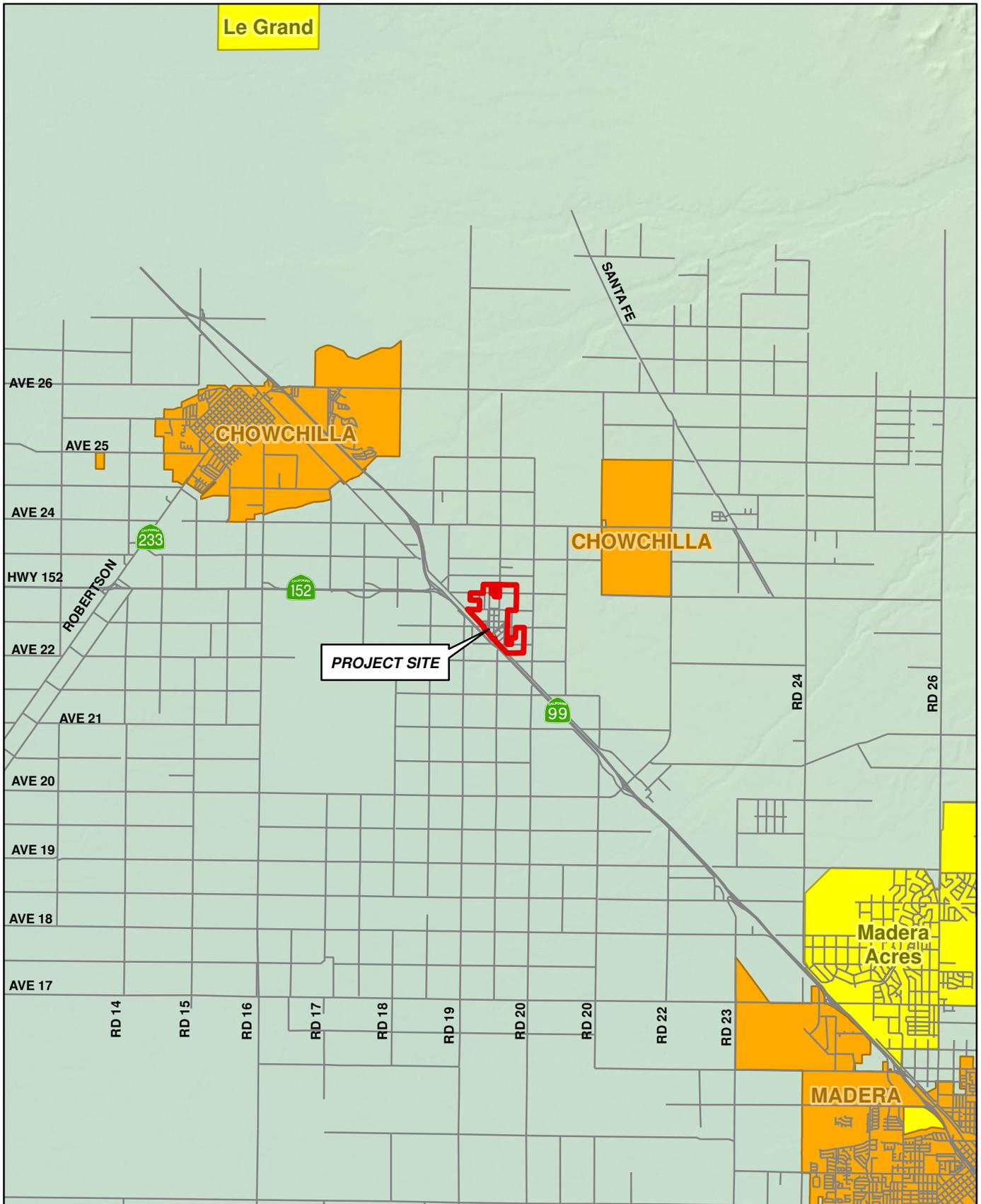
15.6 – Completion and submittal of Report of Water Reclamation to CDPH

15.7 – Completion and approval of final plans, specifications and cost estimate by Madera County

15.8 – Completion of Construction funding application by Madera County

**All Project costs will be tracked and invoiced according to the main project tasks and not according to subtask.**

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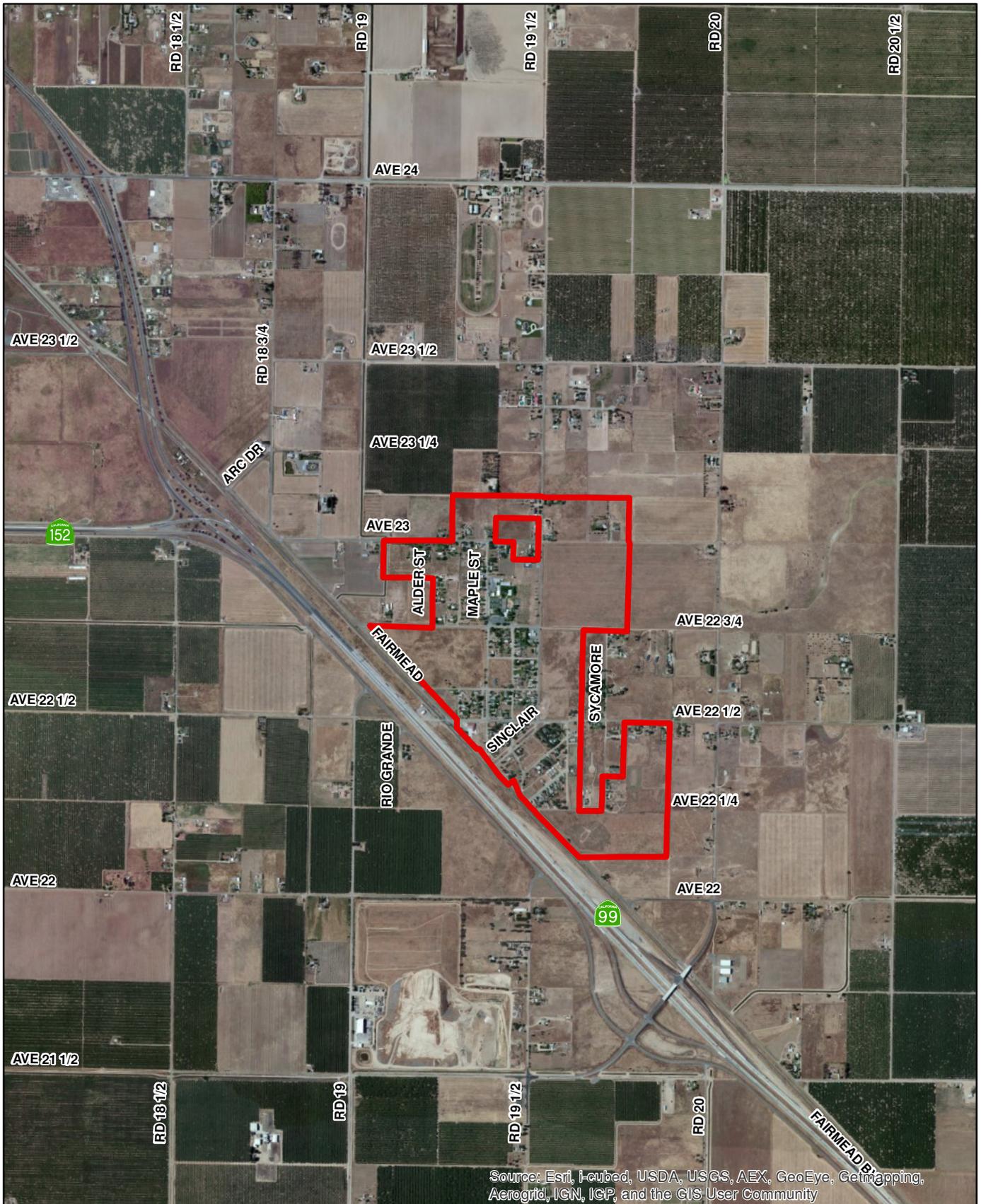
EST. 1968  
**PROVOST & PRITCHARD**  
 CONSULTING GROUP  
 An Employee Owned Company

286 W. Cromwell Ave.  
 Fresno, CA 93711-6162  
 (559) 449-2700

- Project Site
- Incorporated City
- Census Designated Place

**Figure 3.10**

Project F - MD-33 Fairmead Regional Map



0 1,000 2,000  
Feet



 Project Site

EST. 1968  
**PROVOST & PRITCHARD**  
CONSULTING GROUP  
An Employee Owned Company

286 W. Cromwell Ave.  
Fresno, CA 93711-6162  
(559) 449-2700

**Figure 3.11**

Project F - MD-33 Fairmead  
Project Location