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GEOTECHNICAL SERVICES

FOR THE

LEONE BOLTED STEEL TANK REPLACEMENT PROJECT

SCOPE OF WORK

Several of ASPA's potable bolted steel tanks are deteriorating due to corrosion and poor maintenance. Some are already leaking at the bottom seams and is becoming a critical problem both for safety and water loss. The Leone tank is one of these tanks that needs replacement as it has a leak at the bottom of the tank and the bolts are rusted. The tank has lasted its design life of 30 years and needs to be replaced. The Project will assure protection of drinking water from contaminant intrusion into the system and sustain safe, quality drinking water for the community as well as staying in compliance with requirements by EPA.

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Section 1: General

1. The objective of the geotechnical investigation is to provide a comprehensive geotechnical site analysis for usage as the basis of a foundation design for the proposed 1,000,000 gallon bolted-steel potable water storage tank (WST) as shown in the conceptual plan, with an approximate tank diameter between 65 and 70 feet.
2. The American Samoa Power Authority issues this Request for Proposal for Geotechnical Services from a professional consultant with experience in geotechnical evaluations for the construction of water storage tanks.
3. The selected firm will be provided with the project conceptual plan, site land survey and access to the existing Well 15. Currently between Well 15 and proposed Tank site there is no driveway, it is only open field covered with grass, bushes and some trees.
4. The selected firm shall conduct a preliminary and final meeting with ASPA during the geotechnical portion of the project to fully understand the specific project elements and to define the basic requirements for each of the project scope elements.
5. Offeror's due diligence shall include an understanding of what data and services ASPA will provide. For this design phase ASPA ESD, ROW, Archaeology and Survey Divisions will provide the following:
 - Right of Way (ROW) services to assist with obtaining engineers, technicians and surveyors access to project site.
 - ASPA ESD will provide the Land Use Permit (LUP). No other local permits are required
 - Survey Division will provide the complete land survey of project site
 - Existing water system drawings as available
 - ASPA Water Storage Tank Requirements and Specifications as minimum
 - Other available data and materials as requested by Offeror if available

Section 2: Project Location

The project is located in the Malaeloa village within the Malaeloa valley area and near ASPA Well 15. See attached Site Plan.

Section 3: Inspection of Work Site

1. The selected Geotechnical firm is expected to visit and thoroughly inspect the Project Site and become familiar with field conditions including accessibility and physical obstructions.
2. Familiarize itself with the survey, including the location of all existing buildings, utilities, conditions, street, equipment, components and other attributes having or likely to have an impact on the Project;
3. Bid submission indicates familiarity with, and acceptance of, field conditions. No claim for additional compensation will be allowed which is based upon a misunderstanding or lack of knowledge, examination, inspection and/or

testing of any of the above items by the Offeror.

Section 4: Mobilization and Demobilization

The work consists of the mobilization and demobilization of the firm's forces and equipment necessary for performing the work required under the contract. Mobilization shall include all activities and associated costs for transportation of contractor's personnel, equipment, and operating supplies and expenses to the site; permits, premiums paid for performance and payment bonds including coinsurance and reinsurance agreements as applicable; and other items specified in the contract documents.

Demobilization shall include all activities and costs for transportation of personnel, equipment, and supplies not required or included in the contract from the site; including the disassembly, removal, and site cleanup of offices, buildings, and other facilities assembled on the site specifically for this contract.

Measurement for payment shall be made as a lump sum (LS). Payment will be made as the work proceeds, after presentation of paid invoices or documentation of direct costs by the contractor showing specific mobilization and demobilization costs and supporting evidence of the charges of suppliers, subcontractors, and others. When the total of such payments is less than the lump sum contract price, the balance remaining will be included in the final contract payment. Payment of the lump sum contract price for mobilization and demobilization will constitute full compensation for completion of the work. Payment will not be made under this item for the purchase costs of materials having a residual value, the purchase costs of materials to be incorporated in the project, or the purchase costs of operating supplies.

Section 5: Temporary Facilities and Controls

The work shall consist of Temporary facilities and the necessary controls for the project including utilities, telephone, sanitary facilities, field office conducive to site meetings, storage sheds and building, safety requirements, first aid equipment, fire protection, security measures, protection of the Work and property, access roads and parking, environmental controls, disposal of trash, debris, and excavated material, pest and rodent control, water runoff and erosion control.

No measurement of payment is to be made for this section hence it is incidental to the project.

Section 6: Geotechnical Investigation

Furnish all labor, materials, tools, equipment, and supervision for conducting an adequate sub-surface soils investigation at the tank site as shown in the preliminary drawings. The consultant shall conduct a geotechnical evaluation of selected area to allow determination of soil conditions, including presence of rock, and the impact of findings on tank design, presence of groundwater and its impact on design, construction, operation, and maintenance, preparation of geotechnical profile logs.

A. Geotechnical Report:

The information in the report shall be established, certified and stamped by a qualified U.S. P.E. Geotechnical Engineer.

Minimum Data to be Included in the Report is as follows:

1. Soil bearing capacity for entire proposed area footprint of WST based on a minimum of five (5) samples taken from within the WST foundation footprint.
2. Overall tank site assessment. The site to assess is a minimum 100 feet square area with the center of this area being the proposed center of the Tank.
3. Seismic assessment.
4. Tank foundation design parameters for a ring beam foundation or a concrete foundation.
5. Recommendations to support the potable tank construction.
6. Recommendations to verify the geotechnical ground model and parameters during construction.
7. Ambient soil sulfate content (SO₄).
8. Presence of any substance in addition to SO₄ which may be detrimental to the long-term strength of concrete or the steel reinforcing bars.
9. Minimum depth of foundation.
10. Geotechnical evaluation is in accordance with the latest ASCE7-16, IBC2018 and AWWA D103-09 standards.

Measurement for payment shall be made as a lump sum (LS). Full compensation includes a lump sum cost for all equipment, labor and materials. Payment will be made as the work proceeds, after presentation of paid invoices or documentation of direct costs by the contractor showing specific costs and supporting evidence of the charges of suppliers, subcontractors, and others. When the total of such payments is less than the lump sum contract price, the balance remaining will be included in the final contract payment. Payment of the lump sum contract price will constitute full compensation for completion of the work.

Section 7: Temporary Equipment Path between Well 15 and Proposed Tank Site

The work involves the construction of a temporary pathway between Well 15's existing driveway and the proposed Tank site to allow Offeror's geotechnical equipment access to the proposed Tank site. As seen on the attached Site Plan, this temporary pathway is approximately 250 feet long.

Measurement for payment shall be made as a lump sum (LS). Full compensation includes a lump sum cost for all equipment, labor and materials. Payment will be made as the work proceeds, after presentation of paid invoices or documentation of direct costs by the contractor showing specific temporary equipment access work costs and supporting evidence of the charges of suppliers, subcontractors, and others. When the total of such payments is less than the lump sum contract price, the balance remaining will be included in the final contract payment. Payment of the lump sum contract price will constitute full compensation for completion of the work.

Section 8: DELIVERABLES

This section shall cover the complete costs of providing all labor, equipment and materials required to under this SOW;

1. Deliver to the ASPA a geotechnical report containing all pertinent information required for the design of the foundation of a 1,000,000 gallon (approximate) bolted-steel WST which will be anchored to the foundation. The report shall contain, but not be limited to, the requirements of latest ASCE7-16, IBC2018 and AWWA D103-09 standards.
2. Within 5 days of the notice to proceed provide a detailed schedule of work in written, Gantt and PERT Chart formats.
3. Provide four (4) hard bound copies and electronic copies (pdf, spreadsheet) of all deliverables

No measurement of payment is to be made for this section hence it is incidental to the project.