



**GOVERNMENT OF THE INDEPENDENT STATE OF
SAMOA**

NATIONAL TENDERS BOARD

SAMOA WATER AUTHORITY

**PROCUREMENT OF TECHNICAL ASSISTANCE FOR THE
IDENTIFICATION OF WATER SUPPLY OPTIONS AND
DETAILED DESIGNS FOR THE POPULATION IN S.E.
UPOLU RESETTLED INLAND DUE TO THE TSUNAMI**

REQUEST FOR QUOTATION

RFQ Reference: SWA/2010/01

OCTOBER, 2010

Letter of Invitation

Dear Sirs,

1. Request for Quotations

The Samoa Water Authority (SWA), hereinafter the Procuring Entity, intends to apply State budget funds for the Procurement of Technical Assistance for the identification of water supply options and preparation of detailed designs for the population in south east Upolu resettled inland due to the tsunami.

2. This RFQ includes the following submission documents:

- Letter of Invitation
- Technical Proposal - Standard Forms
- Financial Quotation - Standard Forms
- Terms of Reference

3. Eligibility of Consultants

Consultants must meet the following general eligibility requirements:

- (a) possess a valid business license;
- (b) be free from insolvency, bankruptcy, or similar status;
- (c) have legal capacity to enter into contract;
- (d) have an adequate record of business integrity and ethics;
- (e) not be excluded pursuant to Part IX of the “Guidelines for Government Procurement and Contracting: Consulting Services” available from www.mof.gov.ws; and
- (f) the firm and its principals have not been convicted within the last year of, or currently under indictment for, a criminal offence involving corruption or other misconduct reflecting a lack of suitability to participate in procurement.

4. Preparation and Submission of Quotations

The Technical Proposal shall be placed in a sealed envelope clearly marked “Technical Proposal” followed by the RFQ Number and the name of the assignment, as indicated above in the present letter. Similarly, the Financial Proposal shall be placed in a sealed envelope clearly marked “Financial Quotation” followed by the RFQ Number and the name of the assignment as indicated above in the present letter and with a warning “Do Not Open With the Technical Proposal.”

The envelopes containing, respectively, the Technical Proposal and the Financial Quotation shall be placed into an outer envelope and sealed. This outer envelope shall bear the submission address, RFQ number, name of the assignment, submission deadline and offer validity, and be clearly marked “Do Not Open, except during the proposal opening session.”

The Procuring Entity shall not be responsible for misplacement, losing or premature opening if the outer envelope is not sealed and/or marked as stipulated. This circumstance may cause the rejection of the quotation. If the Financial Quotation is not submitted in a separate sealed envelope duly marked as indicated above, this will constitute grounds for rejecting the Proposal. **The Technical Proposal shall not include any financial information which may totally or partially disclose the offered proposal price.** A Technical Proposal containing such financial information shall be rejected.

5. Technical Proposal

You should provide your Technical Proposal in accordance with Annex 1 “Technical Proposal - Standard Forms”

6. Financial Quotation

You should also provide a Financial Quotation. Please find below in Annex 2 “Financial Quotation - Standard Forms”. **Please note that the maximum budget available for this assignment is 500,000 SAT (equivalent to 192,000 USD)**

7. Terms of Reference

The services should be provided in accordance with the Terms of Reference contained in Annex 3 below.

8. Requests for Clarifications

At the discretion of the Evaluation Committee, requests for clarifications may be sent to the bidders in writing by The Procuring Entity. Such clarifications shall only concern minor elements of the Proposals and in no way can allow for substantial changes to the initial Proposal. Answers shall also be provided only in writing.

There will be an information meeting for this tender opportunity at 10am on Friday 12th November at the Samoa Water Authority Conference Room, Saleufi. Attendance at this information meeting is strongly encouraged but is not a requirement for submission of an offer.

9. Evaluation Procedure

a) Evaluation of Technical Proposals

The evaluation committee shall evaluate the Technical Proposals on the basis of their compliance with the requirements of the TOR, relevant experience of the firm, experience and qualifications of proposed personnel, methodology, work plan, organization, knowledge of local or specific conditions, as applicable. Each acceptable Proposal will be given a technical score (**St**). A Proposal shall be rejected at this stage if it fails to achieve the minimum technical score of 70 points.

Proposals will be evaluated in accordance to the following criteria:

Experience of tenderer in undertaking similar assignments	10
Approach, methodology and work plan for performing the assignment	25
Qualifications and experience of proposed team:	
Hydrology: Qualifications and experience in hydrology/ water resource assessment for water supply provision	20
Water Supply design expertise: Qualifications and experience in the design of water supply systems of a similar size	30
Social Development: experience in dealing with community consultation and land issues	10
Environmental expertise: Qualifications and experience in undertaking environmental assessment studies	5
	100

The minimum technical score St required to pass to the evaluation of the financial quotation is: 70 points

b) Evaluation of the Financial Quotation

The lowest price will be noted 100 points. The formula for determining the financial score Sf is the following:

$$Sf = 100 \times Pi/Pm, \text{ where}$$

Sf is the point given to the quotation
Pi is the lowest price
Pm is the price of the evaluated quotation

c) Global evaluation of the Quotation

The technical proposal is given a weight of 75% and the financial quotation 25%. The global score is determined as follows: $S = 75\% St + 25\% Sf$

Where:

- S is the global score
- St is the score of the technical proposal
- Sf is the score of the financial proposal

The quotation achieving the highest combined technical and financial score will be selected.

10. Date for Submission

You are requested to provide your quotation the latest by 1pm on Monday 29th November at the address indicated below:

Secretary to Tender's Board

**4th Floor, Central Bank Building,
Beach Road
Ministry of Finance,
Private bag
Apia, Samoa.**

11. Validity of Quotation

The quotation shall remain valid for a period not less than 60 days after the deadline date specified for submission.

12. Please note that the cost of preparing a Quotation and of negotiating a contract is not reimbursable as a direct cost of the assignment.

13. If you require further information on the assignment and the local conditions, you may contact **Mr. Philip Kerslake** at the following phone number and address:

Tel: 7776035

Email: Philip.kerslake@swa.gov.ws

Mail: SWA Office Vaitele,

14. The Client is not bound to accept any of the quotations submitted.

15. Please inform us, upon receipt:

- (a) that you received the letter of invitation; and
- (b) whether or not you will be submitting a quotation.

We look forward to receiving your quotation and thank you for your interest in this project.

Procuring Entity:

Name: Samoa Water Authority

Address: Box 245, Apia, Samoa

Tel. No. 7776035

Fax No.21298

Email address: Philip.kerslake@swa.gov.ws

Yours sincerely,

Managing Director
Samoa Water Authority

ATTACHEMENT 1:

DATA SHEET

Deadline for submission of RFQ	1pm on Monday 29 th November 2010
Period of validity of Proposal	29 January, 2011
Latest commencement date for the assignment	15 February, 2011
Timeframe for phase 1	6 weeks
Timeframe for phase 2	3 months
Timeframe for decision on options	3 weeks
Timeframe for phase 3	6 weeks
Facilities to be provided by the procurement entity	None
Counterpart staff to be provided by the procurement entity	MNRE and SWA will work closely with the consultant
Information to be provided by the procurement entity	Data available from MNRE on surface and ground water measurements in the region. SWA standards for design

Annex 1

Technical Proposal – Standard Forms

- TECH-1 Technical Proposal Submission Form
- TECH-2 Consultant's Organization and Experience
 - A Consultant's Organization
 - B Consultant's Experience
- TECH-3 Comments or Suggestions on the Terms of Reference and on Counterpart Staff and Facilities to be provided by The Procuring Agent
 - A On the Terms of Reference
 - B On the Counterpart Staff and Facilities
- TECH-4 Description of the Approach, Methodology and Work Plan for Performing the Assignment
- TECH-5 Team Composition and Task Assignments
- TECH-6 Curriculum Vitae (CV) for Proposed Professional Staff
- TECH-7 Staff Schedule
- TECH-8 Work Schedule

FORM TECH-1 TECHNICAL PROPOSAL SUBMISSION FORM

(Location, Date)

To: ___(Name and address of (Procuring Entity))

Dear Sir or Madam:

We, the undersigned, offer to provide the consulting services for ___(Insert title of assignment) in accordance with your Request for Quotations dated ___(Insert Date) and our Proposal. We are hereby submitting our Proposal, which includes this Technical Proposal, and a Financial Proposal sealed under a separate envelope.

We are submitting our Proposal in association with:___ (Insert a list with full name and address of each associated Consultant or insert 'none')

We hereby declare that all the information and statements made in this Proposal are true and accept that any misinterpretation contained in it may lead to our disqualification.

If negotiations are held during the period of validity of the Proposal, as indicated in the Data Sheet, we undertake to negotiate on the basis of the proposed staff. Our Proposal is binding upon us and subject to the modifications resulting from Contract negotiations.

We undertake, if our Proposal is accepted, to initiate the consulting services related to the assignment not later than the date indicated in the Data Sheet.

We understand you are not bound to accept any Proposal you receive.

We remain,

Yours sincerely,

Authorized Signature (In full and initials): _____

Name and Title of Signatory: _____

Name of Firm: _____

Address: _____

FORM TECH-2 CONSULTANT'S ORGANIZATION AND EXPERIENCE

A - Consultant's Organization

(Provide here a brief (two pages maximum) description of the background and organization of your firm/entity and each associate for this assignment.)

B - Consultant's Experience

(Using the format below, provide information on a maximum of 5 assignments for which your firm, and each associate for this assignment, was legally contracted either individually as a corporate entity or as one of the major companies within an association, for carrying out consulting services similar to the ones requested under this assignment. Use a maximum of 10 pages.)

Assignment name:	Approx. value of the contract (in Samoan Tala or USD as applicable):
Country: Location within country:	Duration of assignment (months):
Name of Client:	Total N ^o of staff-months of the assignment:
Address:	Approx. value of the services provided by your firm under the contract (in current Samoan Tala):
Start date (month/year): Completion date (month/year):	N ^o of professional staff-months provided by associated Consultants:
Name of associated Consultants, if any:	Name of senior professional staff of your firm involved and functions performed (indicate most significant profiles such as Project Director/Coordinator, Team Leader):
Narrative description of Project:	
Description of actual services provided by your staff within the assignment:	

Firm's Name: _____

**FORM TECH-3 COMMENTS AND SUGGESTIONS ON THE TERMS OF
REFERENCE AND ON COUNTERPART STAFF AND FACILITIES TO BE PROVIDED
BY THE PROCURING ENTITY**

(These shall not be used for evaluation purpose, but may be discussed during negotiations. The Procuring Entity is not bound to accept any modifications proposed. If the proposed modifications/suggestions would require changes in the offered price, it should be noted as such, without giving the price of the change. Disclosure of any prices in this Form shall be reason for rejection of the Proposal.)

A - On the Terms of Reference

(Present and justify here any modifications or improvement to the Terms of Reference you are proposing to improve performance in carrying out the assignment (such as deleting some activity you consider unnecessary, or adding another, or proposing a different phasing of the activities). Such suggestions should be concise and to the point, and incorporated in your Proposal).

B - On Counterpart Staff and Facilities

(Comment here on counterpart staff and facilities to be provided by the Procuring Entity according to information in the Data Sheet)

FORM TECH-4 DESCRIPTION OF APPROACH, METHODOLOGY AND WORK PLAN FOR PERFORMING THE ASSIGNMENT

(Technical approach, methodology and work plan are key components of the Technical Proposal. You are suggested to present your Technical Proposal divided into the following three chapters:

- a) Technical Approach and Methodology,*
- b) Work Plan, and*
- c) Organization and Staffing,*

Consultants are encouraged to respond directly to the TORs. Comments to the TORs may be provided in Form TECH 3.

a) Technical Approach and Methodology. In this chapter you should explain your understanding of the objectives of the assignment, approach to the services, methodology for carrying out the activities, including transfer of knowledge, and obtaining the expected output, and the degree of detail of such output. You should highlight the problems being addressed and their importance, and explain the technical approach you would adopt to address them. You should also explain the methodologies you propose to adopt and highlight the compatibility of those methodologies with the proposed approach.

b) Work Plan. In this chapter you should propose the main activities of the assignment, their content and duration, phasing and interrelations, milestones (including interim approvals by the Procuring Entity), and delivery dates of the reports. The proposed work plan should be consistent with the technical approach and methodology, showing understanding of the TOR and ability to translate them into a feasible working plan. A list of the final documents, including reports, drawings, and tables to be delivered as final output, should be included here. The work plan should be consistent with the Work Schedule of Form TECH-8.

c) Organization and Staffing. In this chapter you should propose the structure and composition of your team. You should list the main disciplines of the assignment, the key expert responsible, and proposed technical and support staff.)

FORM TECH-6 CURRICULUM VITAE (CV) FOR PROPOSED PROFESSIONAL STAFF¹

1. Proposed Position (only one candidate shall be nominated for each position): _____

2. Name of Firm (Insert name of firm proposing the staff): _____

3. Name of Staff (Insert full name): _____

4. Date of Birth: _____ **Nationality:** _____

5. Education (Indicate college/university and other specialized education of staff member, giving names of institutions, degrees obtained, and dates of obtainment): _____

6. Membership of Professional Associations: _____

7. Other Training (Indicate significant training since degrees under 5 - Education were obtained): _____

8. Countries of Work Experience: (List countries where staff has worked in the last ten years): _____

9. Languages (For each language indicate proficiency: good, fair, or poor in speaking, reading, and writing): _____

10. Employment Record (Starting with present position, list in reverse order every employment held by staff member since graduation, giving for each employment (see

¹ The CVs are not required to follow this format but they must include **all the information** that is in the standard format.

format here below): dates of employment, name of employing organization, positions held.):

From (Year): _____ To (Year): _____

Employer: _____

Positions held: _____

<p>11. Detailed Tasks Assigned</p> <p><i>(List all tasks to be performed under this assignment)</i></p> <p>12. Work Undertaken that Best Illustrates Capability to Handle the Tasks Assigned</p> <p><i>(Among the assignments in which the staff has been involved, indicate the following information for those assignments that best illustrate staff capability to handle the tasks listed under point 11.)</i></p>	<p>Name of assignment or project: _____</p> <p>Year: _____</p> <p>Location: _____</p> <p>Client: _____</p> <p>Main project features: _____</p> <p>Positions held: _____</p> <p>Activities performed: _____</p>
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13. Certification:

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engaged.

(Signature of staff member or authorized representative of the staff) Date: _____
Day/Month/Year

Full name of authorized representative: _____

FORM TECH-7 STAFF SCHEDULE¹

N°	Name of Staff	Staff input (in the form of a bar chart) ²													Total staff-month input				
		1	2	3	4	5	6	7	8	9	10	11	12	n	Home	Field ³	Total		
Foreign																			
1		(Home)																	
		(Field)																	
2																			
3																			
n																			
															Subtotal				
Local																			
1		(Home)																	
		(Field)																	
2																			

Annex 2
Financial Quotation – Standard forms

- FIN-1 Financial Quotation Submission Form
- FIN-2 Summary of Prices
- FIN-3 Breakdown of expenses by Activity
- FIN-4 Breakdown of Remuneration
- FIN-5 Breakdown of expenses

FORM FIN-1 FINANCIAL QUOTATION SUBMISSION FORM

(Location, Date)

To: ___ (Name and address of (Procuring Entity))

Dear Sirs:

We, the undersigned, offer to provide the consulting services for ___ (Insert title of assignment) in accordance with your Request for Quotation dated ___ (Insert Date) and our Technical Proposal. Our attached Financial Quotation is for the sum of ___ (Insert amount(s) in words and figures¹).

Our Financial Quotation shall be binding upon us subject to the modifications resulting from Contract negotiations, up to expiration of the validity period of the Quotation, as indicated in the Data Sheet.

We understand you are not bound to accept any Proposal you receive.

We remain,

Yours sincerely,

Authorized Signature (In full and initials): _____

Name and Title of Signatory: _____

Name of Firm: _____

Address: _____

- 1 Amounts must coincide with the ones indicated under Total Price of Financial Quotation in Form FIN-2.

FORM FIN-2 SUMMARY OF PRICES

Item	Prices
	<i>Total in Samoan Tala (or USD as applicable)</i>
Total Prices of Financial Quotation ¹	

- 1 Indicate the total prices, to be paid by the Procuring Agent in Samoan Tala or USD. Such total prices must coincide with the sum of the relevant Subtotals indicated in all Forms FIN-3 provided with the Quotation.

FORM FIN-3 BREAKDOWN OF EXPENSES BY ACTIVITY¹

Group of Activities (Phase)²:	Description³:
_____	_____
_____	_____
<i>Price Components</i>	Expenses <i>(In Samoan Tala or USD as applicable)</i>
Remuneration ⁴	
Expenses ⁴	
Taxes (this contract will be subject to taxation in Samoa)	
Sub total	

- 1 Form FIN-3 shall be filled for each phase of the assignment (three phases as set out in the Terms of Reference). In case some of the activities require different modes of billing and payment (e.g.: the assignment is phased, and each phase has a different payment schedule), the Consultant shall fill a separate Form FIN-3 for each group of activities. For each currency, the sum of the relevant Subtotals of all Forms FIN-3 provided must coincide with the Total Prices of Financial Quotation indicated in Form FIN-2.
- 2 Names of activities (phase) should be the same as, or correspond to the ones indicated in the second column of Form TECH-8.
- 3 Short description of the activities whose price breakdown is provided in this Form.
- 4 For each currency, Remuneration and Expenses must respectively coincide with relevant Total Prices indicated in Forms FIN-4, and FIN-5.

FORM FIN-4 BREAKDOWN OF REMUNERATION¹

(Information to be provided in this Form shall only be used to establish payments to the Consultant for possible additional services requested by the Procuring Entity throughout the duration of this contract and/or for the purpose of verification of the market reasonableness of the prices offered)

Name²	Position³	Staff-day Rate⁴ in Samoan tala or USD as applicable)
Foreign Staff		
		<i>(Home)</i>
		<i>(Field)</i>
Local Staff		
		<i>(Home)</i>
		<i>(Field)</i>

- 1 Form FIN-4 shall be filled in for the same Professional and Support Staff listed in Form TECH-7.
- 2 Professional Staff should be indicated individually; Support Staff should be indicated per category (e.g.: draftsmen, clerical staff).
- 3 Positions of the Professional Staff shall coincide with the ones indicated in Form TECH-5.
- 4 Indicate separately staff-day rate and currency for home and field work.

FORM FIN-5 BREAKDOWN OF EXPENSES

Information to be provided in this Form shall only be used to establish payments to the Consultant for possible additional services requested by the Procuring Entity throughout the duration of this contract and/or for the purpose of verification of the market reasonableness of the prices offered)

The items in the list below are indicative. Consultants are requested to modify them to reflect the actual structure of their expenses.

N°	Description ¹	Unit	Unit Price in Samoan Tala (or USD as applicable)
	Per diem allowances	Day	
	International flights ²	Trip	
	Miscellaneous travel expenses	Trip	
	Communication expenses between (<i>Insert place</i>) and (<i>Insert place</i>)		
	Drafting, reproduction of reports		
	Equipment, instruments, materials, supplies, etc.		
	Use of computers, software		
	Laboratory tests.		
	Subcontracts		
	Local transportation expense		
	Office rent, clerical assistance		

¹ Delete items that are not applicable or add other items according to details in the Data Sheet.

² Indicate route of each flight, and if the trip is one- or two-ways.

ANNEX 3: Terms of Reference

TECHNICAL ASSISTANCE FOR THE IDENTIFICATION OF WATER SUPPLY OPTIONS AND DETAILED DESIGNS FOR THE POPULATION IN S.E. UPOLU RESETTLED INLAND DUE TO THE TSUNAMI

1. Background

On 29 September 2009 a major earthquake (8.3 Richter) in the Samoan region triggered tsunami waves which affected 43 villages on the south-eastern coast of Upolu Island and Manono Island. Many of the affected villagers relocated to higher ground as a consequence.

Emergency water supplies were provided by trucking water from coastal filling points to communal tanks throughout resettled areas, mainly in the south-eastern region of Upolu Island.

An intermediate supply scheme is being introduced to pump water from Lake Lano to feed gravity mains to resettled areas in Saleapaga Uta and Lalomanu, as well as linking the Tiavea network to the Aleipata System via the Samusu Tank and additional sub-mains to communal tanks in the nearby areas.

Background documentation on the Intermediate Post Disaster Water Supply system for the Tsunami affected areas of south east Upolu and the Preliminary Concept Report for the development of a long-term water supply, both prepared by RedR on behalf of UNICEF, are available on request.

2 Rationale

The intermediate water supply scheme was primarily designed to deliver 50 L per person per day to displaced villagers only. Its primary objective was to significantly reduce or eliminate the need for trucking as quickly as possible. While the system included provision for being retained as a long term supply it was not possible to provide the normal supply of 250 Lpppd to the entire population.

Much of the existing supply networks that were damaged by the tsunami have been repaired by the SWA. There are also new mains recently constructed along the Aleipata coast to replace old mains that were unsatisfactory. However, the reliability and sustainability of the existing networks appear to be inadequate, especially for affected residents that are now permanently located on higher ground.

A need has been identified to reassess the ability of existing water supply networks to meet the requirements of all residents, to assess existing and alternate water sources and to develop preferred options for long term water supplies to south-eastern region of Upolu.

3. Description of the Assignment

Specific Objectives

Fully assess water needs of populations within the defined areas of South-eastern Upolu and the ability of existing systems to sustainably and reliably meet these needs. Confirm sustainable capacities of existing water sources and investigate all potential alternate sources. Prepare a detailed long term water supply options study with a cost estimate breakdown and recommendations on preferred water supply systems. The options proposed must consider utilising or building on the components of the intermediate scheme in order to minimise costs of the new water supply system. On adoption of the preferred option by the SWA, complete detailed designs, assist SWA to call tenders and advise on design issues during construction of works.

Requested Services

The following specific activities should be undertaken in the study:

The areas to be covered by the study are as follows;

- I. Saleapaga Uta and the coastal area between Lepa and Cape Tuiolemu,
- II. The Aleipata coast from Lalomanu to Samusu, and

Phase 1: Analysis of Existing Water Supplies

- i. Gather all population information and assess water demand for the three areas
- ii. Test existing bores to confirm sustainable yields.
- iii. Obtain long term flow data on all existing springs and stream sources and confirm sustainable yields.
- iv. Analyse hydraulic capacity of existing networks including provision for leakage.
- v. Test existing networks to confirm actual pressures and flows are within 5% of calculated values.
- vi. Provide a GAPS analysis of existing systems to identify upgrade requirements.
- vii. Prepare Interim Report on Existing Water Supplies to summarise the above.

Phase 2: Identification of Long-term Water Supply Options

- viii. Conduct hydrogeological studies of the regions to determine:
 - infiltration losses at Lake Lano and linkage to surrounding springs and streams,
 - extent and details of aquifers that may supply springs or support new bores,
 - sustainable yield of existing aquifers where Lalomanu and Satitua bores are situated including performance and potential impacts of new bores.
- ix. Conduct hydrological analyses to confirm maximum and minimum flows from existing stream sources and to confirm the sustainable yield from Lake Lano (including provision for evaporation based on empirical data).
- x. Undertake a Flora and Fauna Study of Lake Lano suitable for inclusion in an EIS.
- xi. Investigate options and prepare Detailed Long Term Water Supply Options Report including whole of life costing to recommend a preferred option. The options presented will end required to include consideration for utilising or building on the existing intermediate water supply systems that have been constructed since the Tsunami

Phase 3: Detailed Design of Works

- xii. Liaise with SWA, WSCU and MNRE to agree the preferred option and to finalise a scope for the detailed design.
- xiii. Prepare a Preliminary Environmental Assessment Report (PEAR) for the preferred option and submit to PUMA. Liaise with PUMA to obtain approvals or to undertake further studies (e.g. EIS).
- xiv. Undertake detailed designs with all required drawings, technical specifications and Bill of Quantities of agreed works in the form of a Detailed Design Report. These must be final designs with sufficient detail to proceed to tender.

3.3 Relevant Design Factors

- *Population*

Identify all populations in the supply areas including new settled area and areas where water sources exist e.g. Tiavea. Communities should be consulted to ensure accuracy of needs in particular regarding future settlements and numbers of individuals. Future demand projections should consider demand to 2035

- *Land Ownership*

Proper consideration is to be given to social issues including land ownership. Communities should be consulted at all stages of options development and construction to confirm land ownership obligations are respected and adhered to.

- *Reports*

Take in to consideration the recommendations of previous reports, specifically those by RedR on the Post Tsunami Intermediate and Long Term Water Supply. Prepare new reports to SWA standards and requirements.

- *Design Criteria*

Adopt SWA standards for design of water supply systems.

3.4 Required Output and Reporting

The study should provide comparison of viable options with a recommendation as to the preferred option. The final report should provide detailed designs of the preferred option with cost estimates to an accuracy of +/- 20%.

Reports must be provided in both hard copy and digital format. Digital copies must utilise compatible software including EPANET, Autocad and Mapinfo. All datasets collected during the study must be handed over.

All studies should be part of the one consultancy and presented as one study so that proper coordination and progression of work is achieved.

Lake Lano will be monitored during its intermediate term use; including fluctuations in lake water level, amount of rainfall, evaporation losses, changes in water quality changes in flora and fauna and records of water quantities pumped from the lake. This data will be required for the assessment of the long term impacts and for input to the PEAR for the preferred option.

3.5 Institutional Arrangements

The client for this study is the Samoa Water Authority. The consultant will be required to work in close collaboration with the Senior Engineer and his staff responsible for the water supplies in the south east Region. Monthly meeting will be held with SWA with written reports presented on the progress of the project. For the hydrology aspects of the study the consultant will work in close collaboration with the Water Resources Division in MNRE. MNRE will be presented with hard and soft copies of all relevant hydrological data collected during the study.

3.6 Timetable

The study should be completed as soon as possible so that it can replace the operation of the intermediate water supply system utilising Lake Lano with a long term supply to full SWA standards of 250 Lpppd. Depending on environmental study requirements it is expected the Interim Report on Existing Water Supplies will be completed by February 2010 and the Detailed Long Term Water Supply Options Report will be completed by the end of May 2011. The Detailed Design Report should be completed by July 2011.

3.8 Expertise Required:

The following indicative areas of expertise will be required under this contract:

Hydrologist / Water Resource Management expert: A qualifications to Masters level in hydrology/water resource management with at least 8 years experience in water resource monitoring, watershed analysis, and assessment of surface and groundwater volumes and sustainability for allocations. Experience in the pacific region and in pacific island countries preferred. Good communication and report writing skills in English

Water Engineer: Degree level qualification in engineering and at least 8 years experience in the design of water supply systems. Experience in the pacific region and in pacific island countries preferred. Good communication skills and report writing skills in English.

Environmental expert: Degree level qualification in environmental management or similar and at least 5 years experience in undertaking environmental impact assessment studies. Experience in the pacific region and in pacific island countries preferred. Good communication and report writing skills in English

Social Development Expert: Degree level qualification in sociology, community development or similar and at least 8 years experience in community development programmes promoting community participation and managing community relations for large scale programmes. Fluent speaker in Samoan and English with good report writing skills.

Indicative time inputs for each phase of the study:

Phase	Working Days
Phase 1	
Water engineer	20
Hydrologist	40
Phase 2	
Water engineer	40
Hydrologist	30
Environmental expert	20
Social development expert	30
Phase 3	
Water engineer	40
Environmental expert	20
Total	240