Request for Proposals

To Provide

Consulting Services to the Fallbrook Public Utility District

For the Lower Santa Margarita Water Supply Reliability Pilot Project

Job # 3117

11/4/2019

Fallbrook Public Utility District

990 E Mission Road

Fallbrook CA 92028

(760) 728-1125

I. Introduction

On June 5, 1922, Fallbrook Public Utility District (FPUD) was incorporated to serve water from local area wells along the San Luis Rey River. Since that time, FPUD has continued to grow, and today constructs, operates and maintains facilities to supply water and sewer services to the town of Fallbrook and water and reclaimed water to the surrounding residential and agricultural areas. The District delivers potable water to some 35,000 people over a 28,000 square acre service area.

Marine Corps Base Camp Pendleton (CPEN) is situated on approximately 125,000 acres of land acquired in 1942 by the Department of the Navy at the beginning of World War II. It was subsequently developed as a combat training facility for the Marine Corps and in 1946 became the west coast training center for the Marine Corps. Although the initial development of the Base was during the 1940s, construction of new facilities and the upgrading of old facilities have continued throughout its history. The Base has its own potable water supply as well as its own wastewater collection, treatment, and disposal systems.

In an effort to diversify its water resources, the District is currently collaborating with Camp Pendleton to construct the Santa Margarita River Conjunctive Use Project (SMRCUP) Facilities. These facilities will enhance the ability to divert surface flows from the Santa Margarita River for storage in the groundwater basin where they can be extracted, treated, and delivered to FPUD and CPEN customers. The water deliveries from CPEN to the District will vary based on the Santa Margarita River flow. The expected annual average yield of the project is 3,100 acre-feet per year (AFY) with an expected yield of zero following an “extremely dry year,” and with a maximum daily influent flow of about 8 mgd following a “very wet year.”

Both FPUD and CPEN also currently operate water reclamation plants within the Lower Santa Margarita River Basin which discharge treated effluent to the ocean. If the treated effluent were to be diverted to the existing Upper Ysidora Percolation Ponds and infiltrated into the groundwater basin, it could be utilized to augment SMRCUP yields for both FPUD and CPEN. This pilot project will determine the most effective non-RO treatment process for and feasibility of utilizing reclaimed water currently discharged to the ocean as groundwater augmentation in the Lower Santa Margarita River Basin.

The pilot project will consist of two pilot facilities and a tracer study. One pilot facility will be located at FPUD’s Water Reclamation Plant (Fallbrook WRP) and will be designed for live stream discharge to Fallbrook Creek. The other pilot facility will be located at CPEN’s Southern Region Tertiary Treatment Plant (SRTTP) and will be designed for typical IPR to be conveyed to the percolation ponds.

Fallbrook WRP

With a design capacity of 2.7 MGD, the Fallbrook WRP treats, on average, approximately 1.6 MGD to tertiary standards. Of this, about 0.5 MGD is delivered to recycled water users, with the remaining 1.0 MGD discharged to the Oceanside Ocean Outfall. Average water quality parameters are shown in the table below.

Parameter	2018 AVG
INF Flow	1.42 MGD
INF CBOD	229 mg/L
INF TSS	391 mg/L
CBOD % Removal	99%
TSS % Removal	99.60%
EFF Flow	0.65 MGD
EFF CBOD	2.14 mg/L
EFF TSS	1.5 mg/L
EFF Chlorine Residual	0.1 mg/L
EFF pH - min	6.1 SU
EFF pH - max	7.3 SU
EFF Settleable Solids	<0.1 ml/L
EFF Turbidity	0.79
EFF Total Nitrogen (TN)	16.8
EFF Total Phosphorous (TP)	3.9
EFF Total Dissolved Solids (TDS)	762

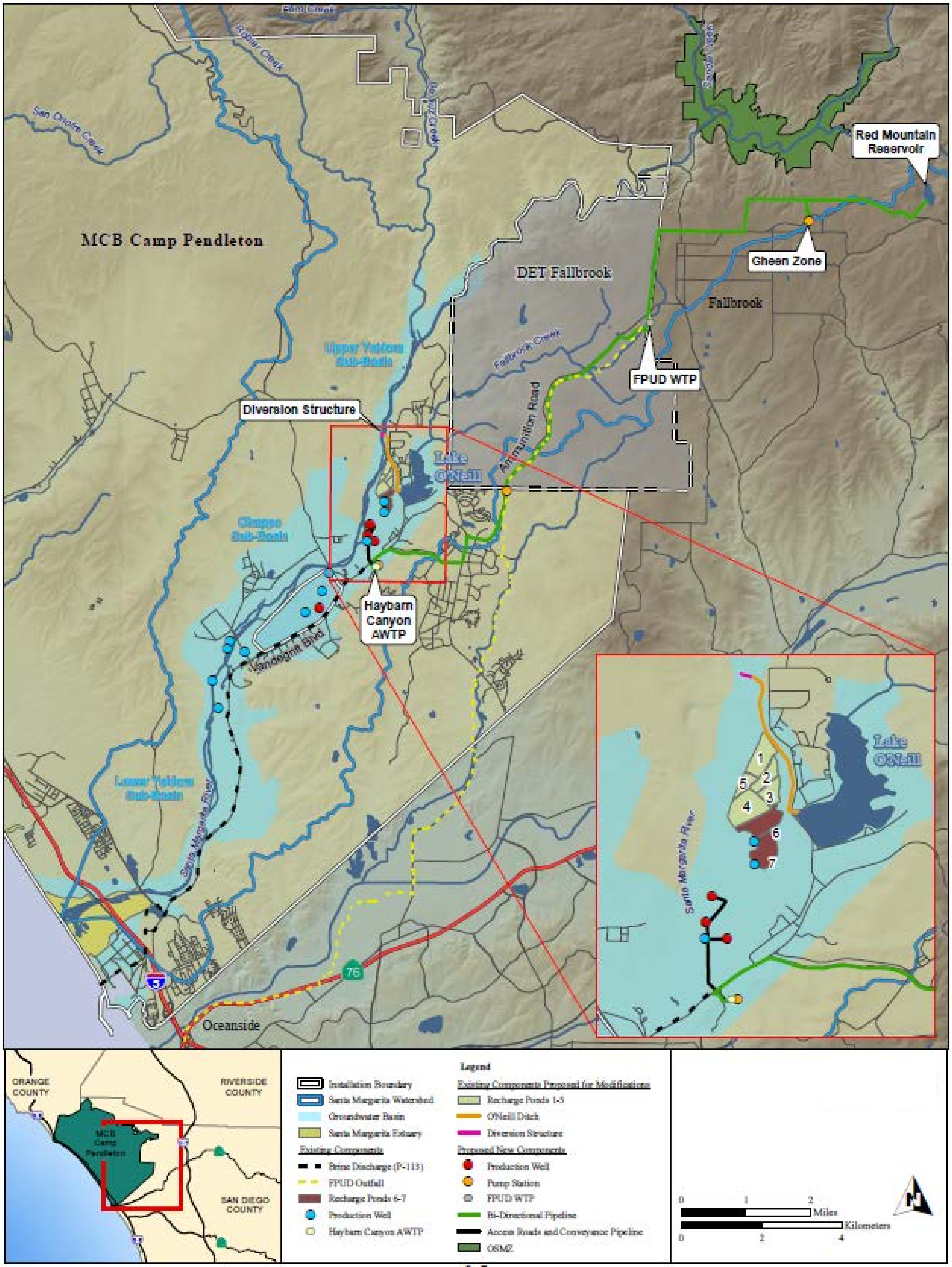
SRTTP

Currently, approximately 0.5 MGD of the 2.1 MGD of effluent produced is used for recycled water application. The remaining 1.6 MGD is discharged to the Oceanside Ocean Outfall and between 0.8 – 1.6 MGD is potentially available for reuse. Average effluent water quality for specific constituents is shown in the table below.

Parameter	Units	Min	Avg	Max
Total Organic Carbon (TOC)	mg/L	6.01	6.63	7.12
Total Nitrogen (TN)	mg/L	1.19	2.50	13.80
Total Phosphorous (TP)	mg/L		5	
Total Dissolved Solids (TDS)	mg/L	587	870	1270
Perfluorooctanoic Acid (PFOA)	ppt		17	
Perfluorooctanesulfonic Acid (PFOS)	ppt		130	

For additional background information, see the following attaches studies and reference materials:

- CPEN Recycled Water Master Plan
- FPUD Recycled Water Master Plan
- FPUD SNMP Report
- CPEN SNMP Report
- CPEN Conceptual IPR Design Report
- FPUD WRP Record Drawings
- CPEN SRTTP Record Drawings
- CPEN Site Approval and Decision Memorandum Documents
- Historical Effluent Data


MCB Camp Pendleton
DET Fallbrook
Fallbrook
Red Mountain Reservoir
Gheen Zone
FPUD WTP
Diversion Structure
Lake O'Neill
Upper Ysidora Sub-Basin
Chappo Sub-Basin
Lower Ysidora Sub-Basin
Haybarn Canyon AWTP
Vandegrift Blvd
Ammunition Road
Fallbrook Creek
San Onofre Creek
Santa Margarita River
Oceanside
76
5
1
2
3
4
5
6
7
ORANGE COUNTY
RIVERSIDE COUNTY
SAN DIEGO COUNTY
MCB Camp Pendleton
Legend
Installation Boundary
Santa Margarita Watershed
Groundwater Basin
Santa Margarita Estuary
Existing Components
Brine Discharge (P-115)
FPUD Outfall
Recharge Ponds 6-7
Production Well
Haybarn Canyon AWTP
Existing Components Proposed for Modifications
Recharge Ponds 1-5
O'Neill Ditch
Diversion Structure
Proposed New Components
Production Well
Pump Station
FPUD WTP
Bi-Directional Pipeline
Access Roads and Conveyance Pipeline
OSMZ
0 1 2 Miles
0 2 4 Kilometers

II. Scope of Required Services

Task 1 – Feasibility Study

1. Data review and background: Review existing data from Fallbrook WRP and SRTTP. Review past studies related to live stream discharge from Fallbrook WRP and IPR from SRTTP. Provide summary on past studies and results.
2. Develop feasibility analysis and initial process sizing criteria for proposed Fallbrook Creek Live Stream discharge project and SRTTP IPR project (approximately 32 AFY capacity at each location). Initiate coordination with regulatory agencies and outline long-term permitting needs for discharge permits from both facilities. Identify key elements to test and demonstrate during pilot studies for both facilities including constituents of concern and permitting strategy. Outline proposed processes and sizing criteria.
3. Develop work plan for tracer testing of Lower Ysidora aquifer to verify retention time for IPR permitting. Consultant to assist CPEN with permitting for tracer testing utilizing work plan.
4. Produce draft and final Pilot Project Feasibility Study Memorandum summarizing Task 1-3 above.

Task 2 - Fallbrook Creek Live Stream Discharge Pilot

1. Develop memorandum summarizing layout of treatment facilities, including design, cost estimate, and operations manual for proposed live stream discharge pilot. Include approach to demonstrate criteria to achieve live stream discharge approval and potential to model nutrient uptake.
2. FPUD staff will construct the pilot based on design and operation manual provided by consultant.
3. FPUD staff to operate the pilot facility and collect samples based on operation manual and sampling plan developed by consultant. Lab work will be procured by FPUD/CPEN.
4. Consultant to prepare summary report after 4 months of pilot operation summarizing results and criteria.
5. Consultant to support FPUD/CPEN public outreach efforts.

Task 3 – Camp Pendleton IPR Pilot Project

1. Develop memorandum summarizing layout of treatment facilities, including design, cost estimate, and operations manual for IPR pilot. Include appropriate recycled water contribution based on limiting factors in the source water and an approach to demonstrate removal efficiency of key potential CEC such as PFOA.
2. FPUD/CPEN staff will construct the pilot based on design and operation manual provided by consultant.
3. FPUD/CPEN staff to operate the pilot facility and collect samples based on operations manual and sampling plan developed by consultant. Lab work will be procured by FPUD/CPEN.

4. Consultant to prepare summary report after 4 months of pilot operation summarizing results and criteria.
5. Consultant to support FPUD/CPEN public outreach efforts.

Task 4 – Lower Ysidora Tracer Testing

1. Develop a memorandum summarizing the design, layout, water source, mixing, and discharge facilities required to perform a tracer study at Pond 3. Develop an operation and monitoring plan, including locating new monitoring wells if necessary.
2. Consultant to coordinate with DDW and RWQCB to acquire all necessary permits to perform groundwater tracer study for verification of retention time.
3. Perform tracer study.
4. Develop summary report to achieve DDW confirmation on available retention time in aquifer to support IPR project development.

Task 5 – Full-Scale Feasibility Report

1. Prepare overall Project Feasibility Report based on pilot facilities and tracer test to verify feasibility of the water supply reliability projects, including all facilities required to treat, convey, and discharge recycled water.
2. Develop updated process layouts and sizing and design criteria.
3. Identify additional data needs and key aspects to secure permitting for the full-scale project.
4. Develop conceptual capital and operating costs.
5. Identify key next steps for project development.

III. Facility Locations

Fallbrook WRP
1425 S Alturas Rd
Fallbrook, CA 92028

CPEN SRTTP
Lemon Grove Rd and Vandergrift Blvd
Camp Pendleton South, CA 92058

IV. Proposal Requirements

Proposals are to include the resume of the proposed firm and a list of references. A cost proposal shall be included in a separate envelope. Responders will be evaluated based on the information submitted in accordance with Section V. Proposals submitted in response to this RFP shall be no more than 15 pages, not including resumes and shall include:

1. Project Team and Experience
2. Project Understanding and Proposed Approach
3. References
    a. Provide three references including contact information for similar projects conducted by firm.
4. Rate Schedule and Cost Proposal
    a. Include an hourly rate schedule including all service fees and anticipated travel costs. This is an hourly rate, not-to-exceed contract.

V. Evaluation Criteria

FPUD's consultant evaluation and selection process is based on Qualifications Based Selection (QBS) for professional services. An evaluation committee appointed by the Project Manager will review the proposals and make a recommendation based on the criteria listed below. Proposal team may be invited for an interview if determined necessary by the evaluation committee. The criteria and weight for evaluating the proposals submitted will be as follows:

1. 50% - Reputation and experience of the personnel proposed for the project, including a verification of data and references.

2. 40% - Understanding of project objectives and scope of work as evidenced in the written narrative of the approach to execute each task.

3. 10% - Staffing capabilities demonstrating that the present workload of the firm and the availability of staff for the project will remain sufficient throughout the duration of the contract.

VI. Schedule for Selection and Award

The District anticipates that the process for selection of firm and awarding of the contract will be according to the following tentative schedule:

1. Issue RFP……..……..……...11/04/2019
2. Proposal due date……..…….……1/23/2020
3. Interview (if determined necessary by evaluation committee)..……2/05/2020
4. Board Approval…….….2/24/2020
5. Final selection and notification ……..……...2/28/2019

VII. Submittal Requirements

1. One (1) executed original, clearly marked on the cover and two (2) additional copies of the proposal shall be submitted. An individual authorized to execute legal documents on behalf of the project team shall sign the proposal.

2. One (1) sealed cost proposal.
3. This RFP shall be received no later than 1/23/2020 at 3:30 p.m. PST, at the District's Administrative offices:

    Fallbrook Public Utility District
    Attn: Kevin Collins, Purchasing/Warehouse Supervisor
    990 East Mission Road
    Fallbrook, CA 92028-2290

Failure to comply with the requirements of this RFP may result in disqualification.

All questions regarding this RFP shall be directed to Aaron Cook, Senior Engineer at acook@fpud.com or (760) 999-2713.