

Olivehurst Public Utility District



Agenda Item Staff Report

Meeting Date: 03/20/25

Item description/summary:

Consider Approval of Engineering Services for Well #35 Equipping Construction Project.

Olivehurst Public Utility District (OPUD) is currently requesting Bids for Construction of well #35. This project consists of drilling a new 20-inch diameter by approximately 460 feet deep water well in the District's Plumas Lake Water System. Once the well is drilled, developed, test pumped and sampled, the well will be capped for future use. This is project to be conducted this summer. Simultaneously, Engineering Services need to occur in order to have the well Equipped, online and connect to the Plumas Treatment Plant for operation in 2026 due to the demand of water and meet fire services. Equipping the well will also give additional service capabilities abilities if a well goes down, especially during Summer times when system is constantly running.

Fiscal Analysis:

The Engineering Services equate to \$330,625

Employee Feedback

n/a

Sample Motion:

Move forward for Engineering Services for Equipping Well #35 Project

Swarnjit Boyal, Public Works Manager

EXHIBIT A – ENGINEERING SERVICES BREAKDOWN

This Task Order is entered into on this day, March 11, 2025, by Olivehurst Public Utility District (District) and Affinity Engineering Inc. (Affinity).

For reference, this Task Order is assigned the name: Task Order 2025-003.

<p>1. Subject</p> <p>Well #35 Equipping and Plumas Lake WTP Upgrades, OPUD Project Number 25-004</p>
<p>2. Reference</p> <p>This Task Order, when signed by the District, serves as authorization for Affinity to provide the services described herein to the District in accordance with the Master Service Agreement (MSA) entered into by both parties on October 1, 2009. The services provided under this Task Order shall be in accordance with the Terms and Conditions set forth in the MSA except as modified by Special Conditions listed in this Task Order.</p>
<p>3. Special Conditions</p> <p>The services and rates provided shall be per the Consultant's scope of work as requested by John Tillotson. All services provided will be charged per Affinity billing schedule in Attachment B.</p>
<p>4. Project Information</p> <p>Provide Specifications and Plans for the equipping of Well #35 and upgrades to the Plumas Lake WTP.</p>
<p>5. Sub-consultants</p> <p>Plant Power Design – Electrical Engineering Services MacKay & Soms – Well #35 Site Survey Wright One – Radio Survey (if required) Primex – SCADA Upgrades</p>

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6. Scope of Services

Affinity will provide engineering services for project management, civil engineering, and services during construction per the scope of work described in Attachment A.

7. Schedule

Affinity will start once OPUD approves this Task Order. The services described in Attachment A are planned to start immediately and continue until the project is complete.

8. Compensation

Services under this Task Order shall be provided as:

Time and Materials, Not to Exceed (Total Estimated Fee shall not be exceeded without the prior written consent of the District)

Lump Sum (Total Estimated Fee shall be the Lump Sum amount)

The Total Estimated Fee is \$330,625 as detailed in Attachment A – Scope of Work.


9. Signatures

IN WITNESS WHEREOF, the parties hereby execute this Task Order upon the terms and conditions stated in the above referenced MSA.

Olivehurst Public Utility District

Affinity Engineering Inc.

Signature: _____

Signature: 

Print Name: _____

Print Name: James D. Carson

Title: _____

Title: President

Date: _____

Date: March 11, 2025

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Attachment A

The following is Affinity Engineering's (Affinity) Scope of Work to provide project management, engineering, and services during construction for the equipping of Well #35 and upgrades to the Plumas Lake Water Treatment Plant (WTP). With the completion of the project, the source water capacity of the Plumas Lake Water System will increase by approximately 3,000 gpm. The engineering will be completed to bid the project with the intent of having the new facility operational for Summer of 2026.

Scope of Work

The scope of service includes plans and specifications to complete improvements to the Plumas Lake Water Treatment Plant (WTP) that will increase the water supply at the treatment plant. Affinity will provide all the civil and mechanical engineering and is proposing to team up with Plant Power Design Inc. to provide the electrical and programming engineering. More specifically, the design work is detailed as follows:

Affinity Engineering's Scope of Work:

1. Project Management

Provide Project Management services by overseeing the electrical engineering and being responsible for the overall design of the WTP Improvements.

2. Contract Documents

A. Plumas Lake Water Treatment Plant

The civil drawings will be developed for the following improvements:

- The installation of one new manganese filter that is located adjacent to the existing manganese filters including all connected piping, valves, and fittings
- Replacement of the existing chemical feed pumps with new pumps that will vary their feed rate based on flow rather than tied to a specific well pump. The new chemical feed pumps will be Qdos peristaltic type pumps the minimize air locking issues
- Internal berm and outside chemical spill containment sump to route a chemical spill for outside containment

Electrical drawings and specifications will be developed for the following improvements:

- Power the operation of the new filter along with its associated valves and instrumentation

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- Replace Well 32's existing soft-start with a new variable speed drive
- Replace Booster Pump 3's existing soft-start with a new variable speed drive
- Powering the new chemical feed pumps to proportionally feed chlorine based on the combined flow of the Wells
- Provide a specification for updating the PLC program for the following:
 - Operate Well #32 using a variable frequency drive
 - Add the new filter to the existing treatment plant's filter control
 - Add remote control at the treatment plant for Well #35
- Design offsite comcast to be wired to the operations building for internet access
- Relocate the existing radio for Well #34 and the new antenna for Well #35 to either the reservoir roof or the meter reading antenna
- Assist Primex in the updating of the SCADA system to add the new filter

B. Well #35

Civil drawings and specifications will be developed for the following improvements:

- The new pump base, pump, and motor
- Onsite piping that includes valves and fittings to connect the Well to the offsite raw water line and pump to waste
- Onsite pavement and driveway
- Storm drain piping that connects to the offsite storm drain system
- Natural gas service and piping to connect to the onsite generator
- New block wall and gate that matches the existing adjacent developments walls and gates.
- Drought tolerant landscaping and irrigation in the Well Site's frontage to be consistent with the Rio Del Oro Development's landscaping.

Electrical drawings and specifications will be developed for the following improvements:

- New electrical service and motor control center that will be designed for an outdoor environment
- Well #35 soft start for a fixed speed operation
- Specification for a new PLC and programming that will operate Well #35
- Design of a radio system for Plumas Lake WTP to control Well #35
- Assist Primex in the updating of the SCADA system to add the Well #35
- Natural gas generator with automatic transfer switch to provide power to the Well site during a utility power outage.
- All associated conduit and wiring

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3. Bid Support

- Provide technical assistance and addenda during the bidding of the project.

4. Services during Construction

Provide services during construction that include the following:

Civil and Electrical:

- Respond to Request for Information
- Review Contractor Invoices
- Submittal Reviews
- Review Contractor Change Orders
- Site Visits
- Review As Built Drawings
- Meetings with Contractor and Subcontractors
- Inspections and Punchlist

Electrical:

- Witness Testing
- Factory Testing
- Programming Review and Commenting

Schedule

The improvements to the Plumas Lake WTP and the equipping of Well #35 are planned to be operational in the summer 2026 to increase the system's maximum day water supply. The following estimated project time from when Affinity receives the District's Notice to Proceed:

- Design: 4 months, Bidding: 1 month, Construction: 12 months

Deliverables

- Plans and Specifications
 - Electronic Copy (PDF Format and provided on flash drive)
 - 90% Design Level
 - 100% Design Level (Bid Set)

Meetings

- 90% Submittal review with District staff

Assumptions:

The following are the assumptions that are associated with this project:

- The work would be performed under a negative declaration with all environmental work (if required) completed by OPUD.
- Services during construction are not included in this scope of work.

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Deliverables

Affinity will provide a bid set of front-end and technical specifications also with associated drawings for the bidding of the improvements to the Plumas Lake WTP and the equipping of Well #35.

Estimated Fee

The total estimated fee of \$330,625 is based on a time and materials, not to exceed without prior approval from the OPUD. Reimbursable expenses and subconsultants will be billed at cost plus 15 percent. A detail of the estimated cost is as follows:

Professional Engineering Services Detailed Cost Estimate

Project: Plumas Lake Water Treatment Plant and Well #35 Engineering Services

Task	Description	Senior Engineer (Hours)	Project Assistant (Hours)	Affinity Cost (\$)	Other Direct Costs		Hours/Task Hours	Task Cost
					Cost	Markup		
1	Project Mgmt							
1a	Design Phase	80	20	\$17,700			100	\$17,700
1b	Construction Phase	100	20	\$21,700			120	\$21,700
2	Facility Design							
2.1	Plant Power		20	\$1,700	\$107,200	\$16,080	20	\$124,980
2.2	Affinity							
2.2a	60% Design	180	10	\$36,850			190	\$36,850
2.2b	90 % Design	100	5	\$20,425			105	\$20,425
2.2c	100% Design	40	5	\$8,425			45	\$8,425
3	Bidding							
3.1	Bidding Services	16		\$3,200	\$3,000	\$450	16	\$6,650
4	Services During Const.							
4.1	Programming Asst.	40		\$8,000	*		40	
4.2	Construction Services	200		\$40,000	\$30,000	\$4,500	200	\$74,500
4.3	Well #35 Site Survey	16		\$3,200	\$6,300	\$945	16	\$10,445
4.4	Primex	16		\$3,200	\$5,000	\$750	16	\$8,950
Subtotals		788	80	\$164,400	\$151,500	\$22,725	868	\$330,625
	Hourly Rate \$/hr.	\$200	\$85					

* The programming of the PLC will be done by the Contractor

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Appendix B Rate Schedules

All services will be billed per the following rate schedules:

Affinity Engineering 2025 Rate Schedule	
Position	Rate (\$/hr.)
Senior Project Engineer	200
Senior Hydrogeologist	200
Senior Designer	145
CAD Operator	125
Project Assistant	85
Sub-consultant fees and Reimbursable Expenses are billed at cost plus 15%	
Mileage cost is based on \$0.50/mile	