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EU REGIONAL TRUST FUND 'MADAD'

الصندوق الاستئماني الأوروبي 'مدد'



WATER • TECHNOLOGY • PEOPLE

7132 Terms of Reference

Consultancy for the Design and Supervision of the Construction of two Water Networks and the Equipping of three Boreholes in Bekaa

Introduction

H2ALL, a consortium comprised of the Norwegian Refugee Council (NRC) as the lead, in partnership with Gruppo di Volontariato Civile (GVC), Oxfam and World Vision (WV) has been formed to provide support to the vulnerable communities of several municipalities of the Bekaa region. The consortium will work together in close collaboration, using complementary skills and expertise in the planned sector of intervention. The proposed project will build on the experiences and lessons learned throughout the partners' related activities in the region. The consortium's overall goal is to contribute to the effective and sustainable multi-level water governance in crisis affected Lebanon. Through well-defined activities, the consortium members aim to promote sustainable water services and provide an enabling environment that improves living conditions of vulnerable Lebanese and Syrian refugee communities.

Following consultations and discussions with the Bekaa Water Establishment (BWE) and the Ministry of Energy and Water (MoEW) on the requirements to improve the water supply and management in the Bekaa region, and as a part of this consortium under the project "Water, Sanitation and Hygiene (WASH) programme for Syrian refugees and Lebanese host communities" funded by the European Union MADAD Trust Fund, World Vision and NRC will undertake several infrastructure works in the Bekaa. The works will include the equipping of three wells and pumping stations in Baaloul, Taraiya, and Aita el Foukhar, and two water networks in Ali el Nahri and Riyak.

Overall Objective

World Vision and NRC are seeking the services of a professional design / supervision consultant with substantial experience in design, tendering and supervision of water infrastructure, electromechanical and civil works projects.

Purpose

The purpose of this contract is to hire a consultant to support World Vision and NRC in the design and supervision of several components of the water supply systems in Ali el Nahri and Riyak, and equipping three wells in Baaloul, Aita el Foukhar and Taraiya, Bekaa - Lebanon. The consultant shall provide engineering services as detailed in the below purpose:



1. Assess the current water supply systems in Ali el Nahri and Riyak, including the old existing and recently constructed components
2. Assess the current situation of the newly drilled wells in Baaloul, Taraiya and Aita El Foukhar
3. Design the projects including detailed hydraulic, electro-mechanical, and civil works studies and design drawings
4. Prepare the tender documents including conditions of contract, technical specifications, BOQs, and detailed cost estimate
5. Supervise the construction work

Assessment Phase

The assessment phase of this project includes the following:

- Collecting information and mapping out the different components of the water systems
- Assessing the condition of the existing and recently constructed components
- Calculating the needs of the area and carrying out a water balance analysis
- Determining the current and proposed levels of water service in the area
- Defining the works that need to be completed, taking into account cost efficiency and the incorporation of renewable energy, whenever possible
- Identifying strategic water quality sampling points within the water supply system and conducting water sampling and analysis at each of these strategic points *before* the construction works
- Preparing a preliminary design report including a cost estimate of the proposed works. Several options are to be considered, when needed
- Preparing a workshop to present and discuss Concept Design to the Bekaa Water Establishment, municipalities and other stakeholders
- Determining any risks (social, technical, political, environmental, etc.) that might compromise the works
- Any other works deemed necessary

In the assessment phase, the Consultant is expected to conduct as many site visits as necessary – along with World Vision and NRC project staff. S/he is also expected to attend meetings with the Client at the relevant municipalities, MoEW and BWE.

Design Phase

Lot I:

- A. The design phase of Ali el Nahri water supply system encompasses the following:
 - Carrying out a topographic survey (or site plan) for the different components to be designed
 - Designing well pumping station or booster pumping station (civil and electromechanical works), as needed
 - Designing transmission lines (lift lines or gravity lines), as needed
 - Designing reservoir or water tower (civil works), as needed
 - Designing water distribution lines, as needed
 - WaterCAD modeling of the whole distribution network. Existing lines will be modeled only – no detailed design (and no topographic survey) will be required for recently constructed water distribution lines



- Generating detailed design drawings (hydraulic accessories, plans and profiles for all diameters of the distribution network and transmission lines, site layouts and sections for reservoirs and pumping stations, electrical, mechanical, instrumentation and control drawings for pumping stations, in addition to standard drawings) using WaterCAD and, when possible, ArcGIS
- Identifying district metered areas in order to monitor the consumption of water and track losses
- Preparing concession or privatization files for reservoirs or pumping stations, as necessary
- Attending frequent coordination meetings with World Vision to discuss progress of work, design assumptions, different alternatives, and potential challenges
- Assessing the risks associated with the project and suggesting mitigation measures, as well as identifying alternative solutions
- Any other works deemed necessary

B. The design phase of equipping a well in Baaloul encompasses the design of the following:

- Pumps that need to be supplied and installed
- Valves and hydraulic accessories that are required to fit the new system
- Electrical equipment including cables, control panels, transformers, stand-by generators and the subscription to EDL
- Piping system, flowmeters water level monitoring (piezometers), electrical panels and fixtures, emergency power units, as well as all necessary electrical, mechanical, instrumentation, and control details to be included in the design
- Finishing works of the existing electromechanical and chlorination room such as block works, plastering, tiling, painting, electrical and mechanical works
- Any other works deemed necessary

In the design phase, the Consultant is expected to conduct as many site visits as necessary – along with World Vision project staff. S/he is also expected to attend relevant meetings with the Client at the relevant municipalities, the BWE or the MoEW, as relevant. The Consultant might also be required to prepare an Environmental Impact Assessment (EIA)

Lot 2:

- C. The design phase of Riyak water supply system encompasses the following:
- Carrying out a topographic survey (or site plan) for the different components to be designed
 - Revision of final pipeline sizing calculation and pipeline network model for Riyak water network
 - Designing booster pumping station (civil and electromechanical works), as needed
 - Designing transmission lines (lift lines or gravity lines), as needed
 - Designing water distribution lines, as needed
 - WaterCAD modeling of the whole distribution network
 - Generating detailed design drawings (hydraulic accessories, plans and profiles for all diameters of the distribution network and transmission lines, site layouts and sections for reservoirs and pumping stations, electrical, mechanical, instrumentation and control drawings for pumping stations, in addition to standard drawings) using WaterCAD and, when possible, ArcGIS
 - Identifying district metered areas in order to monitor the consumption of water and track losses
 - Preparing concession or privatization files for pumping stations, as necessary



- Attending frequent coordination meetings with NRC to discuss progress of work, design assumptions, different alternatives, and potential challenges
- Assessing the risks associated with the project and suggesting mitigation measures, as well as identifying alternative solutions.
- Any other works deemed necessary

In the design phase, the Consultant is expected to conduct as many site visits as necessary – along with NRC project staff. S/he is also expected to attend relevant meetings with the Client at the relevant municipalities, the BWE or the MoEW.

- D. The design phase of equipping two boreholes in Taraiya and Aita El Fokhar encompasses the design of the following:
- Assess and propose the necessary borehole testing
 - Pumps that need to be supplied and installed
 - Valves and hydraulic accessories that are required to fit the new systems
 - Electrical equipment including cables, control panels, transformers, stand-by generators and the connection to EDL
 - Piping system, flowmeters, water level monitoring (piezometers), electrical panels and fixtures, emergency power units, as well as all necessary electrical, mechanical, instrumentation, and control details to be included in the design
 - Finishing works of the existing electromechanical and chlorination room such as block works, plastering, tiling, painting, electrical and mechanical works
 - Any other works deemed necessary

The Consultant shall address all review comments provided by the Client and Bekaa Water Establishment to the satisfaction of the Client. Any review comments which are not addressed satisfactorily may require an additional submittal to address the comments. For Lot 2, the Consultant will also be required to prepare an Environmental Impact Assessment (EIA).

Tender Phase

The tender phase, applicable for Lot 1 and Lot 2, of this project includes the following:

- The detailed design of the items described in the above section including design drawings for the water infrastructure, as well as electromechanical and civil works
- The preparation of the complete technical specifications including the details of all materials and execution works, as well as the details for procuring and installing the equipment needed for the works. The implementation details which are not reflected in the execution drawings should be explained in the technical specifications. Whenever special methods are needed for a precise and correct execution of the works, the Consultant shall prepare them according to approved international standards
- The Consultant shall estimate the work quantity for each of the project components according to the most suitable work breakdown structure in order to allow the prospective bidder (Contractor) to determine a competitive unit price and estimate of the total construction cost. A preamble to the BOQ shall be prepared to explain the items mentioned in the BOQ. The Consultant should also prepare a cost estimate



- The tender documents should also include the conditions of contract, and should comply with the requirements of the EU. For Lot 2, compliance with FIDIC contract requirements will be also expected. The consultant is expected to draft and support in managing the contract
- Pressure tests for the existing lines should be requested from the Contractor
- The consultant should be familiar with the **EU rules of nationality and origin** and should incorporate them in the specifications and BOQs
- Any other works deemed necessary

Supervision Phase

The Consultant is expected to provide technical assistance in the form of site supervision and contract administration during the construction period of the assigned supervision contract; this should apply to Lot 1 and Lot 2, and shall include the following:

- Reviewing the Contractor's work program for compliance with major planning standards and techniques
- Ensuring that the project is planned and implemented effectively
- Assigning a delegate to attend and actively participate in the meetings of the Project Coordination Panel PCP, where follow up, approvals, and review of contractors' submittals should be undertaken by the consultant's representative. Specific Terms of References for the PCP will be agreed on between the Client, BWE, the consultant and the contractor(s) upon construction contract signature
- Assigning a delegate to attend bilateral meetings with the Client, to review, approve and sign off contractor's submittals and other coordination requirements
- Identifying potential problem areas and obstacles that may affect the works and progress, and recommending appropriate actions
- Monitoring construction progress to ensure compliance with the agreed construction schedules and proposing measures to expedite implementation. A minimum of **2 site visits per week** are required, to enable the Consultant to follow up on the construction work. The consultant should assign one field engineer per lot
- Being available and represented on the site during critical times of implementation (milestones), and this should not exclude weekends and holidays
- Approving the materials supplied by the Contractor, based on the specifications
- Approving the as-built drawings prepared by the Contractor during construction
- Approving the operation and maintenance manuals prepared by the Contractor during construction
- Supervising the commissioning of the works and handover to the BWE
- Signing off provisional and final taking-over certificates and preparing contract closure
- Conducting water sampling and analysis at the same strategic points *after* the construction works
- Preparing monthly progress reports to be submitted at the beginning of each subsequent month, in addition to a completion report at the end of the project
- Any other works deemed necessary

Deliverables

- **Preliminary design report:** The Consultant should submit the preliminary design report **3 weeks** following the signature of the contract for Lot 1 and for Lot 2, including the outcomes of all the steps



mentioned in the Assessment Phase. The report should include the different proposed alternatives, in addition to a preliminary cost estimate of the proposed works

- **Design and tender documents:** The Consultant is expected to submit the draft design (including detailed drawings, report, and calculation notes) and draft tender documents (including conditions of contract, general and particular specifications, BOQ, cost estimate, etc) within **2 months** after receiving approval on the proposed works. After receiving feedback, the Consultant is expected to submit the final design and tender documents within **2 weeks** in two (2) hardcopies and one (1) electronic copy per Lot. The outcomes of all the steps mentioned in the Design Phase and the Tender Phase should be incorporated in the draft and final design and tender documents
- **Monthly reports:** The consultant is expected to provide the Clients with monthly reports, highlighting the progress on each lot, the accrued construction costs, and any delays or challenges faced during the different phases of implementation
- **Completion report:** This report shall be submitted to the World Vision project manager for Lot 1, and to NRC Project Manager for Lot 2, after the completion of the construction and supervision works, describing in detail the final taking-over and the time of issuing the completion certificate. The other chapters of this report will be documenting all aspects of the administrative closure and project completion. All monthly progress reports should be appended to the completion report and should be submitted in two (2) hardcopies and one (1) electronic copy per Lot. The outcomes of all the steps mentioned in the Supervision Phase should be incorporated in the completion report
- **Environmental Impact Assessment (EIA)** including the screening report, draft and final scoping reports, public consultation meeting and report, as well as draft and final EIA reports – to be submitted in two (2) hardcopies and one (1) electronic copy.

Logistics and Timing

Lot 1: Locations: Ali el Nahri – East Zahle and Baaloul – West Beka

Lot 2: Locations: Riyak – East Zahle, Taraiya – Baalbeck and Aita el Foukhar – Rachaiya

Site Visit date: November 12 and November 13, 2018

All bidders are requested to attend site visits to ensure familiarity with the conditions of work and the site.

Interested candidates are to liaise with the World Vision Procurement Department via telephone (04-401-980/1/3 Ext. 1086) or email (LBN_Procurement@wvi.org)

BID SECURITY

- The Bidder must provide, as a part of his bid, a bid security. The bid security must be for an amount of **USD 7,000 (Seven Thousand US dollars only)**. The original bid security must be included in the original bid
- It may be provided in the form of a bank guarantee (**Anfnex A**), a banker's draft, a certified cheque, a guarantee provided by an insurance and/or guarantee company or an irrevocable letter of credit made out to the Employer. The company issuing the guarantee must satisfy the eligibility criteria applicable for the award of the contract
- The bid security must be valid for at least 30 days from the deadline for submission of bids and be issued to the Employer for the requisite amount
- The bid security of unsuccessful bidders will be released as soon as possible and in any event not later than 30 days after the expiry of the period of validity of the bid. For the successful bidder, it will be released following the signature of the contract



Period of Implementation of Tasks

Split by Lots

Lot 1

- Tentative start date: December 15, 2018
- 3 weeks for the preliminary design, after the signature of the contract
- 2.5 months for the detailed design and tender documents, after receiving approval on the proposed works
- 9 months for supervision, in parallel with the works of the Contractor (*tentative*)

Lot 2

- Tentative start date: December 15, 2018
- 3 weeks for the preliminary design, after the signature of the contract
- 2.5 months for the detailed design and tender documents, after receiving approval on the proposed works
- 9 months for supervision, in parallel with the works of the Contractor (*tentative*)

Payment Terms

- All invoices and other necessary documents shall be sent to World Vision and NRC Procurement Departments
- The first payment will be made after the execution of the final design and tender documents, while the second at the end of the construction and supervision works, provided that World Vision and NRC, have received an appropriate original invoice from the Consultant along with a Technical / Handover Report from the World Vision and NRC project managers and a provisional handing over from BWE stating that the Contractor has fulfilled his duties, in alignment with the specifications and the quality of the agreed upon deliverables. Each payment will be made in full within a period of one month from the date of submitting the invoice.

Monitoring and Evaluation

The Consultant's work will be measured in line with the following standard indicators:

- Time: Adhering to the agreed-upon schedule/work plan for each deliverable
- Quality: Adhering to the minimum professional standard and of quality for each deliverable.

Submission of Sealed Bids

Offers must be submitted in 3 (three) separately sealed envelopes, as follows:

- 1 (one) sealed envelope containing Administrative part of the offer
- 1 (one) sealed envelope containing Technical part of the offer
- 1 (one) sealed envelope containing Financial part of the offer



Content of Administrative Packet

No financial information should be included in the Administrative Offer. Failure to comply may risk disqualification. The administrative offer should include:

- Consultant profile, including legal registration documents
- Certificate of registration at the Ministry of Finance and VAT, if available
- Classification of Consultant
- List of similar works performed in the last 5 years with their corresponding amounts, in addition to work completion certificates, and references
- Previous experience with UN agencies or other international NGOs, if available
- Names and CVs of key personnel proposed for the implementation of the consultancy. Any change of names will require formal approval from the Clients.
- Any other information considered useful

Content of Technical Packet

No financial information should be included in the Technical Offer. Failure to comply may risk disqualification. The technical offer should include:

- Terms of Reference (ToR), signed and stamped
- Detailed work plan, including delivery date of each deliverable
- Method statement for each deliverable
- Any other information considered useful

Content of Financial Packet

- The currency for the bid shall be in US Dollars
- Items against which no rate or price is entered by the Bidder will not be paid for if executed, and shall be deemed covered by the other rates and prices
- All duties, taxes (except the VAT) and other levies payable by the Bidder under the Contract, or for any other cause, as of the date of the deadline for submission of bids, shall be included in the rates and prices
- Any other expense such as insurance, transportation, or phone bills should also be included in the above rates and prices. No additional expenses will be covered
- The bid shall be for the works specified in this ToR, and shall be broken down as per the table below, split in two lots.
- The final scope of works of the consultancy will be determined following the Assessment Phase



Lot I:

Item	Unit	Price excluding VAT (USD)
Preliminary design report	<i>Lump sum</i>	
Water sampling and analysis	<i>Per unit</i>	
– Detailed design of well pumping station (as needed)	<i>Per unit</i>	
– Detailed design of booster pumping station (as needed)	<i>Per unit</i>	
– Detailed design of reservoir or water tower (as needed)	<i>Per unit</i>	
– Detailed design of well equipping (as needed)	<i>Per unit</i>	
– Detailed design of transmission line (as needed)	<i>Per kilometer</i>	
– Detailed design of distribution line (as needed)	<i>Per kilometer</i>	
WaterCAD modeling of whole water network	<i>Per kilometer</i>	
Draft and final design reports	<i>Lump sum</i>	
Draft and final tender documents	<i>Lump sum</i>	
Site supervision (at least 2 site visits per week) for the whole duration of the construction works	<i>Lump sum</i>	
Completion report, including all monthly progress reports	<i>Lump sum</i>	
<u>Optional:</u> Environmental Impact Assessment (EIA)	<i>Lump sum</i>	
Total Amount of LOT I without VAT:		
VAT (11%) Amount:		
Total Amount of LOT I with VAT:		



Lot 2:

Item	Unit	Price excluding VAT (USD)
Preliminary design report	<i>Lump sum</i>	
Water sampling and analysis	<i>Per unit</i>	
– Detailed design of well pumping station (as needed)	<i>Per unit</i>	
– Detailed design of booster pumping station (as needed)	<i>Per unit</i>	
– Detailed design of well equipping (as needed)	<i>Per unit</i>	
– Detailed design of transmission line (as needed)	<i>Per kilometer</i>	
– Detailed design of distribution line (as needed)	<i>Per kilometer</i>	
WaterCAD modeling of whole water network	<i>Per kilometer</i>	
Draft and final design reports	<i>Lump sum</i>	
Draft and monthly progress reports	<i>Lump sum</i>	
Draft and final tender documents	<i>Lump sum</i>	
Site supervision (at least 2 site visits per week) for the whole duration of the construction works	<i>Lump sum</i>	
Completion report, including all monthly progress reports	<i>Lump sum</i>	
Environmental Impact Assessment (EIA)	<i>Lump sum</i>	
Total Amount of LOT 2 without VAT:		
VAT (11%) Amount:		
Total Amount of LOT 2 with VAT:		

Evaluation criteria for submitted bids

Bid submissions will be evaluated following the below technical criteria:



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1. Suitability of the firm and firm's qualification
2. Past performance in relevant projects and clients
3. Technical approach and methodology
4. Workplan and proposed construction schedule
5. Proposed personnel

NB:

- **Consultants hired by the EU as a monitoring third party for MADAD will not be considered**
- **Interested consultants are to apply for both lots. Otherwise, the bid will not be considered**

ANNEX A

FORM OF BID SECURITY (BANK GUARANTEE)

To: World Vision Lebanon

World Vision National Office, Villa Sinyora, Mountazah, Mansourieh
Office Phone: 961-4-401-980

WHEREAS, *[name of Bidder]* (hereinafter called "the Bidder") has submitted his Bid dated *[date]* for the execution of *[name of Contract]* (hereinafter called "the Bid").

KNOW ALL PEOPLE by these presents that We *[name of Bank]* of *[name of country]* having our registered office at *[address]* (hereinafter called "the Bank") are bound unto World Vision Lebanon (hereinafter called "the Employer") in the sum of _____ USD (*number in character*) for which payment well and truly to be made to the said Employer the Bank binds himself, his successors, and assigns by these presents.

SEALED with the Common Seal of the said Bank

this _____ day of _____
20 _____.

THE CONDITIONS of this obligation are:

- (1) if the Bidder withdraws his Bid during the period of Bid validity specified in the Form of Bid; or
- (2) if the Bidder refuses to accept the correction of errors in his Bid; or
- (3) if the Bidder, having been notified of the acceptance of his Bid by the Employer during the period of Bid validity and fails or refuses to execute the Agreement generated by this Request for Proposal (RFP);

we undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him owing to the occurrence of one or several of the above mentioned conditions.

This Guarantee will remain in force up to and including the date 120 days after the deadline for submission of bids. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

DATE _____ SIGNATURE OF THE BANK

WITNESS _____ SEAL

[signature, name, and address]