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Job No. 19-452

December 10, 2019

Mr. Mike Healy, Public Works Director
County of Mariposa
P.O Box 784
5100 Bullion Street
Mariposa, CA 95338

Subject: **Proposal for Engineering Services – County of Mariposa
Technical Report for the Yosemite West Water Service Area –
Evaluate and Analyze NPS application for new water service**

Dear Mr. Healy:

Thank you for the opportunity to submit this proposal to provide engineering services for the County of Mariposa (County) relative to the Yosemite West Water Service Area (YWWSA). This proposal is provided at the request of the County for a Technical Report that includes an engineering evaluation, analysis and recommendations regarding a recent application by the National Park Service requesting a new water service from YWWSA for the NatureBridge National Science Education Campus at Henness Ridge. This proposal discusses our understanding of the project, recommends a scope of services together with associated fees, sets forth our assumptions and discusses other services that may be of interest as the project proceeds.

Project Understanding

The National Park Service (NPS) constructed the Chinquapin Water System in 2007 for the benefit of the NatureBridge National Science Education Center Campus (NSEC), the Chinquapin Ranger Residence and the Comfort Station. The water system is comprised of a single hard rock well with submersible pump, a 3-inch supply main to the Chinquapin Ranger Residence garage where a plumbing tree provides for chlorine disinfection, then water is conveyed through an 8-inch pipeline to supply water to the Chinquapin Ranger Residence and Comfort Station, the NSEC and two (2) 100,000 gallon water storage tanks located above the NSEC. The hard rock well initially produced 28 gallons per minute but has subsequently dried up to the point where it no longer is an effective water source.

NPS has filed an application with the County of Mariposa to obtain a new water service from the YWWSA to serve the NSEC. As part of this application, NPS plans to segregate the NSEC campus and water storage tanks from the balance of the Chinquapin water system to allow the new water service to solely serve the NSEC. Separate from the application to the County of Mariposa, NPS will pursue an alternate water supply for the balance of the Chinquapin Water System that includes the Chinquapin Comfort Station and Ranger Residence.

The County has requested that Provost & Pritchard provide this proposal for engineering services to evaluate the NPS application, determine impacts of this potential new water service

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Attachment: Provost & Pritchard YW 20-032 (10068 : Authorize the Public Works Director to Award Engineering Services)

on the existing YWWSA and prepare a technical engineering report to summarize the evaluation and findings of the study.

Scope of Services

Services provided by Provost & Pritchard under this proposal will include:

Task 1: Draft Engineering Report

- Research and information gathering:
 - Review NPS application to the County of Mariposa for a new water service to service the NSEC campus including projected water demand of the NESC.
 - Research with County staff to obtain background information data, records, operational policies and procedures, technical reports, capital improvement plans and agreements pertinent to the YWWSA. We will request at least five years of historical water system production data (meter readings and well draw down measurements) from the single hard-rock groundwater well (New Well No. 9) for the YWWSA.
 - Conduct field review of the existing YWWSA supply and storage infrastructure with Mariposa County system operators. As part of field review, we would like to sound the well to confirm pumping drawdown and recovery depths to water surface.
 - Review water system operational data and policies.
- Evaluate the following items:
 - Impact of new NSEC water service on the Yosemite West Water System, including:
 - Five-year historical water system production data with consideration of future increased demand for an added NPS water service for the NSEC campus.
 - Well yield based on the original well development pump test report, submersible pump capacity, impact on Lowry Aeration water treatment system, booster pumps and conveyance pipeline to existing water storage tanks due to increased water demand in the system.
 - Existing fire water storage for the YWWSA based on current water storage tanks operation parameters and impacts of additional daily demand storage for the NESC water service.
 - Increases water demands on the existing capital improvement plan. Recommend additional improvements or advancements in funding capital improvements which may be necessary to support the increase water demand.
 - Secondary alternative whereby the new water service would include an 8" main between the two 100,000-gallon Chinquapin Water Storage Tanks and the YWWSA water storage tanks. It is understood that the Chinquapin tanks are at a higher elevation than the YWWSA tanks, and the new water service will require a booster pump to deliver water to the Chinquapin tanks. However, an 8" main between the two sets of tanks would allow for the ability to back-feed additional water storage for to the Yosemite West Community.
- Prepare Draft Preliminary Engineering Report and submit to Mariposa County for review

and comment.

- Participate in one in-person review meeting with County of Mariposa staff expected to include Mike Healy and Darryl Nielsen. Review report and assist in development of potential mitigation measures to offset the impacts on the water system. Mitigation measure are assumed to be either required capital improvements or payment of connection fees based on a pro-rata share of defined improvements included in the current capital improvement plan.

Deliverables: Electronic copy and two (2) hardcopies of Draft Preliminary Engineering Report.

Task 2: Final Engineering Report

- Revise Draft Engineering Report based on County input.
- Prepare Final Engineering Report, including a cost opinion based on the recommended improvements and submit to County of Mariposa and NPS for review and acceptance.

Deliverables: Electronic copy and two (2) hardcopies of Final Preliminary Engineering Report

Schedule

P&P is prepared to begin immediately upon authorization to proceed. It is understood that the County desires to advance this study as soon as County staff and/or County Board of Supervisors authorizes a contract for this work. We will coordinate the project schedule with County staff upon issuance of a Notice to Proceed. We estimate a timeframe of 4-6 weeks for the Draft Engineering Report and another 3-4 weeks to finalize the report upon receipt of the County's final comments on the draft report.

Professional Fees

Provost & Pritchard Consulting Group will perform the above described services on a time and materials basis, in accordance with our Standard Fee Schedule in effect at the time services are rendered. We recommend that the County budget **\$40,000** for the services included in this proposal.

These fees will be invoiced monthly as they are accrued. Reimbursable expenses will be invoiced in addition to professional fees and are included in the estimate above. If it appears we will need to exceed the estimate provided, we will notify you in writing before we do so and will provide a revised estimate. We will not continue work beyond the initial budget without additional authorization.

Assumptions

The proposal includes the following assumptions:

- The County will be able to provide background information and records associated with the Yosemite West water system necessary to complete the engineering report (i.e. – wellhead water meter records, well drawn down data, well development technical reports, water quality data, record drawings of existing water supply and storage infrastructure, maintenance records, operating budget, etc.).
- The County YWWSA system operators will be available to provide a tour of the water system soon after approval of the contract.

- The County staff public works management and operational staff will be available to meet in-person to review the draft and final draft technical report.

Additional Services

The following services are not included in this proposal, however these and others can be provided at additional cost, upon request.

- Attendance at County Board of Supervisor or any or public meetings to provide technical background and support of the engineering evaluation and technical report, if necessary
- Conceptual Design of water system improvements to provide a new water service to the National Park Service, if needed.

Terms & Conditions

In order to convey a clear understanding of our mutual responsibilities under this proposal, we expect that this proposal all be attached to a County drafted project-specific Agreement for Engineering Services. These executed documents will serve as our Notice to Proceed. This proposal is valid for 30 days from the date above.

Please let us know if you have any comments or changes to our proposal. If you have any questions, feel free to call me at (559) 449-2700.

Sincerely Yours,

Provost & Pritchard Consulting Group



Rod McNeely, PE
C 58337
Project Manager



Heather Bashian, PE
C 73075
Vice President

Terms & Conditions Accepted

By: County of Mariposa

Signature

Name

_____ _____
Title Date