

**REQUEST FOR PROPOSALS**

**FEASIBILITY STUDY FOR THE**

**REGIONAL WASTEWATER TREATMENT PLANT PROJECT**

Submission Deadline: **4:00 PM**  
**LOCAL TIME**  
**September 10, 2010**

Submission Place: Massar Associates  
7 Al-Kawther street  
Al-Bireh – Palestine  
Tel: 00970 2 2409595  
Email: ADajani@rawabi.ps  
Attn: Amir Dajani, Deputy Managing Director

**N.B.: Any and all questions pertaining to the RFP should be sent to Nina Patel, USTDA,  
1000 Wilson Blvd, Suite 1600, Arlington, VA 22209-3901, Tel: (703) 875-4357,  
Fax: (703) 875-4009, [npatel@ustda.gov](mailto:npatel@ustda.gov)**

**SEALED PROPOSALS SHALL BE CLEARLY MARKED AND RECEIVED PRIOR TO THE  
TIME AND DATE SPECIFIED ABOVE. PROPOSALS RECEIVED AFTER SAID TIME  
AND DATE WILL NOT BE ACCEPTED OR CONSIDERED.**

## REQUEST FOR PROPOSALS

|                                                                      |    |
|----------------------------------------------------------------------|----|
| SECTION 1: INTRODUCTION .....                                        | 4  |
| 1.1 BACKGROUND SUMMARY .....                                         | 4  |
| 1.2 OBJECTIVE .....                                                  | 5  |
| 1.3 PROPOSALS TO BE SUBMITTED .....                                  | 5  |
| 1.4 CONTRACT FUNDED BY USTDA .....                                   | 5  |
| SECTION 2: INSTRUCTIONS TO OFFERORS .....                            | 7  |
| 2.1 PROJECT TITLE .....                                              | 7  |
| 2.2 DEFINITIONS .....                                                | 7  |
| 2.3 DESK STUDY AND DEFINITIONAL MISSION REPORTS .....                | 7  |
| 2.4 EXAMINATION OF DOCUMENTS .....                                   | 7  |
| 2.5 PROJECT FUNDING SOURCE .....                                     | 8  |
| 2.6 RESPONSIBILITY FOR COSTS .....                                   | 8  |
| 2.7 TAXES .....                                                      | 8  |
| 2.8 CONFIDENTIALITY .....                                            | 8  |
| 2.9 ECONOMY OF PROPOSALS .....                                       | 8  |
| 2.10 OFFEROR CERTIFICATIONS .....                                    | 8  |
| 2.11 CONDITIONS REQUIRED FOR PARTICIPATION .....                     | 9  |
| 2.12 LANGUAGE OF PROPOSAL .....                                      | 9  |
| 2.13 PROPOSAL SUBMISSION REQUIREMENTS .....                          | 9  |
| 2.14 PACKAGING .....                                                 | 9  |
| 2.15 AUTHORIZED SIGNATURE .....                                      | 10 |
| 2.16 EFFECTIVE PERIOD OF PROPOSAL .....                              | 10 |
| 2.17 EXCEPTIONS .....                                                | 10 |
| 2.18 OFFEROR QUALIFICATIONS .....                                    | 10 |
| 2.19 RIGHT TO REJECT PROPOSALS .....                                 | 10 |
| 2.20 PRIME CONTRACTOR RESPONSIBILITY .....                           | 10 |
| 2.21 AWARD .....                                                     | 10 |
| 2.22 COMPLETE SERVICES .....                                         | 11 |
| 2.23 INVOICING AND PAYMENT .....                                     | 11 |
| SECTION 3: PROPOSAL FORMAT AND CONTENT .....                         | 12 |
| 3.1 EXECUTIVE SUMMARY .....                                          | 12 |
| 3.2 COMPANY INFORMATION .....                                        | 12 |
| 3.2.1 COMPANY PROFILE .....                                          | 13 |
| 3.2.2 OFFEROR'S AUTHORIZED NEGOTIATOR .....                          | 13 |
| 3.2.3 NEGOTIATION PREREQUISITES .....                                | 13 |
| 3.2.4 OFFEROR'S REPRESENTATIONS .....                                | 13 |
| 3.2.5 SUBCONTRACTOR PROFILE .....                                    | 15 |
| 3.2.6 SUBCONTRACTOR'S REPRESENTATIONS .....                          | 15 |
| 3.3 ORGANIZATIONAL STRUCTURE, MANAGEMENT, AND KEY<br>PERSONNEL ..... | 16 |
| 3.4 TECHNICAL APPROACH AND WORK PLAN .....                           | 16 |
| 3.5 EXPERIENCE AND QUALIFICATIONS .....                              | 16 |
| SECTION 4: AWARD CRITERIA .....                                      | 18 |

- ANNEX 1 FEDBIZOPPS ANNOUNCEMENT
- ANNEX 2 BACKGROUND DESK STUDY AND DEFINITIONAL MISSION REPORTS
- ANNEX 3 USTDA NATIONALITY REQUIREMENTS
- ANNEX 4 USTDA GRANT AGREEMENT, INCLUDING MANDATORY CONTRACT CLAUSES
- ANNEX 5 TERMS OF REFERENCE (FROM USTDA GRANT AGREEMENT)
- ANNEX 6 COMPANY INFORMATION

## **Section 1: INTRODUCTION**

The U.S. Trade and Development Agency (USTDA) has provided a grant in the amount of US\$316,180 to Bayti Real Estate Investment Company (the "Grantee") in accordance with a grant agreement dated May 15, 2010, as amended by Amendment No. 1, dated July 28, 2010 (the "Grant Agreement"). USTDA has provided a grant to the Grantee to perform a Feasibility Study for the Regional Wastewater Treatment Plant Project. The Grant Agreement, with Amendment No. 1, is attached at Annex 4 for reference. The Grantee is soliciting technical proposals from qualified U.S. firms to provide expert consulting services to carry out the Feasibility Study. This RFP supersedes the previous RFP for the "Rawabi Tertiary Treatment Facility and Wastewater Reuse in the West Bank," which was originally posted on March 17, 2010 on FedBizOpps.

### **1.1 BACKGROUND SUMMARY**

The vision of the Rawabi development is to create an affordable and environmentally sustainable residential community in the West Bank that will simultaneously act as a hub for a knowledge-based economy. The Rawabi community is being developed on a 250-acre site in the West Bank, six miles north of Ramallah. The community is envisaged to eventually grow to accommodate 40,000 residents, plus a commercial center, schools, a clinic and a hotel. The projected initial occupancy date is 2011.

The Rawabi development is designed to promote sustainable economic growth and affordable housing in the West Bank while advancing the use of environmentally beneficial technologies for wastewater reuse in this water scarce region. Affordable housing is in very short supply in the West Bank. The lack of housing is a significant barrier to improved living standards and upward mobility, and this development will help to address the lack of housing. The Rawabi development is also expected to constitute the largest job-creation initiative in the history of the Palestinian Territories, both in terms of short- to medium-term employment during the construction phase, and in terms of permanent job opportunities resulting from the community's commercial and business activities. Given that Rawabi is intended to serve as a magnet for high-technology businesses, many of these opportunities are expected to be of particular benefit to the West Bank's well-educated but underemployed young workforce.

The purpose of the present Feasibility Study (FS) is to assess wastewater treatment technologies for a wastewater treatment plant (WWTP) that will provide wastewater reclamation and reuse both within the Rawabi community and the surrounding communities of Bani Zeid and Ein Synia, and for irrigation of agricultural land and industrial sites outside of the Rawabi area. The FS will investigate the suitability of current wastewater treatment technology such as Membrane Bioreactor (MBR) and Sequential Bioreactor (SBR) for wastewater treatment for reuse in accordance with current water quality standards for treated wastewater irrigation. The evaluation will assess the advantages and disadvantages of using these technologies to implement wastewater reclamation systems for agriculture wastewater reuse in the study area. The proposed Project is part of a necessary non-potable water supply service expansion to ameliorate water supply shortage conditions that prevail in the West Bank. The proposed Project is consistent with PWA current water resources conservation policies and with Rawabi's overall strategic plan aimed at reducing dependency on overexploited water resources in the study area.

A background Desk Study and Definitional Mission are provided for reference in Annex 2.

## 1.2 OBJECTIVE

The Terms of Reference (TOR) for this Feasibility Study are attached as Annex 5.

## 1.3 PROPOSALS TO BE SUBMITTED

Technical proposals are solicited from interested and qualified U.S. firms. The administrative and technical requirements as detailed throughout the Request for Proposals (RFP) will apply. Specific proposal format and content requirements are detailed in Section 3.

The amount for the contract has been established by a USTDA grant of US\$316,180. **The USTDA grant of US\$316,180 is a fixed amount. Accordingly, COST will not be a factor in the evaluation and therefore, cost proposals should not be submitted.** Upon detailed evaluation of technical proposals, the Grantee shall select one firm for contract negotiations.

## 1.4 CONTRACT FUNDED BY USTDA

In accordance with the terms and conditions of the Grant Agreement, USTDA has provided a grant in the amount of US\$316,180 to the Grantee. The funding provided under the Grant Agreement shall be used to fund the costs of the contract between the Grantee and the U.S. firm selected by the Grantee to perform the TOR. The contract must include certain USTDA Mandatory Contract Clauses relating to nationality, taxes, payment, reporting, and other matters. The USTDA nationality requirements and the USTDA Mandatory Contract Clauses are attached at Annexes 3 and 4, respectively, for reference.

The Grantee shall cover at least US\$30,000 of costs to complete the full Terms of Reference ("Grantee Cost Share"). The Grantee shall pay the Grantee Cost Share to the Contractor in cash in proportion of the funding being provided by USTDA and the Grantee, respectively (USTDA US\$316,180: Grantee US\$30,000) and in accordance with the procedures set forth in the Payment Schedule Requirements in Clause H(2) of the USTDA Mandatory Contract Clauses.

The Grantee cost share of US\$30,000 is to be disbursed to the Contractor, in conjunction with USTDA payments, according to the Milestone Payment Plan negotiated between the Grantee and the Contractor, subject to Clause H(2) of the USTDA Mandatory Clauses. This cost share is in addition to the costs incurred by the Grantee for incidental support or Grantee responsibilities mentioned in Subtask 6.3.

For the purposes of the USTDA Nationality, Source and Origin Requirements, the following shall apply with respect to the amount of US\$316,180 of funding for this Feasibility Study that is being provided in cash:

- (i) The Contractor shall be either a U.S. firm or U.S. consultant;

(ii) At least US\$252,944 shall be used for the U.S. Contractor and/or U.S. subcontractors;

(iii) Up to US\$63,236 (20% of the USTDA Grant amount) may be used for West Bank subcontractors; provided, however, that any portion thereof not used for West Bank subcontractors shall be used for the U.S. Contractor and/or U.S. subcontractors;

and

(iv) US\$30,000, which will be provided by the Grantee in cash, shall not be subject to the USTDA Nationality, Source, and Origin Requirements and may be used for the U.S. Contractor, U.S. subcontractors, West Bank subcontractors, and/or third-country subcontractors.

## **Section 2: INSTRUCTIONS TO OFFERORS**

### **2.1 PROJECT TITLE**

The project is called the Regional Wastewater Treatment Plant project.

### **2.2 DEFINITIONS**

Please note the following definitions of terms as used in this RFP.

The term "Request for Proposals" means this solicitation of a formal technical proposal, including qualifications statement.

The term "Offeror" means the U.S. firm, including any and all subcontractors, which responds to the RFP and submits a formal proposal and which may or may not be successful in being awarded this procurement.

### **2.3 DESK STUDY/DEFINITIONAL MISSION REPORT**

USTDA sponsored a Definitional Mission to address technical, financial, sociopolitical, environmental and other aspects of the proposed project. USTDA subsequently sponsored a Desk Study to address specific changes to the TOR requested by the Grantee. Copies of each of these reports are attached at Annex 2 for background information only. Please note that the TOR referenced in the report are included in this RFP as Annex 5.

### **2.4 EXAMINATION OF DOCUMENTS**

Offerors should carefully examine this RFP. It will be assumed that Offerors have done such inspection and that through examinations, inquiries and investigation they have become familiarized with local conditions and the nature of problems to be solved during the execution of the Feasibility Study.

Offerors shall address all items as specified in this RFP. Failure to adhere to this format may disqualify an Offeror from further consideration.

Submission of a proposal shall constitute evidence that the Offeror has made all the above mentioned examinations and investigations, and is free of any uncertainty with respect to conditions which would affect the execution and completion of the Feasibility Study.

## **2.5 PROJECT FUNDING SOURCE**

The Feasibility Study will be funded under a grant from USTDA in an amount not to exceed US\$316,180. The total cost of the project is US\$346,180, of which the Grantee shall cover at least US\$30,000 of costs to complete the full Terms of Reference ("Grantee Cost Share"). The Grantee shall pay the Grantee Cost Share to the Contractor in cash in proportion of the funding being provided by USTDA and the Grantee, respectively (USTDA US\$316,180: Grantee US\$30,000) and in accordance with the procedures set forth in the Payment Schedule Requirements in Clause H(2) of the USTDA Mandatory Contract Clauses.

## **2.6 RESPONSIBILITY FOR COSTS**

Offeror shall be fully responsible for all costs incurred in the development and submission of the proposal. Neither USTDA nor the Grantee assumes any obligation as a result of the issuance of this RFP, the preparation or submission of a proposal by an Offeror, the evaluation of proposals, final selection or negotiation of a contract.

## **2.7 TAXES**

Offerors should submit proposals that note that in accordance with the USTDA Mandatory Contract Clauses, USTDA grant funds shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in the West Bank.

## **2.8 CONFIDENTIALITY**

The Grantee will preserve the confidentiality of any business proprietary or confidential information submitted by the Offeror, which is clearly designated as such by the Offeror, to the extent permitted by the laws of the West Bank.

## **2.9 ECONOMY OF PROPOSALS**

Proposal documents should be prepared simply and economically, providing a comprehensive yet concise description of the Offeror's capabilities to satisfy the requirements of the RFP. Emphasis should be placed on completeness and clarity of content.

## **2.10 OFFEROR CERTIFICATIONS**

The Offeror shall certify (a) that its proposal is genuine and is not made in the interest of, or on behalf of, any undisclosed person, firm, or corporation, and is not submitted in conformity with, and agreement of, any undisclosed group, association, organization, or corporation; (b) that it has not directly or indirectly induced or solicited any other Offeror to put in a false proposal; (c) that it has not solicited or induced any other person, firm, or corporation to refrain from submitting a proposal; and (d) that it has not sought by collusion to obtain for itself any advantage over any other Offeror or over the Grantee or USTDA or any employee thereof.

## 2.11 CONDITIONS REQUIRED FOR PARTICIPATION

Only U.S. firms are eligible to participate in this tender. However, U.S. firms may utilize subcontractors from the West Bank for up to 20 percent of the amount of the USTDA grant for specific services from the TOR identified in the subcontract. USTDA's nationality requirements, including definitions, are detailed in Annex 3. Refer to Section 1.4 of this RFP for additional information on the applicability of USTDA's Nationality Requirements.

## 2.12 LANGUAGE OF PROPOSAL

All proposal documents shall be prepared and submitted in English, and only English.

## 2.13 PROPOSAL SUBMISSION REQUIREMENTS

The **Cover Letter** in the proposal must be addressed to:

Massar Associates  
7 Al-Kawther street  
Al-Bireh – Palestine  
Tel: 00970 2 2409595  
Email: ADajani@rawabi.ps  
Attn: Amir Dajani, Deputy Managing Director

**An Original and six (6) copies of your proposal must be received at the above address no later than 4:00 PM Local Time, on September 10, 2010.**

Proposals may be either sent by mail, overnight courier, or hand-delivered. Whether the proposal is sent by mail, courier or hand-delivered, the Offeror shall be responsible for actual delivery of the proposal to the above address before the deadline. Any proposal received after the deadline will be returned unopened. The Grantee will promptly notify any Offeror if its proposal was received late.

Additionally, sending an electronic copy of proposals by email to the above email address is strongly encouraged. Note that submission of proposals via email is **NOT** considered an official submission. All proposals **MUST** be submitted by overnight courier or hand-delivered, per the instructions above.

Upon timely receipt, all proposals become the property of the Grantee.

## 2.14 PACKAGING

The original and each copy of the proposal must be sealed to ensure confidentiality of the information. The proposals should be individually wrapped and sealed, and labeled for content including "original" or "copy number x"; the original and six (6) copies should be collectively wrapped and sealed, and clearly labeled.

Neither USTDA nor the Grantee will be responsible for premature opening of proposals not properly wrapped, sealed and labeled.

## **2.15 AUTHORIZED SIGNATURE**

The proposal must contain the signature of a duly authorized officer or agent of the Offeror empowered with the right to bind the Offeror.

## **2.16 EFFECTIVE PERIOD OF PROPOSAL**

The proposal shall be binding upon the Offeror for ninety (90) days after the proposal due date, and Offeror may withdraw or modify this proposal at any time prior to the due date upon written request, signed in the same manner and by the same person who signed the original proposal.

## **2.17 EXCEPTIONS**

All Offerors agree by their response to this RFP announcement to abide by the procedures set forth herein. No exceptions shall be permitted.

## **2.18 OFFEROR QUALIFICATIONS**

As provided in Section 3, Offerors shall submit evidence that they have relevant past experience and have previously delivered advisory, feasibility study and/or other services similar to those required in the TOR, as applicable.

## **2.19 RIGHT TO REJECT PROPOSALS**

The Grantee reserves the right to reject any and all proposals.

## **2.20 PRIME CONTRACTOR RESPONSIBILITY**

Offerors have the option of subcontracting parts of the services they propose. The Offeror's proposal must include a description of any anticipated subcontracting arrangements, including the name, address, and qualifications of any subcontractors. USTDA nationality provisions apply to the use of subcontractors and are set forth in detail in Annex 3. The successful Offeror shall cause appropriate provisions of its contract, including all of the applicable USTDA Mandatory Contract Clauses, to be inserted in any subcontract funded or partially funded by USTDA grant funds.

## **2.21 AWARD**

The Grantee shall make an award resulting from this RFP to the best qualified Offeror, on the basis of the evaluation factors set forth herein. The Grantee reserves the right to reject any and all

proposals received and, in all cases, the Grantee will be the judge as to whether a proposal has or has not satisfactorily met the requirements of this RFP.

## **2.22 COMPLETE SERVICES**

The successful Offeror shall be required to (a) provide local transportation, office space and secretarial support required to perform the TOR if such support is not provided by the Grantee; (b) provide and perform all necessary labor, supervision and services; and (c) in accordance with best technical and business practice, and in accordance with the requirements, stipulations, provisions and conditions of this RFP and the resultant contract, execute and complete the TOR to the satisfaction of the Grantee and USTDA.

## **2.23 INVOICING AND PAYMENT**

Deliverables under the contract shall be delivered on a schedule to be agreed upon in a contract with the Grantee. The Contractor may submit invoices to the designated Grantee Project Director in accordance with a schedule to be negotiated and included in the contract. After the Grantee's approval of each invoice, the Grantee will forward the invoice to USTDA. If all of the requirements of USTDA's Mandatory Contract Clauses are met, USTDA shall make its respective disbursement of the grant funds directly to the U.S. firm in the United States. All payments by USTDA under the Grant Agreement will be made in U.S. currency. Detailed provisions with respect to invoicing and disbursement of grant funds are set forth in the USTDA Mandatory Contract Clauses attached in Annex 4.

### **Section 3: PROPOSAL FORMAT AND CONTENT**

To expedite proposal review and evaluation, and to assure that each proposal receives the same orderly review, all proposals must follow the format described in this section.

Proposal sections and pages shall be appropriately numbered and the proposal shall include a Table of Contents. Offerors are encouraged to submit concise and clear responses to the RFP. Proposals shall contain all elements of information requested without exception. Instructions regarding the required scope and content are given in this section. The Grantee reserves the right to include any part of the selected proposal in the final contract.

The proposal shall consist of a technical proposal only. A cost proposal is NOT required because the amount for the contract has been established by a USTDA grant of US\$316,180, which is a fixed amount.

Offerors shall submit one (1) original and six (6) copies of the proposal. Proposals received by fax cannot be accepted.

Each proposal must include the following:

- Transmittal Letter,
- Cover/Title Page,
- Table of Contents,
- Executive Summary,
- Company Information,
- Organizational Structure, Management Plan, and Key Personnel,
- Technical Approach and Work Plan, and
- Experience and Qualifications.

Detailed requirements and directions for the preparation of the proposal are presented below.

#### **3.1 EXECUTIVE SUMMARY**

An Executive Summary should be prepared describing the major elements of the proposal, including any conclusions, assumptions, and general recommendations the Offeror desires to make. Offerors are requested to make every effort to limit the length of the Executive Summary to no more than five (5) pages.

#### **3.2 COMPANY INFORMATION**

For convenience, the information required in this Section 3.2 may be submitted in the form attached in Annex 6 hereto.

### **3.2.1 Company Profile**

Provide the information listed below relative to the Offeror's firm. If the Offeror is proposing to subcontract some of the proposed work to another firm(s), the information requested in sections 3.2.5 and 3.2.6 below must be provided for each subcontractor.

1. Name of firm and business address (street address only), including telephone and fax numbers.
2. Year established (include predecessor companies and year(s) established, if appropriate).
3. Type of ownership (e.g. public, private or closely held).
4. If private or closely held company, provide list of shareholders and the percentage of their ownership.
5. List of directors and principal officers (President, Chief Executive Officer, Vice-President(s), Secretary and Treasurer; provide full names including first, middle and last). Please place an asterisk (\*) next to the names of those principal officers who will be involved in the Feasibility Study.
6. If Offeror is a subsidiary, indicate if Offeror is a wholly-owned or partially-owned subsidiary. Provide the information requested in items 1 through 5 above for the Offeror's parent(s).
7. Project Manager's name, address, telephone number, e-mail address and fax number.

### **3.2.2 Offeror's Authorized Negotiator**

Provide name, title, address, telephone number, e-mail address and fax number of the Offeror's authorized negotiator. The person cited shall be empowered to make binding commitments for the Offeror and its subcontractors, if any.

### **3.2.3 Negotiation Prerequisites**

1. Discuss any current or anticipated commitments which may impact the ability of the Offeror or its subcontractors to complete the Feasibility Study as proposed and reflect such impact within the project schedule.
2. Identify any specific information which is needed from the Grantee before commencing contract negotiations.

### **3.2.4 Offeror's Representations**

If any of the following representations cannot be made, or if there are exceptions, the Offeror must provide an explanation.

1. Offeror is a corporation *[insert applicable type of entity if not a corporation]* duly organized, validly existing and in good standing under the laws of the State of \_\_\_\_\_ . The Offeror has all the requisite corporate power and authority to conduct its business as presently conducted, to submit this proposal, and if selected, to execute and deliver a contract to the Grantee for the performance of the Feasibility Study. The Offeror is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment, or ineligible for the award of contracts by any federal or state governmental agency or authority.
2. The Offeror has included, with this proposal, a certified copy of its Articles of Incorporation, and a certificate of good standing issued within one month of the date of its proposal by the State of \_\_\_\_\_. The Offeror commits to notify USTDA and the Grantee if they become aware of any change in their status in the state in which they are incorporated. USTDA retains the right to request an updated certificate of good standing.
3. Neither the Offeror nor any of its principal officers have, within the three-year period preceding this RFP, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.
4. Neither the Offeror, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 3 above.
5. There are no federal or state tax liens pending against the assets, property or business of the Offeror. The Offeror, has not, within the three-year period preceding this RFP, been notified of any delinquent federal or state taxes in an amount that exceeds \$3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.
6. The Offeror has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law. The Offeror has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.

The selected Offeror shall notify the Grantee and USTDA if any of the representations included in its proposal are no longer true and correct at the time of its entry into a contract with the Grantee.

### 3.2.5 Subcontractor Profile

1. Name of firm and business address (street address only), including telephone and fax numbers.
2. Year established (include predecessor companies and year(s) established, if appropriate).

### 3.2.6 Subcontractor's Representations

If any of the following representations cannot be made, or if there are exceptions, the Subcontractor must provide an explanation.

1. Subcontractor is a corporation [*insert applicable type of entity if not a corporation*] duly organized, validly existing and in good standing under the laws of the State of \_\_\_\_\_ . The subcontractor has all the requisite corporate power and authority to conduct its business as presently conducted, to participate in this proposal, and if the Offeror is selected, to execute and deliver a subcontract to the Offeror for the performance of the Feasibility Study and to perform the Feasibility Study. The subcontractor is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment or ineligible for the award of contracts by any federal or state governmental agency or authority.
2. Neither the subcontractor nor any of its principal officers have, within the three-year period preceding this RFP, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.
3. Neither the subcontractor, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 2 above.
4. There are no federal or state tax liens pending against the assets, property or business of the subcontractor. The subcontractor, has not, within the three-year period preceding this RFP, been notified of any delinquent federal or state taxes in an amount that exceeds \$3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.
5. The subcontractor has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law. The subcontractor has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.

The selected subcontractor shall notify the Offeror, Grantee and USTDA if any of the representations included in this proposal are no longer true and correct at the time of the Offeror's entry into a contract with the Grantee.

### **3.3 ORGANIZATIONAL STRUCTURE, MANAGEMENT, AND KEY PERSONNEL**

Describe the Offeror's proposed project organizational structure. Discuss how the project will be managed including the principal and key staff assignments for this Feasibility Study. Identify the Project Manager who will be the individual responsible for this project. The Project Manager shall have the responsibility and authority to act on behalf of the Offeror in all matters related to the Feasibility Study.

Provide a listing of personnel (including subcontractors) to be engaged in the project, including both U.S. and local subcontractors, with the following information for key staff: position in the project; pertinent experience, curriculum vitae; other relevant information. If subcontractors are to be used, the Offeror shall describe the organizational relationship, if any, between the Offeror and the subcontractor.

A manpower schedule and the level of effort for the project period, by activities and tasks, as detailed under the Technical Approach and Work Plan shall be submitted. A statement confirming the availability of the proposed project manager and key staff over the duration of the project must be included in the proposal.

### **3.4 TECHNICAL APPROACH AND WORK PLAN**

Describe in detail the proposed Technical Approach and Work Plan (the "Work Plan"). Discuss the Offeror's methodology for completing the project requirements. Include a brief narrative of the Offeror's methodology for completing the tasks within each activity series. Begin with the information gathering phase and continue through delivery and approval of all required reports.

Prepare a detailed schedule of performance that describes all activities and tasks within the Work Plan, including periodic reporting or review points, incremental delivery dates, and other project milestones.

Based on the Work Plan, and previous project experience, describe any support that the Offeror will require from the Grantee. Detail the amount of staff time required by the Grantee or other participating agencies and any work space or facilities needed to complete the Feasibility Study.

### **3.5 EXPERIENCE AND QUALIFICATIONS**

Provide a discussion of the Offeror's experience and qualifications that are relevant to the objectives and TOR for the Feasibility Study. If a subcontractor(s) is being used, similar information must be provided for the prime and each subcontractor firm proposed for the project. The Offeror shall provide information with respect to relevant experience and qualifications of

key staff proposed. The Offeror shall include letters of commitment from the individuals proposed confirming their availability for contract performance.

As many as possible but not more than six (6) relevant and verifiable project references must be provided for each of the Offeror and any subcontractor, including the following information:

- Project name,
- Name and address of client (indicate if joint venture),
- Client contact person (name/ position/ current phone and fax numbers),
- Period of Contract,
- Description of services provided,
- Dollar amount of Contract, and
- Status and comments.

Offerors are strongly encouraged to include in their experience summary primarily those projects that are similar to or larger in scope than the Feasibility Study as described in this RFP.

## Section 4: AWARD CRITERIA

Individual proposals will be initially evaluated by a Procurement Selection Committee of representatives from the Grantee. The Committee will then conduct a final evaluation and completion of ranking of qualified Offerors. The Grantee will notify USTDA of the best qualified Offeror, and upon receipt of USTDA's no-objection letter, the Grantee shall promptly notify all Offerors of the award and negotiate a contract with the best qualified Offeror. If a satisfactory contract cannot be negotiated with the best qualified Offeror, negotiations will be formally terminated. Negotiations may then be undertaken with the second most qualified Offeror and so forth.

The selection of the Contractor will be based on the following criteria:

1. Firms' specific experience related to the assignment: 25 points maximum
  - Firms' overall experience: 15 points
  - Firms' overseas experience: 10 points
2. Adequacy of proposed work plan and methodology in response to the TOR: 40 points maximum
  - Knowledge of proposed work and understanding of service: 10 points
  - Appropriateness of proposed methodology and workplan: 15 points
  - Timeframe of delivery of scope of work: 10 points
  - Utilization of local expertise: 5 points
3. Qualifications and competence of the key staff for the assignment: 25 points maximum
  - Team Leader's experience in similar projects: 5 points
  - Project Engineer's experience in similar projects: 5 points
  - Mechanical Engineer's experience in similar projects: 5 points
  - Electrical Engineer's experience in similar projects: 5 points
  - Economist / Financial Analyst's experience in similar projects: 5 points
4. Past performance: 10 points maximum
  - Six relevant and verifiable projects: 10 points
  - Five relevant and verifiable projects: 8 points
  - Four relevant and verifiable projects: 6 points
  - Three relevant and verifiable projects: 4 points
  - Two relevant and verifiable projects: 2 points

Proposals which do not include all requested information may be considered non-responsive.

Price will not be a factor in contractor selection.

# ANNEX 1

AMIR DAJANI, MASSAR ASSOCIATES, 7 AL-KAWTHER STREET, AL-BIREH,  
PALESTINE, TEL: 00970 2 2409595, EMAIL: ADAJANI@RAWABI.PS

## REGIONAL WASTEWATER TREATMENT PLANT PROJECT

POC: Nina Patel, USTDA, 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901, Tel: (703) 875-4357, Fax: (703) 875-4009. Regional Wastewater Treatment Plant Project. The Grantee invites submission of qualifications and proposal data (collectively referred to as the "Proposal") from interested U.S. firms that are qualified on the basis of experience and capability to develop a feasibility study for the Regional Wastewater Treatment Plant Project.

The vision of the Rawabi development is to create an affordable and environmentally sustainable residential community in the West Bank that will simultaneously act as a hub for a knowledge-based economy. The Rawabi community is being developed on a 250-acre site in the West Bank, six miles north of Ramallah. The community is envisaged to eventually grow to accommodate 40,000 residents, plus a commercial center, schools, a clinic and a hotel. The projected initial occupancy date is 2011.

The Rawabi development is designed to promote sustainable economic growth and affordable housing in the West Bank while advancing the use of environmentally beneficial technologies for wastewater reuse in this water scarce region. Affordable housing is in very short supply in the West Bank. The lack of housing is a significant barrier to improved living standards and upward mobility, and this development will help to address the lack of housing. The Rawabi development is also expected to constitute the largest job-creation initiative in the history of the Palestinian Territories, both in terms of short- to medium-term employment during the construction phase, and in terms of permanent job opportunities resulting from the community's commercial and business activities. Given that Rawabi is intended to serve as a magnet for high-technology businesses, many of these opportunities are expected to be of particular benefit to the West Bank's well-educated but underemployed young workforce.

The purpose of the present Feasibility Study (FS) is to assess wastewater treatment technologies for a wastewater treatment plant (WWTP) that will provide wastewater reclamation and reuse both within the Rawabi community and the surrounding communities of Bani Zeid and Ein Synia, and for irrigation of agricultural land and industrial sites outside of the Rawabi area. The FS will investigate the suitability of current wastewater treatment technology such as Membrane Bioreactor (MBR) and Sequential Bioreactor (SBR) for wastewater treatment for reuse in accordance with current water quality standards for treated wastewater irrigation. The evaluation will assess the advantages and disadvantages of using these technologies to implement wastewater reclamation systems for agriculture wastewater reuse in the study area. The proposed Project is part of a necessary non-potable water supply service expansion to ameliorate water supply shortage conditions that prevail in the West Bank. The proposed Project is consistent with PWA current water resources conservation policies and with Rawabi's overall strategic plan aimed at reducing dependency on overexploited water resources in the study area.

The U.S. firm selected will be paid in U.S. dollars from a \$316,180 grant to the Grantee from the U.S. Trade and Development Agency (USTDA).

A detailed Request for Proposals (RFP), which includes requirements for the Proposal, the Terms of Reference, and a background definitional mission/desk study report are available from USTDA, at 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901. To request the RFP in PDF format, please go to:

<https://www.ustda.gov/businessopps/rfpform.asp>. Requests for a mailed hardcopy version of the RFP may also be faxed to the IRC, USTDA at 703-875-4009. In the fax, please include your firm's name, contact person, address, and telephone number. Some firms have found that RFP materials sent by U.S. mail do not reach them in time for preparation of an adequate response. Firms that want USTDA to use an overnight delivery service should include the name of the delivery service and your firm's account number in the request for the RFP. Firms that want to send a courier to USTDA to retrieve the RFP should allow one hour after faxing the request to USTDA before scheduling a pick-up. Please note that no telephone requests for the RFP will be honored. Please check your internal fax verification receipt. Because of the large number of RFP requests, USTDA cannot respond to requests for fax verification. Requests for RFPs received before 4:00 PM will be mailed the same day. Requests received after 4:00 PM will be mailed the following day. Please check with your courier and/or mail room before calling USTDA.

Only U.S. firms and individuals may bid on this USTDA financed activity. Interested firms, their subcontractors and employees of all participants must qualify under USTDA's nationality requirements as of the due date for submission of qualifications and proposals and, if selected to carry out the USTDA-financed activity, must continue to meet such requirements throughout the duration of the USTDA-financed activity. All goods and services to be provided by the selected firm shall have their nationality, source and origin in the U.S. or the West Bank. The U.S. firm may use subcontractors from the West Bank for up to 20 percent of the USTDA grant amount. Details of USTDA's nationality requirements and mandatory contract clauses are also included in the RFP.

Interested U.S. firms should submit their Proposal in English directly to the Grantee by **4:00 PM Local Time, September 10, 2010** at the above address. Evaluation criteria for the Proposal are included in the RFP. Price will not be a factor in contractor selection, and therefore, cost proposals should NOT be submitted. The Grantee reserves the right to reject any and/or all Proposals. The Grantee also reserves the right to contract with the selected firm for subsequent work related to the project. The Grantee is not bound to pay for any costs associated with the preparation and submission of Proposals.

# ANNEX 2

**DESK STUDY: WEST BANK: RAWABI TERTIARY TREATMENT FACILITY  
AND WASTEWATER REUSE PROJECT**

**TABLE OF CONTENTS**

|                                                        |    |
|--------------------------------------------------------|----|
| REPORT                                                 |    |
| TABLE OF CONTENTS.....                                 | 2  |
| APPENDICES .....                                       | 2  |
| TABLES .....                                           | 2  |
| FIGURES     2                                          |    |
| A. EXECUTIVE SUMMARY.....                              | 3  |
| B. PROJECT DESCRIPTION.....                            | 4  |
| B.1 BACKGROUND.....                                    | 4  |
| B.2 PROJECT DESCRIPTION.....                           | 5  |
| B.3 ECONOMIC FUNDAMENTALS AND DEVELOPMENTAL ISSUES.... | 7  |
| B.4 PROJECT COST AND FINANCING ISSUES.....             | 7  |
| B.5 IMPLEMENTATION ISSUES.....                         | 9  |
| C. PROPOSED CHANGES .....                              | 9  |
| D. TERMS OF REFERENCE AND BUDGET .....                 | 10 |
| E. RECOMMENDATIONS .....                               | 10 |
| F. CONTACTS .....                                      | 11 |

**Appendices**

- Appendix 1 – PA-Bayti Memorandum of Understanding
- Appendix 2 – Project Maps
- Appendix 3 - Terms of Reference
- Appendix 4 - Budget

**Tables**

- Table A – Project Planning Level Capital Cost and Export Potential (US\$)
- Table B.2 – WWTP Project Basic Data
- Table B.4 – WWTP Planning Level Capital Cost and Export Potential (US\$)
- Table B.5 – Rawabi Tertiary Treatment Facility and Wastewater Reuse Export Potential (US\$)

**Figures**

- Figure B.2a – Proposed WWTP Sites and Reclaimed WW Users Location
- Figure B.2b – Towns Location Map

**Desk Study (DS): West Bank – Feasibility Study: Rawabi Tertiary Treatment Facility and Wastewater Reuse Project**

**United States Trade and Development Agency**

**USTDA 201021014B**

**A. Executive Summary**

The Bayti Real Estate Investment Company (Bayti, Project Sponsor, Grantee) plans to implement the Rawabi Land Development Project (Rawabi) in an area located 9 km to the northeast of the West Bank City of Ramallah. In early February 2010, USTDA awarded a technical assistance grant for the feasibility study of the Rawabi Tertiary Treatment Facility and Wastewater Reuse project. Subsequently in April 2010, Bayti requested that USTDA expand the Project's scope of work to include other communities in the FS and to evaluate a regional tertiary treatment facility and wastewater reuse project. The Bayti proposal is for the feasibility analysis of a Wastewater Tertiary Treatment Plant (WWTP, Project) and is geared towards alleviating water shortages which hinder economic and social development in the region.

The Project involves an FS on wastewater treatment systems that will increase the availability of reclaimed water to irrigate agricultural land in the study area; such systems must follow water regulatory requirements under current applicable regulations. The focus of the FS on WWTP, therefore, is to assess wastewater treatment technologies for wastewater reclamation and reuse.

The Project will evaluate the viability of conveying and providing tertiary treatment to wastewater generated in Rawabi and other communities in the Bani Zeid and Elin Sinya area.

In summary, the proposed changes to the TOR involve the following tasks:

1. Verify the suitability of each of the two sites available for the location of the WWTP and, if necessary, recommend additional potential sites.
2. Prepare the wastewater conveyance system planning level layout and related capital investment and O&M costs for Rawabi and the communities in the Bani Zeid and Ein Sinya clusters;
3. Prepare the reclaimed wastewater conveyance planning level layout and related capital investment and O&M costs.
4. Assess the viability of a modular approach for tertiary treatment of the wastewater generated at Rawabi and the communities in the Bani Zeid and Ein Sinya clusters.

On May 29, 2010, the DS contacted Mr. Jehad M. Bashir, the PWA representative assigned to the Project, to discuss PWA's interest and commitment to the WWTP. Mr. Bashir indicated that PWA fully supports the WWTP.

Table A shows and compares the capital investment and U.S. export potential of the Rawabi original Project and the proposed WWTP.

**Table A – Project Planning Level Capital Cost and Export Potential (US\$)**

| Development Phase | Rawabi     |                  | WWTP          |                  |
|-------------------|------------|------------------|---------------|------------------|
|                   | Total Cost | Export Potential | Total Cost    | Export Potential |
| 2015              | 15,110,706 | 10,577,494       | 25,845,268.77 | 18,091,688.14    |
| 2020              | 15,508,614 | 10,856,029       | 27,388,095.77 | 19,171,667.04    |
| 2030              | 16,302,115 | 11,411,481       | 32,011,556.79 | 22,408,089.76    |

The Palestinian Authority (PA) is committed, via the Memorandum of Understanding in Appendix 1, to assisting Bayti with the construction of vital project infrastructure components, such as the wastewater management system. PA will provide Bayti with financial support for the WWTP through the Ministry of Public Health. Financial support from the PA, however, is subject to availability of “budgets and in accordance to priorities as set by the PA through its various ministries...” (see Appendix 1).

The DS estimates the FS budget at \$346,180. Appendix 4 contains the FS budget’s task breakdown. The DS estimates that the completion of the FS will take approximately six (6) months.

In summary, the DS evaluated a Project of importance to U.S. commercial and developmental goals, specifically through the promotion of the appropriate advanced technologies for wastewater treatment and reuse. The Project Sponsor has committed financial resources to the development of the Project. Both the PA and the Government of Israel have demonstrated strong political support for the Project. For these reasons, the DS recommends USTDA funding of Bayti’s request for a WWTP.

## **B. Project Description**

### **B.1 BACKGROUND**

According to the Palestinian Water Authority (PWA), the availability and management of water resources is the most important and urgent issue in the Middle East. At 70 m<sup>3</sup>, the current annual per capita water availability in the project area is one of the lowest in the world ([http://www.nationmaster.com/graph/hea\\_wat\\_ava-health-water-availability](http://www.nationmaster.com/graph/hea_wat_ava-health-water-availability)). Water scarcity in the study area severely impacts economic and social development.

The Bayti Real Estate Investment Company (Bayti, Project Sponsor, Grantee) plans to locate the Rawabi Land Development Project (Rawabi) 9 km to the North East of the City of Ramallah along the eastern-western corridor between Amman and Tel Aviv. Rawabi, a joint development between Qatari Diar and Massar International, will provide affordable homes to a projected population of 19,058 by 2015, 22,756 by 2020 and 30,582 by 2030.

In 2009, Bayti requested USTDA technical assistance for a feasibility study (FS) that assessed wastewater treatment technologies for wastewater reclamation and reuse both

within the Rawabi community and for irrigation of agricultural land in the study area. USTDA's assessment of Bayti's proposal resulted in a Grant for an FS on the Rawabi Tertiary Treatment Facility and Wastewater Reuse Project in Ramallah, West Bank, USTDA 2010-21014A.

During March and April 2010, while USTDA technical assistance for the Rawabi FS was being solicited, PWA and Bayti engaged in discussions that have now led to a broader scope of work for the Rawabi Tertiary Treatment Facility and Wastewater Reuse Feasibility Study

([https://www.fbo.gov/index?s=opportunity&mode=form&id=2cdb753697c1edd4e6f30d6534cc0392&tab=core&\\_cview=1](https://www.fbo.gov/index?s=opportunity&mode=form&id=2cdb753697c1edd4e6f30d6534cc0392&tab=core&_cview=1)). The objective of the proposed scope of work modification is to convert the Rawabi Tertiary Treatment Facility and Wastewater Reuse into a regional wastewater reclamation project. The proposed action is in agreement with current water management policies in the West Bank and closely aligns with the types of projects PWA is planning to carry out throughout the Ramallah area.

Moreover, as a result of the aforementioned discussions, Bayti also requested that USTDA modify the Project's scope of work to include other communities in the FS.. The proposed WWTP is geared towards meeting water shortages in the region.

USTDA hired AJGB International to conduct a Desk Study (DS) that assesses Bayti's WWTP proposal. The DS provides an assessment of the proposed changes to the TOR as well as a review of the FS budget.

## B.2 PROJECT DESCRIPTION

The Project involves an FS on wastewater treatment systems that will increase the availability of reclaimed water to irrigate agricultural land in the study area; such systems must follow water regulatory requirements under current applicable regulations. The focus of the FS on WWTP, therefore, is to assess wastewater treatment technologies for wastewater reclamation and reuse.

The Project will evaluate the viability of conveying and providing tertiary treatment to wastewater generated at Rawabi and the other communities shown in Figure B.2b. Basic data on the Project is provided in Table B.2.

**Table B.2 – WWTP Project Basic Data**

| Planning Horizon, Year                                              | 2015                                               |                        |                        | 2020             |                  |                  |
|---------------------------------------------------------------------|----------------------------------------------------|------------------------|------------------------|------------------|------------------|------------------|
|                                                                     | Rawabi                                             | Bani Zeid <sup>†</sup> | Ein Sinya <sup>‡</sup> | Rawabi           | Bani Zeid        | Elin Sinya       |
| Town/Village Cluster                                                |                                                    |                        |                        |                  |                  |                  |
| Town Map Location                                                   | See Figure B.2b in Appendix 2 (map scale 1:50,000) |                        |                        |                  |                  |                  |
| Population                                                          | 19,058                                             | 22,500                 | 44,500                 | 22,756           | 26,000           | 51,500           |
| Wastewater Flow, m <sup>3</sup> /day (million gallons per day, MGD) | 1,830 (0.48 MGD)                                   | 3,775 (1 MGD)          | 6,675 (1.76 MGD)       | 2,185 (0.58 MGD) | 3,900 (1.03 MGD) | 7,725 (2.04 MGD) |

|                                                        |                                                                                                                                                                                                          |                       |                  |       |                       |  |
|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------|-------|-----------------------|--|
| Current Wastewater System                              | N/A                                                                                                                                                                                                      | Onsite Treatment      | Onsite Treatment |       |                       |  |
| Entity Responsible for Developing the WWTP DBO Project | Bayti                                                                                                                                                                                                    | PWA/Local Communities |                  | Bayti | PWA/Local Communities |  |
| Project Financial Support                              | Palestinian Authority (PA) <sup>1</sup>                                                                                                                                                                  | PWA                   |                  | PA    | PWA                   |  |
| Regulatory Requirements                                | As required by PWA in consultation with the Israeli Water Commission.                                                                                                                                    |                       |                  |       |                       |  |
| PWA Representative                                     | Engineer Jehad M. Bashir<br>Qaton Bldg.2 2 <sup>nd</sup> Floor, Balou- Al Bireh, Ramallah, Palestine<br>Tel: 970 2242 9022<br>Cell: 970 598 91 4046<br>Email: JBashir@pwa.ps                             |                       |                  |       |                       |  |
| Confirmation of PWA Commitment to the Project          | The DS contacted Mr. Bashir on May 29, 2010 to discuss PWA's interest and commitment to the WWTP. Mr. Bashir indicated that PWA fully supports the WWTP.                                                 |                       |                  |       |                       |  |
| PWA Role in the Project                                | PWA will seek and assist with the provision of financing from donors such as GTZ and KfW for the implementation of the sewer conveyance system and WWTP.                                                 |                       |                  |       |                       |  |
| Location of Potential Users of Treated wastewater.     | See Figure B.2a in Appendix 2 (map scale 1:50,000)                                                                                                                                                       |                       |                  |       |                       |  |
| Other Foreign Assistance Under Consideration           | USAID, European Commission, GTZ (Deutsche Gesellschaft für Technische Zusammenarbeit GmbH) (German society for technical cooperation) and KfW (Kreditanstalt Für Wiederaufbau) (German Development Bank) |                       |                  |       |                       |  |

‡: Beni Zeid cluster includes the communities of Ajjul, Abwein, Umm Safa, Bani Zaid and Deir as Sudan

¥: Ein Sinya includes the communities of Atara, Birzeit, Jalazoun Camp, Silwad, Yabrud, Ein Sinya, Surda and Abu Qash

Bayti anticipates that Rawabi will be the first of the communities to implement the WWTP. The proposed plan for implementation and operation of the project is outlined below:

- WWTP to be implemented using a modular approach;
- The initial wastewater treatment module will most likely be designed for Rawabi only;
- Rawabi will be responsible for carrying out the implementation of all the components, including the O&M, of its sewerage and tertiary treatment system;
- The WWTP will be implemented using the DBO project delivery method;

<sup>1</sup> Appendix 1 contains the Memorandum of Understanding between the Palestinian Authority and Bayti.

- PWA will be responsible for designing and implementing subsequent wastewater treatment modules to process wastewater generated and conveyed from the other participating communities;
- PWA will assist the local communities take over the operation of the facility once the tertiary treatment plant becomes a regional facility.

### **B.3 ECONOMIC FUNDAMENTALS AND DEVELOPMENTAL ISSUES**

One of the major hindrances to Ramallah's economic development is water scarcity. Much attention has been given to brackish water desalination, inter-basin transfers by pipeline, and the import of water by shipment in the West Bank. While technically feasible, these options are extremely capital and energy intensive.

The main impetus for introducing advanced wastewater treatment technologies is the need to increase water availability for both industrial and agricultural production. PWA recognizes that the reuse of treated wastewater should have a potentially significant role in alleviating the quantitative and qualitative stress on water resources in the region.

In essence, the Project offers an excellent opportunity for USTDA to promote sustainable economic growth in the West Bank while promoting environmentally friendly technologies for wastewater reuse in this water scarce region. Some of the important developmental impacts that should result from the implementation of the project are:

- Introduction of infrastructure that reduces public health risks, enhances agriculture productivity while promoting social wellbeing and economic growth;
- Creation of jobs during the construction and operation of the Project. Local work force training in advance wastewater treatment technology should create relevant and additional employment opportunities in the West Bank area.
- Transfer of advanced wastewater treatment technology and knowledge to local operators.

### **B.4 PROJECT COST AND FINANCING ISSUES**

Table B.4 shows the WWTP's planning level capital costs and U.S. export potential. These figures have been estimated using the assumption that Membrane Bioreactor (MBR) and Ultraviolet (UV) disinfection will be the wastewater tertiary treatment at WWTP. U.S. export potential for design and engineering services along with the equipment and technology needed for MBR UV wastewater conditioning for reuse is estimated at 70% to 80% of the total capital investment.

The tertiary treatment technology cost estimate is based on the construction costs acquired from the following technical literature:

[http://your.kingcounty.gov/dnrp/library/wastewater/rw/0803\\_FeasibilityStudy/Appendices\\_R\\_WFeasibilityStudy\\_Mar08.pdf](http://your.kingcounty.gov/dnrp/library/wastewater/rw/0803_FeasibilityStudy/Appendices_R_WFeasibilityStudy_Mar08.pdf). A polynomial regression equation was derived using the MBR-UV data to obtain a cost curve for these processes. The equation is:

**MBR UV Equation**

$$f(x) = 1.319563548103e+07 + 4.029560409888e+06 * x + -3.868907520139e+04 * x^2$$

Where x is the size of the tertiary treatment facility in MGD.

**Table B.4 – WWTP Planning Level Capital Cost and Export Potential (US\$)  
(Assuming MBR UV)**

| Development Phase | Rawabi MGD | Bani Zeid MGD     | Elin Sinya MGD | WWTP MGD | Total Cost    | Export Potential |
|-------------------|------------|-------------------|----------------|----------|---------------|------------------|
| 2015              | 0.48       | 1                 | 1.76           | 3.24     | 25,845,268.77 | 18,091,688.14    |
| 2020              | 0.58       | 1.03              | 2.04           | 3.65     | 27,388,095.77 | 19,171,667.04    |
| 2030              | 0.78       | 1.38 <sup>2</sup> | 2.74           | 4.90     | 32,011,556.79 | 22,408,089.76    |

In addition to the capital cost shown in Table B.4, implementation of the Project will require the design and construction of a wastewater conveyance system. The linear meter (3.28 feet) of buried wastewater pipeline built in accordance to international standards for the size of the wastewater flows indicated above is estimated at \$70.00 to \$100.00. The capital expenditure in wastewater conveyance could range from 5 to 10 million dollars depending upon the location of the WWTP. Additionally, conveyance of the reclaimed wastewater to its users could also require capital investments. Most of the capital expenditures in wastewater conveyance should be on labor and materials available in the study area. The export potential for the wastewater and reclaimed water conveyance is low and consequently is not part of the FS.

Bayti’s financial support for the WWTP will come from the PA, acting through the Ministry of Public and Housing. PA is committed via the Memorandum of Understanding in Appendix 1, to providing support for the construction of vital project infrastructure, such as the wastewater management system. However, financial support from the PA is subject to availability of “budgets and in accordance to priorities as set by the PA through its various ministries...” (see Appendix 1).

In response to the questions raised by the DS concerning the sources of WWTP financing, Bayti states that PWA will facilitate the provision of financing from donors such as the GTZ and KfG. These agencies are financing similar projects in the Ramallah area such as the Ramallah Wastewater Treatment Plant and Wastewater Conveyance Systems for other communities.

A review of the 2009 PWA proposed project list shows that wastewater networks for both Bani Zeid and Ein Sinya will be included. However, the scope of the work reflected in the PWA proposed project list does not include the wastewater conveyance to a WWTP. Thus,

<sup>2</sup> Assumes 3% population growth for Bani Zeid and Elin Sinya clusters as reported by Bayti

PWA planning adjustments are necessary to have a project development plan consistent with the WWTP. It appears that project planning adjustments can be made through the PA-appointed provisional council for Rawabi, which represents several ministries and includes Bayti representatives. A conversation with Mr. Jehad M. Bashir, the PWA representative assigned to the Project, confirmed that PWA is interested in developing the WWTP. Mr. Bashir indicated that all required adjustments to their planned capital investments could be made to expedite the implementation of the WWTP.

## B.5 IMPLEMENTATION ISSUES

For the past four years Bayti has been working on the Rawabi Land Development Project. Bayti has a team of professionals dedicated to completing all the components of the Rawabi including the wastewater management system. In order for Rawabi to materialize, the wastewater management system has to be in place; therefore, Bayti is actively seeking funds to ensure that Rawabi comes to fruition.

For communities in the Bani Zeid and Elin Sinya area, on the other hand, the current plan involves sewerage networks. Work schedules to implement the WWTP are not defined. Therefore, these communities are likely to depend on a PWA implementation plan that may lag behind Rawabi by a few years.

For planning purposes it is essential to understand that the WWTP will begin with Rawabi. As such, capital investment and U.S. export potential will focus on Rawabi. Table B.5 summarizes wastewater tertiary treatment capital investment data estimated for Rawabi.

**Table B.5 – Rawabi Tertiary Treatment Facility and Wastewater Reuse Export Potential (US\$)**  
(Assuming MBR UV)

| Development Phase | MGD                              | Total Cost | Export Potential |
|-------------------|----------------------------------|------------|------------------|
| 1                 | 0.48 (1,830 m <sup>3</sup> /day) | 15,110,706 | 10,577,494       |
| 2                 | 0.58 (2,185 m <sup>3</sup> /day) | 15,508,614 | 10,856,029       |
| 3                 | 0.78 (2,936 m <sup>3</sup> /day) | 16,302,115 | 11,411,481       |

## C. Proposed Changes

Proposed changes to the original TOR and FS Budget are necessary due to the added scope of work. The FS will assess the feasibility of expanding the wastewater treatment system from a system dedicated to Rawabi to a regional system that includes several additional communities, see Table B2. These changes are needed to provide treatment and reuse of the wastewater originating at communities that will be part of the WWTP. As a result, the revised TOR will include the evaluation of the wastewater conveyance system and the added tertiary treatment capability. According to the proposed implementation plan, the Project will be initially designed to provide wastewater tertiary treatment to Rawabi and then other communities will be incorporated into the system using a WWTP modular approach.

The capital and O&M costs associated with the Project's wastewater conveyance system will depend on the distance and topographical features of the wastewater pipeline corridor

from Rawabi to the WWTP site. The cost of the other communities' conveyance systems will also depend on their design features and layout. The FS Contractor will be tasked with the siting of the WWTP, the preliminary design of the wastewater collection network to minimize the size of the capital investment and the reclaimed wastewater conveyance system preliminary design.

In summary the proposed changes to the TOR involve the inclusion of the following tasks:

1. Verification of the suitability of each of the two sites available for the location of the WWTP, see Figure B.2a in Appendix 2, and, if necessary, recommend an additional potential site for the location of the WWTP.
2. Preparation of the wastewater conveyance system planning level layout and related capital investment and O&M costs for the communities in the Bani Zeid and Ein Synia clusters;
3. Preparation of the reclaimed wastewater conveyance planning level layout and related capital investment and O&M costs. See Figure B.2a for location of the projected reclaimed wastewater users;
4. Assessment of the viability of a modular approach for tertiary treatment of the wastewater generated from Rawabi and the communities in the Bani Zeid and Ein Synia clusters.

#### **D. Terms of Reference and Budget**

Appendix 3 contains the TOR of an FS on the viability of wastewater tertiary treatment technologies for wastewater conditioning for reuse in the Rawabi area. The FS will evaluate tertiary treatment technologies for wastewater reuse mainly in the agricultural sector.

The DS estimates the FS budget at \$346,180. Appendix 4 contains the FS budget's task breakdown. The DS estimates that the completion of the FS will take approximately six (6) months.

#### **E. Recommendations**

The DS evaluated a Project of importance to U.S. commercial and developmental goals, specifically through the promotion of appropriate advanced technologies for wastewater treatment and reuse. The Project Sponsor has committed financial resources to the development of the Project and both the PA and Government of Israel have demonstrated strong political support for the Project. Bayti is interested in assessing the suitability of technology that is rapidly becoming a preferred alternative throughout the Middle East region due to water supply shortages and environmental constraints. USTDA support is critical to helping U.S. manufacturers and companies establish a foothold not only in the West Bank, but also in the Middle East region as a whole. U.S. companies face strong competition from European companies in the wastewater tertiary treatment market, especially from France and Germany. The Project has significant long-term U.S. export

potential for tertiary wastewater treatment technologies, goods and services. USTDA should fund the WWTP FS for the following reasons:

- An MOU has been signed by Bayti and the PA. This MOU commits the PA to streamline the bureaucratic process and financially assist Rawabi's off-site infrastructure and public services in accordance with the objectives of the Palestinian Reform and Development Plan;
- PWA supports the regional solution for the wastewater treatment and reuse Project evaluated by this DS. The Project appeases public demand for improved wastewater management projects in the West Bank;
- PWA is committed to providing financial resources for the WWTP and associated wastewater and reclaimed wastewater conveyance infrastructure;
- An Agreement has been reached by Palestinian and Israeli water authorities to proceed with an application for water supply and wastewater treatment plant projects through the Joint Water Commission. This covers Rawabi's water agreement.
- The WWTP will be carried out using a modular approach, which allows for the DBO of the Rawabi wastewater tertiary treatment module to proceed without delay.
- The WWTP will contribute to improving agriculture land productivity in the study area which creates a much needed economic benefit to local communities.
- Bayti's local consultant (Bir Ziet University) has evaluated two sites for the location of a regional wastewater tertiary treatment facility. Bayti requires an independent evaluation to identify the more suitable of the two currently identified sites or recommend an additional potential sites for the location and development of the WWTP.
- The regional wastewater management approach aligns with PWA and the Israeli Water Commission's policies which prioritize comprehensive regional wastewater solutions.

## **F. Contacts**

### **Palestinian Water Authority**

Engineer Jehad M. Bashir

Qaton Bldg. 2 2<sup>nd</sup> Floor, Balou- Al Bireh, Ramallah, Palestine

Tel: 970 2242 9022

Cell: 970 598 91 4046

Email: JBashir@pwa.ps

### **Bayti Real Estate Investment Company**

Amir Dajani

P.O. Box 2132, Ramallah, Palestine

Tel: 970 2240 9595

Cell: 970 599 29 5281

Email: adajani@rawabi.ps

Memorandum of Understanding  
Between  
The Palestinian Authority  
Represented by Ministry of Public Works and Housing  
"First Party"  
AND  
Bayti Real Estate Investment Co.  
A public shareholding Company headquartered in Ramallah  
Registered at Company Registration Office at the PA  
Under No.562601195  
Represented by its authorized signatory Mr. Bashar Masri  
"Second Party"

Whereas the Palestinian Authority harbors keen interest to provide affordable housing, in its pursuit to achieve prosperity and improving standard of Palestinian living as part of its reform and development plan for the years 2008-2010

And whereas the First Party is aiming at creating job opportunities in the building and construction sectors as well as other supporting sectors.

And whereas the Second Party owns land property located north of Birzeit, which is fit for housing construction projects.

And whereas the Second Party has the will and aim to erect a planned community to address the needs of the young generation couples at reasonable prices, with the intent to name this planned community as "Rawabi"

And whereas the Palestinian Government plans emphasize the importance of strengthening public, private sector partnership in order to achieve and realize above mentioned goals.

And whereas both parties express their readiness for close cooperation to see the Rawabi project materialize, and attain its goals,

Hence both parties agreed to the following:

**1. Introduction**

This introduction is part and parcel of the whole partnership Memo Of Understanding.

**2. The project**

Both parties agreed to cooperate to achieve success of the project, which aims at constructing 5000 housing units, and providing public facilities and services for more than 20,000. habitats, as well as providing large commercial sites for incoming companies, attracting new ventures and investments both local and foreign, with the ultimate goal of providing and sharing high quality life for the neighboring villages.

**3. Obligations of the First Party**

As a contribution of the First Party towards the success of the project and its desire to bring it to light, it will commit to the following:

Provide support to Second Party to realize its final goal towards completing all phases of the project, in a manner that does not contradict with the prevailing rules and regulations, by way of facilitating and urgently granting the necessary permits, all of which ensue issuance of the High Planning Council's approval based on submitting necessary studies and getting all necessary permits and authorizations and relevant licenses according to the law, such as but not limited to; granting approvals and permits required for the registration and disposing of land, as well as classifying the zones of the region and approving all permits necessary for the buildings as an integral part of the overall project.

- a- Commit to provide needed support to construct offsite infrastructure which is vital to the project as well as to nearby area which is to benefit from such elements, according to available budgets and in accordance to priorities as set by the PA through its various ministries and other sectors in the following fields; exterior roads network, power lines, water and wastewater, sanitation and support key services such as education, health, security and other public facilities.

Whereas all of the above falls within the PA objectives and responsibilities, hence it is committed to provide above mentioned responsibilities and after its evaluation and approval of the studies of the area needs for infrastructure projects.

- b- Appoint a provisional council for Rawabi, representing several ministries and including representatives of Bayti Co., to oversee overall operation during planning and implementation phases of the project.
- c- Contribute to reduce the cost of completing the project in compliance with the Investment Promotion Act so as to help reduce the cost of the apartments through the provision of services and infrastructure offered by the government, as per paragraph (b), above.

#### **4. Obligations of the Second Party**

Whereas the Second Party is committed to contribute to the development of the project and the area, hence will adhere to submitting the following;

- a- Submit feasibility studies, economical, environmental, social, and communal studies in order to obtain initial approval from the National Team For Housing low-income individuals.
- b- Submit Master Plan and obtain approval thereon from High Planning Council.
- c- Implement the project according to plans approved by the HPC.
- d- Provide free needed land space to construct roads and to accommodate public buildings serving the Rawabi community and neighboring communities, in accordance with the prevailing rules and regulations of housing projects zoning, ratios and setbacks. It will be agreed by the two parties to define the actual areas on ground when discussing and preparing the project plans.
- e- Create jobs for the local communities which will assist in realizing the project.
- f- Benefit from the local support services and operations, which will lead through the project, to supplement the national economy by substantial amounts with a positive impact on the gross national product.
- g- Seeking to attract investors from foreign companies to create representative offices for it in the town, thus creating jobs for locals here.

#### **5. Commitment**

This memo obliges both parties as of date of signature, and until the completion of the commitments contained therein is, which is binding the person and any of his successor entity, to implement the provisions of the memorandum in good faith.

#### **6. Applicable law**

This MOU shall be governed by Palestinian law prevailing in the West Bank.

#### **7. Copies and pages**

This MOU consists of eight provisions on four pages, in two original copies to bear signature on each of its four pages by each of both First and Second parties, so that each party retains one copy, which is considered an original version of the MOU.

**In compliance with above rules and orders, both First and Second Parties signed this MOU, in Ramallah, Palestine, this 20<sup>th</sup> day of April in the year Two Thousand and Eight.**

**DEFINITIONAL MISSION: WEST BANK: RAWABI TERTIARY TREATMENT  
FACILITY AND WASTEWATER REUSE PROJECT**

**TABLE OF CONTENTS**

|                                                            |                                                            |          |
|------------------------------------------------------------|------------------------------------------------------------|----------|
| A.                                                         | INTRODUCTION .....                                         | 2        |
| B.                                                         | WEST BANK WATER AND WASTEWATER SECTOR .....                | 2        |
| <b>RAWABI WASTEWATER TREATMENT AND REUSE PROJECT .....</b> |                                                            | <b>5</b> |
| A4.                                                        | EXECUTIVE SUMMARY .....                                    | 5        |
| B4.                                                        | PROJECT DESCRIPTION .....                                  | 6        |
| B4.1                                                       | BACKGROUND .....                                           | 6        |
| B4.2                                                       | PROPOSED ACTION .....                                      | 9        |
| C4.                                                        | PROJECT SPONSOR'S CAPABILITIES AND COMMITMENT .....        | 11       |
| D4.                                                        | IMPLEMENTATION FINANCING .....                             | 11       |
| E4.                                                        | U.S. EXPORT POTENTIAL .....                                | 13       |
| F4.                                                        | FOREIGN COMPETITION AND MARKET ENTRY ISSUES .....          | 15       |
| G4.                                                        | DEVELOPMENTAL IMPACT .....                                 | 15       |
| G1.1                                                       | INFRASTRUCTURE .....                                       | 15       |
| G1.2                                                       | HUMAN CAPACITY BUILDING .....                              | 15       |
| G1.3                                                       | TECHNOLOGY TRANSFER AND PRODUCTIVITY<br>IMPROVEMENTS ..... | 16       |
| H1                                                         | IMPACT ON THE ENVIRONMENT .....                            | 16       |
| I1.                                                        | IMPACT ON U.S. LABOR .....                                 | 16       |
| J4.                                                        | QUALIFICATIONS .....                                       | 17       |
| K4.                                                        | JUSTIFICATION .....                                        | 17       |
| L4.                                                        | TERMS OF REFERENCE .....                                   | 18       |
| M4.                                                        | RECOMMENDATIONS .....                                      | 18       |

## **DEFINITIONAL MISSION: WEST BANK: RAWABI TERTIARY TREATMENT FACILITY AND WASTEWATER REUSE PROJECT**

### **A. INTRODUCTION**

Under contract with the U.S. Trade and Development Agency (USTDA), AJGB International has conducted a Definitional Mission (DM) to assess the possibility of funding technical assistance for water and wastewater projects in the West Bank. AJGB International has prepared this report in accordance with USTDA requirements for Definitional Mission: MENA Regional: Algeria and West Bank: Water and Wastewater Projects (USTDA - CO2009210014).

The scope of work for this DM involves working with potential project sponsors in the West Bank, including travel in November 2009. In agreement with the DM Scope of Work, a wide range of projects were identified during the DM for prospective USTDA funding and evaluated using USTDA funding criteria. Based upon our evaluation, in the West Bank one project is being recommended for USTDA funding consideration:

- Rawabi Wastewater Treatment and Reuse Project (West Bank)

The evaluation is based on detailed meetings with project sponsors.

### **B. WEST BANK WATER AND WASTEWATER SECTOR**

The area of the Jordan River Basin, including parts of Lebanon, Syria, Israel, Jordan, and the West Bank, is primarily an arid region. With the arid climate and low precipitation in this region, water has become one of the most valuable resources. Groundwater aquifers are the principle source for water supplies to the states that rely on the Jordan River. The daily amount of water per person in the Jordan River Basin is one of the lowest in the world and the West Bank uses the smallest amount per person within the Basin. The patterns of water use, overuse, and political territorial issues are resulting in disagreement over water distribution and the increase in population has led to significant challenges in managing limited water supplies. Issues include the domination of groundwater supplies by the Israeli state and settlers, and the walling off of Palestinian access to water supplies. Nearly every aspect of developing projects in the water and wastewater treatment sector in the West Bank is affected by the politics of water in the region, particularly Israel's occupation of the West Bank and civil and administrative controls that derive from it.

Several reports recently issued by the World Bank and Amnesty International offer detailed research and analysis of the political issues related to the water and wastewater treatment sector in the West Bank.<sup>3</sup> The Amnesty report notes that Palestinian consumption is about 70 liters a day per person – well below the 100 liters per capita daily recommended by the

---

<sup>3</sup> "Troubled Waters – Palestinians Denied Fair Access to Water, Israeli Occupied territories;" Amnesty International, 2009.  
"West Bank and Gaza: Assessment of Restrictions on Palestinian Water Sector Development," Sector Note; World Bank, April 2009

World Health Organization (WHO), whereas Israeli daily per capita consumption is about 300 liters. In some rural communities Palestinians survive on far less than even the average 70 liters, and in some cases barely 20 liters per day, which is the minimum amount recommended by the WHO for emergency situations response. The World Bank report cites political and security issues as a major factor in the deterioration of infrastructure and services in the sector and makes a detailed accounting of the work of the Joint (Israeli-Palestinian) Water Committee and its failure to move projects forward for approval.

Investment and efficiencies in West Bank water supply and sanitation infrastructure have dropped to very low levels. Current investment in the West Bank water sector is one tenth of planned levels. Few major investments are going ahead and more is being invested in small local emergency projects than in large infrastructure projects, such as those required for optimal integrated regional management of resources. In effect, emergency projects have become the norm. Wastewater treatment investments have been mostly blocked for a decade, and only one of seven planned new plants is operational. Under the prevailing security, economic, water resource and institutional constraints, the performance of the utilities is deteriorating. Utility performance is typically poor, with unaccounted water averaging 34% and bill collection rates averaging only 50%. However, the performance of the Jerusalem Water Undertaking, a regional utility serving Ramallah-El Bireh, and belt communities east of Jerusalem, shows that under the right conditions, Palestinian operators can be efficient. For most other utilities, lack of institutional autonomy and capacity, water scarcity, run down infrastructure, and security problems, combined with an impoverished customer base, have led to very poor services and to financial difficulties. Increasing dependence on the Israel state run water company, Mekorot, by West Bank water supply utilities makes them vulnerable to Israeli decisions and interventions, and may increase commercial risks and costs.

Donor funding is critical to the development of the sector in the West Bank due to limited resources of the Palestinian Water Authority and other project sponsors. Donors active in the West Bank include KfW (German), AFD (French) and USAID. Since 1994, USAID has provided approximately \$670 million for Palestinian infrastructure projects. Currently USAID's Water Resources and Infrastructure Office (WRI) implements large scale infrastructure projects through the Infrastructure Needs Program (INP), and rehabilitates and constructs small scale infrastructure through its Emergency Water and Sanitation and Other Infrastructure Program Phase II and Emergency Jobs program.

In addition to the recurrent water shortages due to insufficient resource allocations and infrastructure, the West Bank is currently undergoing a boom in the construction sector, both residential and commercial. As such, there is significant and increasing demand for water supply and wastewater treatment infrastructure to meet the needs of these new developments. In addition to plans for additional extraction from underground aquifers, much attention has turned to desalination of brackish water and inter-basin transfers by pipeline. All of these options are technically feasible, but none is affordable or easy since they are capital and energy intensive, many have negative ecological impacts, and all are politically complex. Therefore, the reuse of treated wastewater has a potentially significant role to play in alleviating the quantitative and qualitative stress on water resources in the region. Wastewater reuse has not been used effectively in the West Bank, primarily due to the poor state of wastewater treatment infrastructure. However, there is precedent for this practice in the region, with Israel reusing over 70% of treated

wastewater for agriculture and other uses. The Bayti Real Estate project identified by USTDA and defined by AJGB as part of this DM could be a groundbreaking project for this practice.

In addition to small, packaged wastewater projects for isolated developments such as Bayti, the DM discussions with local consultants revealed that there are potential larger municipal wastewater treatment projects which will require a combination of design and engineering studies, technology evaluations and financial and operational planning that could include private sector participation (i.e. performance contracting, public private partnerships) and sharing of best practices from the region. There are also opportunities for water distribution system upgrades and modernization and water transfer schemes.

## **RAWABI WASTEWATER TREATMENT AND REUSE PROJECT**

Project Sponsor: Bayti Real Estate Investment Company

Project Sponsor Representative in Charge: Bashar Masri, Chairman of the Board

Project Title: Rawabi Wastewater Treatment and Reuse Project

Proposal Type: Feasibility Study (FS)

### **A4. EXECUTIVE SUMMARY**

The proposed Rawabi Wastewater Treatment and Reuse Project (Project) would assist the Bayti Real Estate Investment Company (Project Sponsor) to assess wastewater treatment technologies for wastewater reclamation and reuse both within the Rawabi community for domestic greywater reuse, irrigation and industrial use, and for irrigation of agricultural land outside of the Rawabi area.

The Rawabi Land Development Project in the West Bank is a joint development of Qatari Diar and Massar International to build the West Bank's first planned city, with more than 5,000 affordable residential units and, upon completion, over 40,000 residents with schools, healthcare centers, civic and cultural centers. The Rawabi project addresses the severe shortage of affordable housing in the West Bank. The Rawabi project would generate an estimated 8,000 to 10,000 jobs during active construction and, beyond that, 3,000 to 5,000 new, long-term job opportunities. In cooperation with the Research Triangle Institute's RTI International, the Rawabi team has developed an economic growth strategy that positions Rawabi to be the hub of an expanding economy and a desirable destination for international corporations seeking ICT-related investment opportunities.

The main driver for the introduction of advanced wastewater treatment technologies is the scarcity of water coupled with a push to increase availability of water for industrial and agricultural production to promote economic growth and food security in the area. The Project, if fully implemented, could yield up to \$11.4 million in U.S. exports of advanced wastewater treatment technologies, goods and services. U.S. companies such as MW Harza and AECOM are already active in the sector in the West Bank. These companies, along with U.S. technology suppliers such as Koch Membranes, ITT, and GE, would be well positioned for Project implementation.

The Project offers an excellent opportunity for USTDA to promote sustainable economic growth and affordable housing in the West Bank while advancing the use of environmentally beneficial technologies for wastewater reuse in this water scarce region. The Rawabi project is well financed and funding for the wastewater treatment Project from donors, local government, and private sector financing should be

forthcoming for the proposed Project to ensure cost effective treatment and supply of reclaimed water. USTDA support, in concert with other donor financing, is critical for the Rawabi project to be able to maintain the affordability of the real estate in order to attract the targeted middle income Palestinian demographic for the development.

The proposed terms of reference is structured to give the Project Sponsors and stakeholders a preliminary design for the treatment plant and provide technical guidance for assessing and confirming the technical, financial and economic attractiveness of developing the Project. This will include the assessment of different technologies according to a variety of criteria such as influent characteristics, effluent requirements, energy requirements, expandability, and maintenance and operation costs.

Based on strong U.S. export potential, significant environmental and health benefits, and potential economic developmental impact, AJGB International recommends USTDA funding for the feasibility study with a budget of \$281,364.

## **B4. PROJECT DESCRIPTION**

### **B4.1 BACKGROUND**

Bayti Real Estate Investment Company (Bayti, Project Sponsor, Grantee) has requested U.S. Trade and Development Agency (USTDA) support for a feasibility study (FS) of a wastewater reclamation project (WWTP) at the Rawabi Land Development Project (Rawabi) in Ramallah, West Bank ([www.rawabi.ps](http://www.rawabi.ps)). Rawabi is located approximately 9 km to the North East of the City of Ramallah along the eastern-western corridor between Amman and Tel Aviv at a distance of 70 and 40 Km from these cities, respectively. The objective of the study is to assess the technical, economic, financial and regulatory feasibilities and the environmental and developmental impacts associated with wastewater reclamation at this WWTP for conveyance, distribution and re-use in the study area.

Rawabi is a joint development of Qatari Diar and Massar International that will feature more than 5,000 affordable residential units and, upon completion, will be a self-sustaining city of 40,000 residents with schools, healthcare centers, civic and cultural centers, and more. The project aims to address the severe shortage of affordable housing in the West Bank and targets the \$400-700/month average income demographic. An OPIC backed mortgage financing plan for the West Bank is expected to play an important role in giving this demographic access to housing at Rawabi.

Rawabi is the first Palestinian community in recent history to be built in accordance with a master plan. The master plan, developed by U.S. company AECOM, provides direction for the way the new community will grow and flourish and how future land use decisions will contribute to the achievement of social, economic and environmental goals. Rawabi is expected to generate an estimated 8,000 to 10,000 jobs during active construction and, beyond that, 3,000 to 5,000 new, long-term job opportunities. In cooperation with the Research Triangle Institute's RTI International, the Rawabi team has developed an economic growth strategy that positions Rawabi to be the hub of an expanding economy and a desirable destination for international corporations seeking ICT-related investment opportunities. Additionally, the planning incorporates environmentally responsible development practices with the intent of making Rawabi a model for "green" Palestinian cities of the future. Israeli billionaire businessman Stef Wartheimer, who has founded several successful industrial parks aimed at promoting

economic development and harmony between Jews and Arabs in the region, including Tefen Industrial Park in Nazareth, has also recently announced his interest in establishing an industrial park at Rawabi.

Rawabi has broad support within the West Bank and in Israel. Israeli support for the project is critical for several reasons:

- Rawabi requires approval by the Israeli-Palestinian Joint Water Commission for water supply and wastewater treatment projects;
- Rawabi requires approval for a new access road from Rawabi to Ramallah which traverses an area B zone of the West Bank, which is under Israeli control (under Palestinian administration); and
- Movement of goods into and within the West Bank is subject to Israeli controls and Israeli support should facilitate such movements during project development.

### **Project Milestones**

- Rawabi has secured the land for the development and has begun initial site preparation.
- An MOU has been signed between Bayti and the Palestinian Authority (PA), in the form of a memorandum of understanding (MOU) signed in April 2008, which commits the PA to streamline the bureaucratic process and financially support Rawabi's off-site infrastructure and public services in accordance with the objectives of the Palestinian Reform and Development Plan.
- Bayti has secured the final approval from the Palestinian Minister of Local Government and other authorities for the overall development of Rawabi.
- A high-level feasibility study for the Project has been prepared by Birzeit University, which lays the foundation for the proposed wastewater reuse approach.
- Bayti has secured a Presidential decree dated 15th November, 2009 with the President's endorsement of the Prime Minister's decision to hand over ownership of the land as a public domain to Bayti. This is critical for the registration of the land in order to qualify for OPIC's AMAL mortgage financing program. By OPIC Board agreement, the AMAL program is not able to provide financing to any entity owned by the PA.
- Agreement has been reached by Palestinian and Israeli water authorities to proceed with an application for water supply and wastewater treatment plant projects through the Joint Water Commission. This covers the requirement of Rawabi for water to cover the construction needs and the long-term requirements for the residents of the city of Rawabi. Preliminary discussions with the Palestinian Water Authority indicate that the most likely scenario for water supply to the Rawabi project would be a pipeline from Israel by Mekorot, the Israeli water supply company.

### **Location**

Rawabi is 9 km north of Ramallah. The town of Birzeit, home to one of the West Bank's universities, is less than 4 km to the south of Rawabi. Rawabi is 20 km to the north of Jerusalem and 25 km south of Nablus. From the hilltops of Rawabi, one has a panoramic view of the Mediterranean's eastern coastal

line, located 40 kilometers to the west. The Jordanian capital, Amman, is 70 kilometers to the east of Rawabi. Once built, numerous Palestinian villages, nine of which are immediately adjacent, will surround Rawabi. The development and construction of Rawabi will greatly impact the economic performance, infrastructure, and public services of these surrounding villages.

### **Water Sector**

Investment and efficiencies in West Bank water supply and sanitation infrastructure have dropped to very low levels. Current investment in the West Bank water sector is one tenth of planned levels. Few major investments are going ahead and more is being invested in small local emergency projects than in large infrastructure projects, such as those required for optimal integrated regional management of resources. In effect, emergency projects have become the norm. Wastewater treatment investments have been blocked for a decade, and only one of seven planned new plants is operational. Sector investment is inefficient due to poor planning, implementation delays, political and security problems, and the resulting costs. Investment alone is not enough to improve service delivery. Under the prevailing security, economic, water resource and institutional constraints, the performance of the utilities is deteriorating. Utility performance is typically poor, with unaccounted for water averaging 34% and bill collection rates averaging only 50%. However, the performance of the Jerusalem Water Undertaking, a regional utility serving Ramallah-El Bireh, and belt communities east of Jerusalem, shows that under the right conditions, Palestinian operators can be efficient. For most other utilities, lack of institutional autonomy and capacity, water scarcity, run down infrastructure, and security problems have led to very poor services and to financial difficulties. Increasing dependence on Israel state owned water company Mekorot by the West Bank water supply utilities makes them vulnerable to Israeli decisions and interventions, and may increase commercial risks and costs.

In Israel, with geographical similarities to the West Bank, about 92% of the wastewater is collected by municipal sewers. Subsequently, 72% is reused for irrigation (42%) and groundwater recharge (30%). Cost-benefit analysis indicates that recycled wastewater is a very low cost source of water in this country. As a result, treated wastewater within the overall water supply, particularly for irrigation, has risen to 24.4% of the allocations. The water crisis in Israel and the relatively low cost of treated wastewater, rather than pure environmental considerations, are the main driving forces behind the high percentage of wastewater reuse. In the West Bank, there has been much attention given to brackish water desalination, inter-basin transfers by pipeline, and import of water by shipment. All of these options are technically feasible, but none is affordable or easy since they are capital and energy intensive. Therefore, the reuse of treated wastewater is well recognized for having a potentially significant role in alleviating the quantitative and qualitative stress on water resources in the region.

### **Economic Fundamentals**

There are many examples of wastewater reuse for irrigation in the Mediterranean region, including in Spain, France, Morocco, Tunisia, and Israel. While applications and costs vary widely and project specific criteria need to be carefully analyzed, experience shows that the cost per unit (including capital and operational costs) of advanced wastewater treatment for water reuse in the West Bank should be below the typical cost of producing suitable water from other sources (i.e. brackish water or seawater desalination). This is based on additional cost of treatment beyond secondary treatment levels for discharge into the environment and assuming that, due to scarcity of supply, potable water from aquifers and dams is unavailable for irrigation. The FS will perform a detailed economic analysis of the projects to determine the viability of wastewater reuse as compared with alternatives.

## Investment Climate

Internal Palestinian political issues and the Israeli-Palestinian conflict continue to impact negatively the development of the Palestinian economy in the West Bank and Gaza. Following the establishment of a Palestinian Authority (PA) Government under the leadership of Prime Minister Salam Fayyad in June 2007, the PA has demonstrated a renewed determination to improve the investment climate and to attract foreign investment. The PA has undertaken a number of significant reforms and prepared a three-year reform and development plan that was endorsed by the international community in December 2007. The PA's development plan emphasizes the importance of private sector investment and growth as a vital source of new jobs and a sustainable economy.

Logistics issues due to the Israeli imposed security regime are among the most important factors affecting new investments in the West Bank. By some estimates, the cost of logistics nearly doubles because in essence two transport companies are needed, one for each side of the Green Line. While internal West Bank barriers to movement and access have relaxed, importing and exporting remains difficult. Potential dual use items (such as chemicals) are banned or restricted, but it is nearly impossible to know which items are banned until a shipment arrives at the crossing. Additionally, cargo must be packed according to strict specifications for scanning and manual security checks at border crossings.

According to the World Bank's Doing Business Report, the West Bank scores well on a number of indicators when compared with other economies in the region. According to the IFC office in Jerusalem, the PA is open and proactively supportive of private sector business and investment in the West Bank and certain incentives apply to approved investments. For example, investments whose value is \$5 million and above are exempt from income tax for five years and are subject to income tax on their net profit at 10 percent for an additional 16 years.

## B4.2 PROPOSED ACTION

Bayti is interested in assessing wastewater treatment technologies for wastewater reclamation and reuse both within the Rawabi community for irrigation, light industrial, and/or domestic greywater reuse, as well as for irrigation of nearby agriculture land. To this effect, the USTDA FS Contractor (Contractor) will investigate the suitability of current wastewater treatment technology such as Membrane Bioreactor (MBR) and Sequential Batch Reactor (SBR) for wastewater treatment for reuse in accordance with current water quality standards for treated wastewater irrigation. The evaluation will assess the advantages and disadvantages of using these technologies to carry out wastewater reclamation systems for agriculture wastewater reuse in the study area. The proposed action is part of a necessary non-potable water supply service expansion to ameliorate water supply shortage conditions that prevail in the West Bank. The proposal is in agreement with current water resources conservation policies and it concurs with the Rawabi overall strategic plan aimed at reducing dependency on overexploited water resources in the study area. Table B4.2 provides the estimated wastewater characterization data for Rawabi and the wastewater quality standards under current regulatory requirements in the study area. The wastewater treatment system will need to be expandable to meet the increased wastewater flow projected during the planned phases.

**Table B4.2 - Rawabi wastewater characteristics and related data<sup>1</sup>**

| <i>ITEM</i>              | <i>Phase 1<br/>Up to 2014</i> | <i>Phase 2<br/>Up to 2020</i> | <i>Phase 3<br/>Up to 2030</i> |
|--------------------------|-------------------------------|-------------------------------|-------------------------------|
| Population served (PE)   | 19,058                        | 22,756                        | 30,582                        |
| Population connected (%) | 100                           | 100                           | 100                           |

|                                                 |          |          |          |
|-------------------------------------------------|----------|----------|----------|
| <b>Hydraulic loads</b>                          |          |          |          |
| Average daily flow rate $Q_{DW}$ ( $m^3/d$ )    | 1,830    | 2,185    | 2,936    |
| Peak dry weather flow rate $Q_{DW}$ ( $m^3/h$ ) | 259      | 300      | 392      |
| Peaking factor                                  | 3.4      | 3.3      | 3.2      |
| <b>Specific pollution loads</b>                 |          |          |          |
| Organic matter (g BOD/PE.d)                     | 40       | 40       | 40       |
| Suspended solids (g TSS/PE.d)                   | 65       | 65       | 65       |
| TKN (g N/PE.d)                                  | 10       | 10       | 10       |
| Phosphorus (g P/PE.d)                           | 2        | 2        | 2        |
| <b>Daily municipal pollution loads</b>          |          |          |          |
| Organic matter (kg BOD/d)                       | 768      | 917      | 1,233    |
| Suspended solids (kg TSS/d)                     | 1,235    | 1,475    | 1,982    |
| Nitrogen (kg N/d)                               | 183      | 218      | 294      |
| Phosphorus (kg P/d)                             | 37       | 44       | 59       |
| <b>Wastewater quality</b>                       |          |          |          |
| • BOD (mg/L)                                    | 420      | 420      | 420      |
| Suspended solids (mg/L)                         | 675      | 675      | 675      |
| Nitrogen (mg/L)                                 | 100      | 100      | 100      |
| Phosphorus (mg/L)                               | 20       | 20       | 20       |
| <b>Ambient and physical data</b>                |          |          |          |
| Minimum average sewage temperature              | 12 °C    | 12 °C    | 12 °C    |
| Combined/separate /modified sewerage networks   | Separate | separate | separate |
| <b>Required effluent quality (24 h average)</b> |          |          |          |
| BOD (mg/l)                                      | ≤20      | ≤20      | ≤20      |
| TSS (mg/l)                                      | ≤30      | ≤30      | ≤30      |
| Total N (mg N/l)                                | ≤50      | ≤50      | ≤50      |
| Fecal coliform (MPN/100 ml)                     | ≤200     | ≤200     | ≤200     |

1: "Sewerage System for Rawabi Community," Birzeit University, March 2009. Planning level information provided by Bayti for this report does not include data on the fully developed 40,000 people community.

#### C4.PROJECT SPONSOR'S CAPABILITIES AND COMMITMENT

Massar International is a holding company headquartered in Ramallah that oversees and manages a network of 15 subsidiaries. Its business activities are real estate development, financial and investment services, and corporate business development. The company was founded by Bashar Masri in 1994, who established Massar Associates to promote sustainable economic development through private sector capacity building initiatives in the Palestinian territories. Today, Massar International's operational scope has expanded to include the MENA region as well as Eastern Europe. The Massar International Real Estate Group develops residential housing projects, commercial properties, combined residential and recreational communities and other land use infrastructure projects for buyers from a variety of socio-economic strata.

According to Massar Group, they have projects currently under construction in Morocco, Egypt and Jordan. The company's initial real estate development projects have been successful and

positioned Massar International to expand into other countries in the region. To date, the Massar International Real Estate Group has successfully developed, marketed and managed more than 7,000 new housing units, 13,000 square meters of new commercial space, 1.24 million square meters of recreational use land projects, and more than 3.4 million square meters of infrastructural land development in four countries throughout the region, with total property values in excess of \$200 million. Bayti Real Estate Investment Company was established by the Massar International Real Estate Group to jumpstart development of the Palestinian real estate sector. Its mission is to create affordable, accessible, family-friendly communities for Palestinians, including plans to build the first Palestinian planned city, Rawabi.

The Qatar Investment Authority (QIA) is Qatar's sovereign wealth fund, specializing in local and foreign investment. It was founded in 2005 to manage the oil and natural gas surpluses that the Government of Qatar was receiving. QIA wholly controls the Qatari Diar Real Estate Investment Company (Qatari Diar), which is a property investment fund. QIA is estimated to hold in excess of \$60 billion of assets and operates in 35 countries.

To date, Bayti and Qatari Diar have collectively spent over \$100 million on land acquisition, masterplans and other related studies, site development, and other costs, including operation of an office with about 80 full time staff. This is a significant investment which demonstrates the Project Sponsor's commitment to Project implementation.

#### **D4. IMPLEMENTATION FINANCING**

The Rawabi Land Development Project in the West Bank is a joint development of Qatari Diar and Massar International. According to our review, the Rawabi Project as a whole is well-financed and likely to have sufficient financing for full implementation, including construction costs estimated at over \$500 million. The key challenge in terms of financing is securing enough grant and concessional financing, particularly for the supporting off-site infrastructure for the Project, to ensure the affordability of the development fits with the anticipated demographic of middle income Palestinians.

A unique public private partnership between Bayti and the PA, in the form of a memorandum of understanding (MOU) signed in April 2008, commits the PA to streamline the bureaucratic process and financially support Rawabi's off-site infrastructure and public services in accordance with the objectives of the Palestinian Reform and Development Plan. Infrastructure and public facilities for the town include roads, electricity, water supply, wastewater disposal, schools, and a hospital. The Rawabi WWTP is considered off-site infrastructure which falls within the purview of the Palestinian Authority under the MOU. PA has therefore committed to support and facilitate the development of the Project, which could include funding for the Project through its own resources or through bilateral and/or multilateral donor funding directed to the Project.

Donors active in the West Bank include KfW (German), AFD (French) and USAID, which has indicated financial support of an estimated \$5 million for the main access roads network for Rawabi. The World Bank has been providing technical assistance and grant funding for water supply and wastewater treatment programs and infrastructure development in the West Bank. The International Finance Corporation is active in the West Bank and has made several investments in small to medium sized companies particularly in the construction sector. Assuming the Project is developed with a private sector

financing model and meets the IFC's lending criteria, it could provide debt or equity financing for the proposed Project up to a total of 25% of the total financing required.

Bayti has indicated that it expects the facility to be designed and constructed based on Build- Own- Operate (BOO) or Build-Operate-Transfer (BOT) terms. However, it has not decided on the mechanism for implementation, which will require collaboration and agreement with the PA, likely through the Palestinian Water Authority (PA) Other contract mechanisms could be appropriate, such as a Design-Build-Operate (DBO) contract. Therefore the TOR for the FS includes an evaluation of alternative financing and contracting mechanisms for Project implementation.

In order to promote economic growth in the West Bank, in 2007 the Overseas Private Investment Corporation (OPIC) developed a public-private partnership between the Aspen Institute, OPIC, and the Palestinian Investment Fund (PIF) called the Middle East Investment Initiative (MEII). MEII is a \$228 million loan guarantee program dedicated to helping improve the livelihoods of the Palestinian people, primarily through mortgage lending facilities. Through this initiative, with collaboration fro the IFC, the UK bilateral donor DFID, the Palestine Mortgage and Housing Corporation, and the Bank of Palestine, the Affordable Mortgage and Loan Company (AMAL) was established. AMAL will originate affordable residential mortgages with tenors of up to 25 years for low and middle income Palestinian households. This mortgage lending facility is critical to ensuring access to for the targeted income demographic for the Rawabi project.

OPIC is open to support projects in the West Bank and can provide medium- to long-term funding through partial loan guaranties of up to 70% to local banks for eligible investment projects where there is 25% U.S. investment. This could be used if a U.S. company were to develop or invest in the proposed Rawabi Tertiary Treatment Facility and Wastewater Reuse Project.

The U.S. Export-Import Bank (Ex-Im) provides working capital guarantees (pre-export financing); export credit insurance; and loan guarantees and direct loans (buyer financing). Ex-Im is open in the West Bank, but there have been no transactions in recent history. Because the West Bank is not a sovereign entity, Ex-Im requires a third country guarantor, such as a bank from Jordan or Israel, for transactions. Ex-Im would use the country limitation schedule that applies for that country in the transaction. Ex-Im's Asia, Africa, and the Middle East Office in the Trade Finance and Insurance Division has indicated interest in projects in the West Bank. Ex-Im's Environmental Exports Program offers additional incentives for qualifying transactions, including:

- Certain renewable energy and water transactions are eligible for 18-year repayment terms; and
- All qualifying environmental export transactions, including renewable energy and water projects, are eligible for:
  - Capitalized interest during construction; and
  - Automatic availability for up to 30% local cost financing.

#### **E4. U.S. EXPORT POTENTIAL**

U.S. technology export potential has been estimated using the assumption that Membrane Bioreactor (MBR) and Ultraviolet (UV) disinfection will be the wastewater tertiary treatment at the Rawabi project. The U.S. export potential for design and engineering services along with

equipment and technology needed for MBR UV wastewater conditioning for reuse is estimated at 70% to 80% of the total capital investment.

Estimating the cost of the tertiary treatment technology is based on the treatment technologies construction costs presented in the consulted technical literature ([http://your.kingcounty.gov/dnrp/library/wastewater/rw/0803\\_FeasibilityStudy/Appendices\\_RW\\_FeasibilityStudy\\_Mar08.pdf](http://your.kingcounty.gov/dnrp/library/wastewater/rw/0803_FeasibilityStudy/Appendices_RW_FeasibilityStudy_Mar08.pdf)). A polynomial regression equation was derived using the MBR-UV data to obtain a cost curve for these processes. The equation is:

**MBR UV Equation**

$$f(x) = 1.319563548103e+07 + 4.029560409888e+06 * x + -3.868907520139e+04 * x^2$$

Where: x is the size of the tertiary facility in MGD

Table E4 summarizes the planning level capital investment and export potential for each of the three phases of the Rawabi development plan.

**Table E4 – Rawabi Project Tertiary Treatment Export Potential (US\$)  
(Assuming MBR UV)**

| Development Phase | MGD                              | Total Cost | Export Potential |
|-------------------|----------------------------------|------------|------------------|
| 1                 | 0.48 (1,830 m <sup>3</sup> /day) | 15,110,706 | 10,577,494       |
| 2                 | 0.58 (2,185 m <sup>3</sup> /day) | 15,508,614 | 10,856,029       |
| 3                 | 0.78 (2,936 m <sup>3</sup> /day) | 16,302,115 | 11,411,481       |

Several U.S. companies, including AECOM and MW Harza, are already active in the West Bank. The following companies have participated in projects in the Middle East and North Africa:

- AECOM, Los Angeles, CA
- Black and Veatch, Kansas City, MO
- CDM International, Cambridge, MA
- CH2M-Hill, Denver CO
- Louis Berger Group, Washington, DC
- MW Harza, Pasadena, CA
- TetraTech, Pasadena, MA

U.S. companies such as Filtronics, Inc., GE, ITT and Koch Membrane Systems are proven manufacturers of advanced wastewater treatment technologies suitable for the required application. Many of the required technologies (i.e. MBR, Ultra Filtration (UF), UV) offer good potential for U.S. exports as these are generally turnkey installations. AJGB has spoken with several U.S. suppliers. Both GE and ITT are actively pursuing the market for UF and MBR/SBR treatment projects in the Middle East and North Africa Region and would consider projects in the West Bank.

Potential U.S. suppliers of wastewater technology and equipment are listed below:

| Technology                     | Supplier                                    |
|--------------------------------|---------------------------------------------|
| Wastewater Treatment Equipment | U.S. Filters, Waukesha, WI                  |
|                                | Smith and Loveless, Lanexa, KS              |
|                                | Waterlink, Canton, OH                       |
|                                | Severn Trent Services, Fort Washington, PA  |
|                                | The Dow Chemical Co, Midland, MI            |
|                                | Filtronics, Inc., Anaheim, CA               |
|                                | ITT, White Plains, NY                       |
|                                | GE Infrastructure, Fairfield, CT            |
|                                | Koch Membrane Systems, Inc., Wilmington, MA |
| Pumps and Controls             | Fairbanks Morse Pumps, Aurora, IL           |
|                                | Gorman Rupp, Mansfield, OH                  |
|                                | Smith and Loveless, Lanexa, OH              |

**F4. FOREIGN COMPETITION AND MARKET ENTRY ISSUES**

The Middle East and North Africa (MENA) region has proven to be a challenging market for U.S. companies in the water supply and wastewater treatment sector. In general, U.S. water and wastewater companies have not been very active historically relative to French and other European suppliers. European companies such as Suez (French), Gelsenwasser (German), Degremont (French), Wabag (German), Sereco (Italian), and Biwater (UK) are actively pursuing the MENA market for wastewater treatment opportunities and are competitive with U.S. suppliers.

European bilateral donor agencies such as ADE (French) and KfW (German), are also active in the West Bank funding infrastructure projects and technical assistance. U.S. companies are competitive in advanced wastewater treatment technologies in the region and have a good reputation for quality. USAID has also been active in the area of advanced wastewater treatment in the West Bank for many years and companies such as AECOM and MW Harza have a presence in the area. AECOM has been contracted by Bayti for the development of the Masterplan for Rawabi and has been consulting on a number of areas related to the development of the Project. MW Harza has been implementing a USAID contract for the water sector in the West Bank for several years.

**G4. DEVELOPMENTAL IMPACT**

**G1.1 INFRASTRUCTURE**

The Project would develop tertiary wastewater treatment infrastructure that reduces public health risks, enhances agriculture productivity, mitigates environmental deterioration and promotes social wellbeing and economic growth. If fully implemented the project would develop a tertiary wastewater treatment facility at Rawabi WWTP with a capacity of 2,936 cubic meters per day that would provide reclaimed water for greywater domestic use, agricultural crop irrigation and/or industrial use. The Project would include distribution networks for raw and treated wastewater including supply to irrigated areas. The TOR for the FS will require a detailed account of the expected infrastructure developmental impact for the Project.

## **G1.2 HUMAN CAPACITY BUILDING**

The Project, if fully implanted, would create an estimated 30 jobs during construction and 5 long term jobs for plant maintenance and operation. We estimate that up to 100 jobs would be directly or indirectly created from the use of reclaimed water for agricultural and/or industrial use within and outside of the Rawabi area. The number of jobs will depend on a number of factors, including the allotments of reclaimed water for non-agricultural irrigation and domestic greywater use versus agriculture and industrial use as well as the specific types of agricultural and industries to which it is applied. Training in advanced wastewater treatment technologies such as MBR, SBR, MF, UF, and/or RO would be required during project implementation. The TOR for the FS includes a detailed analysis of the expected workforce requirements, including training for the Project.

## **G1.3 TECHNOLOGY TRANSFER AND PRODUCTIVITY IMPROVEMENTS**

Advanced wastewater treatment technologies such as MBR, SBR, MF, UF, and RO are new to the West Bank market. If fully implemented the Project would entail transfer of knowledge of these technologies to local operators. The TOR for the FS will require a detailed account of the expected technology transfer developmental impact for the Project.

## **HI. IMPACT ON THE ENVIRONMENT**

Based on our review of the Project, including a preliminary environmental impact assessment performed by Birzeit University for Bayti, there are no expected negative impacts on the environment from the proposed Project. Positive environmental impacts of the project would come from decreased levels of untreated or insufficiently treated wastewater into the environment. The Project would mitigate the release of pollutants, oxygen-demanding substances, pathogens, nutrients, and inorganic and synthetic organic chemicals into the environment. We recommend that the TOR include a preliminary environmental impact assessment in line with USTDA's basic requirements.

## **II. IMPACT ON U.S. LABOR**

The Project would provide municipal wastewater treatment and reuse for domestic greywater reuse, agricultural irrigation, and/or industrial use. The Project would not promote the establishment of any business other than for the purpose of serving the local market more efficiently (e.g. local agent/distributor). Based upon our review, we found that the Project does

not provide: (a) any financial incentive to a business enterprise currently located in the United States for the purpose of inducing such an enterprise to relocate outside the United States if such incentive or inducement is likely to reduce the number of employees of such business enterprise in the United States because United States production is being replaced by such enterprise outside the United States; (b) assistance for any project or activity that contributes to the violation of internationally recognized workers rights; or (c) direct assistance for establishing or expanding production of any commodity for export by any country other than the United States, if the commodity is likely to be in surplus on world markets at the time the resulting productive capacity is expected to become operative and if the assistance will cause substantial injury to United States producers of the same, similar, or competing commodity.

Positive impacts on U.S. labor would come from prospective U.S. exports of goods and services, as described in section E1 above.

#### **J4. QUALIFICATIONS**

It is proposed that the FS be conducted by an expert U.S. company with ample experience in the fields of feasibility analysis of projects that involve wastewater treatment for agriculture reuse, advance wastewater treatment facilities and pumping station design and implementation. Therefore, it is expected that the company selected will have demonstrated qualifications, experience and the required capability to carry out the technical requirements of the Rawabi tertiary treatment project. The suggested selection criteria for the firm and team that will execute the USTDA grant assistance is the following:

1. Firms' specific experience related to the assignment: 25 points maximum
  - Firms' overall experience: 15 points
  - Firms' overseas experience: 10 points
2. Adequacy of proposed work plan and methodology in response to the TOR: 40 points maximum
  - Knowledge of proposed work and understanding of service: 10 points
  - Appropriateness of proposed methodology and workplan: 15 points
  - Timeframe of delivery of scope of work: 10 points
  - Utilization of local expertise: 5 points
3. Qualifications and competence of the key staff for the assignment: 25 points maximum
  - Team Leader's experience in similar projects: 5 points
  - Project Engineer's experience in similar projects: 5 points
  - Mechanical Engineer's experience in similar projects: 5 points
  - Electrical Engineer's experience in similar projects: 5 points
  - Economist / Financial Analyst's experience in similar projects: 5 points
4. Past performance: 10 points maximum
  - Six relevant and verifiable projects: 10 points
  - Five relevant and verifiable projects: 8 points

- Four relevant and verifiable projects: 6 points
- Three relevant and verifiable projects: 4 points
- Two relevant and verifiable projects: 2 points

#### **K4. JUSTIFICATION**

The Project offers an excellent opportunity for USTDA to promote sustainable economic growth and affordable housing in the West Bank while advancing the use of environmentally beneficial technologies for wastewater reuse in this water scarce region. The Rawabi project is well financed and funding for the wastewater treatment Project from donors, local government, and private sector financing should be forthcoming to ensure cost effective treatment and supply of reclaimed water. USTDA support, in concert with other donor financing, is critical for the Rawabi project to be able to maintain the affordability of the real estate in order to attract the targeted middle income Palestinian demographic for the development.

#### **L4. TERMS OF REFERENCE**

The objective of the prospective technical assistance is to give support to a feasibility study that will investigate the viability of wastewater tertiary treatment technologies for wastewater conditioning for reuse at Rawabi, West Bank. The FS will focus on evaluating tertiary treatment technologies for wastewater reuse mainly in the agricultural sector.

The primary goal is to provide technical guidance for assessing and confirming the technical, financial and economic attractiveness of developing the proposed action. The DM estimates that the completion of the FS will take approximately three (3) months.

#### **M4. RECOMMENDATIONS**

Our assessment is that the Project is of importance to U.S. commercial and developmental goals, specifically through the promotion of appropriate advanced technologies for wastewater treatment and reuse. The Project Sponsors have committed significant financial resources to the development of the Project and the Palestinian Authority and Government of Israel have demonstrated strong political support for the Project. Bayti is interested in assessing the suitability of technology that is rapidly becoming a preferred alternative throughout the Middle East region due to water supply shortages and environmental constraints. As discussed above USTDA support is critical to helping U.S. manufacturers and companies establish a foothold not only in the West Bank but also in the Middle East region. In the wastewater tertiary treatment market, U.S. companies face strong competition from European companies, especially from France and Germany. The project has a significant U.S. export potential of tertiary wastewater treatment technologies, goods and services.

AJGB recommends USTDA funding of the FS, based on the following assumptions:

1. Bayti offers a written commitment that projects will not go into the design phase until the USTDA FS is completed and the Grantee has the opportunity to assess the advantages of the current U.S. made wastewater treatment technologies;
2. The Project Sponsor offers support for the execution of the FS in terms of technical services for wastewater analysis, land surveying and geotechnical work;
3. The Project Sponsor offers personnel and office space for logistic support; and
4. Bayti indicates its intention to proceed with the project implementation in terms acceptable to U.S. companies interested in providing technology and services for the construction and operation of the project.

# ANNEX 3



**U.S. TRADE AND DEVELOPMENT AGENCY  
Arlington, VA 22209-2131**

**NATIONALITY, SOURCE, AND ORIGIN REQUIREMENTS**

The purpose of USTDA's nationality, source, and origin requirements is to assure the maximum practicable participation of American contractors, technology, equipment and materials in the prefeasibility, feasibility, and implementation stages of a project.

**USTDA STANDARD RULE (GRANT AGREEMENT STANDARD LANGUAGE):**

Except as USTDA may otherwise agree, each of the following provisions shall apply to the delivery of goods and services funded by USTDA under this Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from the West Bank may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for implementation of the Study and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to Study support (e.g., local lodging, food, and transportation) in the West Bank are not subject to the above restrictions. USTDA will make available further details concerning these standards of eligibility upon request.

**NATIONALITY:**

1) Rule

Except as USTDA may otherwise agree, the Contractor for USTDA funded activities must be either a U.S. firm or a U.S. individual. Prime contractors may utilize U.S.

subcontractors without limitation, but the use of West Bank subcontractors is limited to 20% of the USTDA grant amount.

## 2) Application

Accordingly, only a U.S. firm or U.S. individual may submit proposals on USTDA funded activities. Although those proposals may include subcontracting arrangements with West Bank firms or individuals for up to 20% of the USTDA grant amount, they may not include subcontracts with third country entities. U.S. firms submitting proposals must ensure that the professional services funded by the USTDA grant, to the extent not subcontracted to West Bank entities, are supplied by employees of the firm or employees of U.S. subcontractor firms who are U.S. individuals.

Interested U.S. firms and consultants who submit proposals must meet USTDA nationality requirements as of the due date for the submission of proposals and, if selected, must continue to meet such requirements throughout the duration of the USTDA-financed activity. These nationality provisions apply to whatever portion of the Terms of Reference is funded with the USTDA grant.

## 3) Definitions

A "U.S. individual" is (a) a U.S. citizen, or (b) a non-U.S. citizen lawfully admitted for permanent residence in the U.S. (a green card holder).

A "U.S. firm" is a privately owned firm which is incorporated in the U.S., with its principal place of business in the U.S., and which is either (a) more than 50% owned by U.S. individuals, or (b) has been incorporated in the U.S. for more than three (3) years prior to the issuance date of the request for proposals; has performed similar services in the U.S. for that three (3) year period; employs U.S. citizens in more than half of its permanent full-time positions in the U.S.; and has the existing capability in the U.S. to perform the work in question.

A partnership, organized in the U.S. with its principal place of business in the U.S., may also qualify as a "U.S. firm" as would a joint venture organized or incorporated in the United States consisting entirely of U.S. firms and/or U.S. individuals.

A nonprofit organization, such as an educational institution, foundation, or association may also qualify as a "U.S. firm" if it is incorporated in the United States and managed by a governing body, a majority of whose members are U.S. individuals.

## **SOURCE AND ORIGIN:**

### 1) Rule

In addition to the nationality requirement stated above, any goods (e.g., equipment and materials) and services related to their shipment (e.g., international transportation and insurance) funded under the USTDA Grant Agreement must have their source and origin in the United States, unless USTDA otherwise agrees. However, necessary purchases of goods and project support services which are unavailable from a U.S. source (e.g., local food, housing and transportation) are eligible without specific USTDA approval.

### 2) Application

Accordingly, the prime contractor must be able to demonstrate that all goods and services purchased in the West Bank to carry out the Terms of Reference for a USTDA Grant Agreement that were not of U.S. source and origin were unavailable in the United States.

### 3) Definitions

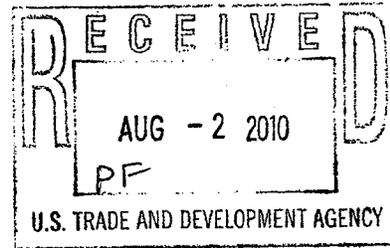
“Source” means the country from which shipment is made.

“Origin” means the place of production, through manufacturing, assembly or otherwise.

*Questions regarding these nationality, source and origin requirements may be addressed to the USTDA Office of General Counsel.*

# ANNEX 4

West Bank 2010-21014A



AMENDMENT NO. 1  
TO  
GRANT AGREEMENT  
BETWEEN  
THE U.S. TRADE AND DEVELOPMENT AGENCY  
AND  
BAYTI REAL ESTATE INVESTMENT COMPANY

LK  
VF  
KL  
PH LZ  
JJ PD  
MB JM  
PD  
RL  
KA

Re: Rawabi Tertiary Treatment Facility and Wastewater Reuse in the West Bank

Appropriation No: 11 10/11 1001  
Activity No.: 2010-21014A  
Reservation No.: 2010210013  
Grant No.: GH 2010210008

The Grant Agreement, dated March 15, 2010 between the Government of the United States of America, acting through the U.S. Trade and Development Agency ("USTDA"), and Bayti Real Estate Investment Company ("Grantee") for a feasibility study ("Study") on the Rawabi Tertiary Treatment Facility and Wastewater Reuse project is hereby amended as follows:

1. Name of Project

The former name of this project, "Rawabi Tertiary Treatment Facility and Wastewater Reuse in the West Bank," is hereby superseded and replaced by the following new project name: "Regional Wastewater Treatment Plant project."

2. Terms of Reference

The full Terms of Reference for the Grant Agreement, including this Amendment No. 1, are set forth in Annex I hereto, which hereby replaces Annex I of the Grant Agreement in its entirety.

3. USTDA Mandatory Contract Clauses

The USTDA Mandatory Contract Clauses, attached hereto as Annex II hereby replaces Annex II of the Grant Agreement in its entirety.

#### **4. USTDA Funding**

Under the existing Grant Agreement, USTDA agreed to provide a US\$273,772 grant for the Study. USTDA hereby agrees to provide the Grantee an additional US\$42,408 to fund the cost of goods and services required to perform the Study as amended. The total USTDA funding available to the Grantee for the full Study is now US\$346,180.

#### **5. Grantee Responsibilities**

The Grantee shall undertake its best efforts to provide reasonable support for the Contractor, such as local transportation, office space, and secretarial support, as agreed to by the parties and set forth in the contract between the Grantee and the Contractor. In addition to the USTDA funding provided under this Agreement, the Grantee shall cover at least US\$30,000 of costs to complete the full Terms of Reference ("Grantee Cost Share"). The Grantee shall pay the Grantee Cost Share to the Contractor in cash in proportion of the funding being provided by USTDA and the Grantee, respectively (USTDA US\$316,180: Grantee US\$30,000) and in accordance with the procedures set forth in the Payment Schedule Requirements in Clause H(2) of the USTDA Mandatory Contract Clauses in Annex II to this Agreement.

#### **6. Contract**

The Grantee and Contractor shall amend their Contract to include: (1) the Terms of Reference of this Amendment No. 1. The Final Report for the Study should also include work performed under this Amendment No. 1.

#### **7. Fiscal Data**

All communication relating to this Amendment No. 1, including all invoices, should include the following fiscal data:

Appropriation No: 11 10/11 1001  
Activity No.: 2010-21014A  
Reservation No.: 2010210038  
Grant No.: GH 2010210008

In all other respects and to the extent not amended by this Amendment No. 1, the terms of the Grant Agreement shall remain in full force and effect.

**IN WITNESS WHEREOF, the U.S. Trade and Development Agency and Bayti Real Estate Investment Company, each acting through its duly authorized representative, have caused this Agreement to be signed in the English language in their names and delivered as of the day and year written below.**

**For the U.S. Trade and Development Agency**

**For Bayti Real Estate Investment Company**

By: 

By: 

Date: July 23, 2010

Date: July 28, 2010

## **GRANT AGREEMENT**

This Grant Agreement is entered into between the Government of the United States of America, acting through the U.S. Trade and Development Agency ("USTDA") and Bayti Real Estate Investment Company ("Grantee"). USTDA agrees to provide the Grantee under the terms of this Agreement US\$273,772 ("USTDA Grant") to fund the cost of goods and services required for a feasibility study ("Study") on the proposed Rawabi Tertiary Treatment Facility and Wastewater Reuse project ("Project") in the West Bank.

### **1. USTDA Funding**

The funding to be provided under this Grant Agreement shall be used to fund the costs of a contract between the Grantee and the U.S. firm selected by the Grantee ("Contractor") under which the Contractor will perform the Study ("Contract"). Payment to the Contractor will be made directly by USTDA on behalf of the Grantee with the USTDA Grant funds provided under this Grant Agreement.

### **2. Terms of Reference**

The Terms of Reference for the Study ("Terms of Reference") are attached as Annex I and are hereby made a part of this Grant Agreement. The Study will examine the technical, financial, environmental, and other critical aspects of the proposed Project. The Terms of Reference for the Study shall also be included in the Contract.

### **3. Standards of Conduct**

USTDA and the Grantee recognize the existence of standards of conduct for public officials, and commercial entities, in their respective countries. The parties to this Grant Agreement and the Contractor shall observe these standards, which include not accepting payment of money or anything of value, directly or indirectly, from any person for the purpose of illegally or improperly inducing anyone to take any action favorable to any party in connection with the Study.

### **4. Grantee Responsibilities**

The Grantee shall undertake its best efforts to provide reasonable support for the Contractor, such as local transportation, office space, and secretarial support, as agreed to by the parties and set forth in the contract between the Grantee and the Contractor. In addition to the USTDA funding provided under this Agreement, the Grantee shall cover at least US\$30,000 of costs to complete the full Terms of Reference ("Grantee Cost Share"). The Grantee shall pay the Grantee Cost Share to the Contractor in cash in proportion to the funding being provided by USTDA and the Grantee, respectively (USTDA US\$273,772 : Grantee US\$30,000) and in accordance with the procedures set forth in the Payment Schedule Requirements in Clause H(2) of the USTDA Mandatory Contract Clauses in Annex II to this Agreement.

## **5. USTDA as Financier**

### **(A) USTDA Approval of Competitive Selection Procedures**

Selection of the U.S. Contractor shall be carried out by the Grantee according to its established procedures for the competitive selection of contractors with advance notice of the procurement published online through *Federal Business Opportunities* ([www.fedbizopps.gov](http://www.fedbizopps.gov)). Upon request, the Grantee will submit these contracting procedures and related documents to USTDA for information and/or approval.

### **(B) USTDA Approval of Contractor Selection**

The Grantee shall notify USTDA at the address of record set forth in Article 17 below upon selection of the Contractor to perform the Study. Upon approval of this selection by USTDA, the Grantee and the Contractor shall then enter into a contract for performance of the Study. The Grantee shall notify in writing the U.S. firms that submitted unsuccessful proposals to perform the Study that they were not selected.

### **(C) USTDA Approval of Contract Between Grantee and Contractor**

The Grantee and the Contractor shall enter into a contract for performance of the Study. This contract, and any amendments thereto, including assignments and changes in the Terms of Reference, must be approved by USTDA in writing. To expedite this approval, the Grantee (or the Contractor on the Grantee's behalf) shall transmit to USTDA, at the address set forth in Article 17 below, a photocopy of an English language version of the signed contract or a final negotiated draft version of the contract.

### **(D) USTDA Not a Party to the Contract**

It is understood by the parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of the contract and any amendments thereto, including assignments, the selection of all contractors, the Terms of Reference, the Final Report, and any and all documents related to any contract funded under the Grant Agreement. The parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from exercising these approval rights shall be made as a financier in the course of funding the Study and shall not be construed as making USTDA a party to the contract. The parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the parties to the contract or any subcontract, jointly or separately, without thereby incurring any responsibility or liability to such parties. Any approval or failure to approve by USTDA shall not bar the Grantee or USTDA from asserting any right they might have against the

Contractor, or relieve the Contractor of any liability which the Contractor might otherwise have to the Grantee or USTDA.

**(E) Grant Agreement Controlling**

Regardless of USTDA approval, the rights and obligations of any party to the contract or subcontract thereunder must be consistent with this Grant Agreement. In the event of any inconsistency between the Grant Agreement and any contract or subcontract funded by the Grant Agreement, the Grant Agreement shall be controlling.

**6. Disbursement Procedures**

**(A) USTDA Approval of Contract Required**

USTDA will make disbursements of Grant funds directly to the Contractor only after USTDA approves the Grantee's contract with the Contractor.

**(B) Contractor Invoice Requirements**

The Grantee should request disbursement of funds by USTDA to the Contractor for performance of the Study by submitting invoices in accordance with the procedures set forth in the USTDA Mandatory Clauses in Annex II.

**7. Effective Date**

The effective date of this Grant Agreement ("Effective Date") shall be the date of signature by both parties or, if the parties sign on different dates, the date of the last signature.

**8. Study Schedule**

**(A) Study Completion Date**

The completion date for the Study, which is November 30, 2011, is the date by which the parties estimate that the Study will have been completed.

**(B) Time Limitation on Disbursement of USTDA Grant Funds**

Except as USTDA may otherwise agree, (a) no USTDA funds may be disbursed under this Grant Agreement for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (b) all funds made available under the Grant Agreement must be disbursed within four (4) years from the Effective Date of the Grant Agreement.

**9. USTDA Mandatory Clauses**

All contracts funded under this Grant Agreement shall include the USTDA mandatory clauses set forth in Annex II to this Grant Agreement. All subcontracts funded or partially funded with USTDA Grant funds shall include the USTDA mandatory clauses, except for clauses B(1), G, H, I, and J.

#### **10. Use of U.S. Carriers**

##### **(A) Air**

Transportation by air of persons or property funded under the Grant Agreement shall be on U.S. flag carriers in accordance with the Fly America Act, 49 U.S.C. 40118, to the extent service by such carriers is available, as provided under applicable U.S. Government regulations.

##### **(B) Marine**

Transportation by sea of property funded under the Grant Agreement shall be on U.S. carriers in accordance with U.S. cargo preference law.

#### **11. Nationality, Source and Origin**

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and services funded by USTDA under the Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from the West Bank may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for performance of the Study and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to Study support (e.g., local lodging, food, and transportation) in the West Bank are not subject to the above restrictions. USTDA will make available further details concerning these provisions upon request.

#### **12. Taxes**

USTDA funds provided under the Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in the West Bank. Neither the Grantee nor the Contractor will seek reimbursement from USTDA for such taxes, tariffs, duties, fees or other levies.

### **13. Cooperation Between Parties and Follow-Up**

The parties will cooperate to assure that the purposes of the Grant Agreement are accomplished. For five (5) years following receipt by USTDA of the Final Report (as defined in Clause I of Annex II), the Grantee agrees to respond to any reasonable inquiries from USTDA about the status of the Project.

### **14. Implementation Letters**

To assist the Grantee in the implementation of the Study, USTDA may, from time to time, issue implementation letters that will provide additional information about matters covered by the Grant Agreement. The parties may also use jointly agreed upon implementation letters to confirm and record their mutual understanding of matters covered by the Grant Agreement.

### **15. Recordkeeping and Audit**

The Grantee agrees to maintain books, records, and other documents relating to the Study and the Grant Agreement adequate to demonstrate implementation of its responsibilities under the Grant Agreement, including the selection of contractors, receipt and approval of contract deliverables, and approval or disapproval of contractor invoices for payment by USTDA. Such books, records, and other documents shall be separately maintained for three (3) years after the date of the final disbursement by USTDA. The Grantee shall afford USTDA or its authorized representatives the opportunity at reasonable times to review books, records, and other documents relating to the Study and the Grant Agreement.

### **16. Representation of Parties**

For all purposes relevant to the Grant Agreement, the Government of the United States of America will be represented by the U. S. Consul General in Jerusalem or USTDA and Grantee will be represented by the Deputy Managing Director Amir Dajani. The parties hereto may, by written notice, designate additional representatives for all purposes under the Grant Agreement.

### **17. Addresses of Record for Parties**

Any notice, request, document, or other communication submitted by either party to the other under the Grant Agreement shall be in writing or through a wire or electronic medium which produces a tangible record of the transmission, such as a telegram, cable or facsimile, and will be deemed duly given or sent when delivered to such party at the following:

To: Amir Dajani  
Bayti Real Estate Investment Company  
7 Kawthar Street, Ramallah, West Bank

Phone: +970.2 .2415444  
Fax: +970.2 .2409752

To: U.S. Trade and Development Agency  
1000 Wilson Boulevard, Suite 1600  
Arlington, Virginia 22209-3901  
USA

Phone: (703) 875-4357  
Fax: (703) 875-4009

All such communications shall be in English, unless the parties otherwise agree in writing. In addition, the Grantee shall provide the Commercial Section of the Consulate in Jerusalem with a copy of each communication sent to USTDA.

Any communication relating to this Grant Agreement shall include the following fiscal data:

Appropriation No.: 11 10/11 1001  
Activity No.: 2010-21014A  
Reservation No.: 2010210013  
Grant No.: GH2010210008

#### **18. Termination Clause**

Either party may terminate the Grant Agreement by giving the other party thirty (30) days advance written notice. The termination of the Grant Agreement will end any obligations of the parties to provide financial or other resources for the Study, except for payments which they are committed to make pursuant to noncancellable commitments entered into with third parties prior to the written notice of termination.

#### **19. Non-waiver of Rights and Remedies**

No delay in exercising any right or remedy accruing to either party in connection with the Grant Agreement shall be construed as a waiver of such right or remedy.

#### **20. U.S. Technology and Equipment**

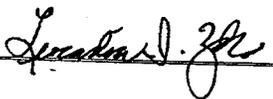
By funding this Study, USTDA seeks to promote the project objectives of the West Bank through the use of U.S. technology, goods, and services. In recognition of this purpose, the Grantee agrees that it will allow U.S. suppliers to compete in the procurement of technology, goods and services needed for Project implementation.

**[THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK]**

**IN WITNESS WHEREOF, the Government of the United States of America and Bayti Real Estate Investment Company, each acting through its duly authorized representative, have caused this Agreement to be signed in the English language in their names and delivered as of the day and year written below. In the event that this Grant Agreement is signed in more than one language, the English language version shall govern.**

**For the Government of the  
United States of America**

**For Bayti Real Estate Investment  
Company**

By: 

By: 

Date: 3/15/10

Date: 3/15/2010

Witnessed:

Witnessed:

By: 

By: 

**Annex II -- USTDA Mandatory Clauses**

## Annex II

### USTDA Mandatory Contract Clauses

#### A. USTDA Mandatory Clauses Controlling

The parties to this contract acknowledge that this contract is funded in whole or in part by the U.S. Trade and Development Agency ("USTDA") under the Grant Agreement between the Government of the United States of America acting through USTDA and Bayti Real Estate Investment Company ("Client"), dated March 15, 2010, as amended by Amendment No. 1, dated July 29, 2010 ("Grant Agreement"). The Client has selected \_\_\_\_\_ ("Contractor") to perform the feasibility study ("Study") for the Rawabi Tertiary Treatment Facility and Wastewater Reuse project ("Project") in the West Bank. Notwithstanding any other provisions of this contract, the following USTDA mandatory contract clauses shall govern. All subcontracts entered into by Contractor funded or partially funded with USTDA Grant funds shall include these USTDA mandatory contract clauses, except for clauses B(1), G, H, I, and J. In addition, in the event of any inconsistency between the Grant Agreement and any contract or subcontract thereunder, the Grant Agreement shall be controlling.

#### B. USTDA as Financier

##### (1) USTDA Approval of Contract

All contracts funded under the Grant Agreement, and any amendments thereto, including assignments and changes in the Terms of Reference, must be approved by USTDA in writing in order to be effective with respect to the expenditure of USTDA Grant funds. USTDA will not authorize the disbursement of USTDA Grant funds until the contract has been formally approved by USTDA or until the contract conforms to modifications required by USTDA during the contract review process.

##### (2) USTDA Not a Party to the Contract

It is understood by the parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of this contract and amendments thereto, including assignments, the selection of all contractors, the Terms of Reference, the Final Report, and any and all documents related to any contract funded under the Grant Agreement. The parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from exercising these approval rights shall be made as a financier in the course of financing the Study and shall not be construed as making USTDA a party to the contract. The parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the parties to the contract or any subcontract, jointly or separately, without thereby incurring any responsibility

or liability to such parties. Any approval or failure to approve by USTDA shall not bar the Client or USTDA from asserting any right they might have against the Contractor, or relieve the Contractor of any liability which the Contractor might otherwise have to the Client or USTDA.

### **C. Nationality, Source and Origin**

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and services funded by USTDA under the Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from the West Bank may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for performance of the Study and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to Study support (e.g., local lodging, food, and transportation) in the West Bank are not subject to the above restrictions. USTDA will make available further details concerning these provisions upon request.

### **D. Recordkeeping and Audit**

The Contractor and subcontractors funded under the Grant Agreement shall maintain, in accordance with generally accepted accounting procedures, books, records, and other documents, sufficient to reflect properly all transactions under or in connection with the contract. These books, records, and other documents shall clearly identify and track the use and expenditure of USTDA funds, separately from other funding sources. Such books, records, and documents shall be maintained during the contract term and for a period of three (3) years after final disbursement by USTDA. The Contractor and subcontractors shall afford USTDA, or its authorized representatives, the opportunity at reasonable times for inspection and audit of such books, records, and other documentation.

### **E. U.S. Carriers**

#### **(1) Air**

Transportation by air of persons or property funded under the Grant Agreement shall be on U.S. flag carriers in accordance with the Fly America Act, 49 U.S.C. 40118, to the extent service by such carriers is available, as provided under applicable U.S. Government regulations.

#### **(2) Marine**

Transportation by sea of property funded under the Grant Agreement shall be on U.S. carriers in accordance with U.S. cargo preference law.

#### **F. Workman's Compensation Insurance**

The Contractor shall provide adequate Workman's Compensation Insurance coverage for work performed under this Contract.

#### **G. Reporting Requirements**

The Contractor shall advise USTDA by letter as to the status of the Project on March 1st annually for a period of two (2) years after completion of the Study. In addition, if at any time the Contractor receives follow-on work from the Client, the Contractor shall so notify USTDA and designate the Contractor's contact point including name, telephone, and fax number. Since this information may be made publicly available by USTDA, any information which is confidential shall be designated as such by the Contractor and provided separately to USTDA. USTDA will maintain the confidentiality of such information in accordance with applicable law.

#### **H. Disbursement Procedures**

##### **(1) USTDA Approval of Contract**

Disbursement of Grant funds will be made only after USTDA approval of this contract. To make this review in a timely fashion, USTDA must receive from either the Client or the Contractor a photocopy of an English language version of a signed contract or a final negotiated draft version to the attention of the General Counsel's office at USTDA's address listed in Clause M below.

##### **(2) Payment Schedule Requirements**

A payment schedule for disbursement of Grant funds to the Contractor shall be included in this Contract. For each payment under the payment schedule, the Grantee shall pay the Grantee Cost Share directly to the Contractor in proportion to the funding being provided by USTDA and the Grantee, respectively (USTDA US\$316,180; Grantee US\$30,000). Such payment schedule must conform to the following USTDA requirements: (1) up to twenty percent (20%) of the total USTDA Grant amount may be used as a mobilization payment; (2) all other payments, with the exception of the final payment, shall be based upon contract performance milestones; and (3) the final payment may be no less than fifteen percent (15%) of the total USTDA Grant amount, payable upon receipt by USTDA of an approved Final Report in accordance with the specifications and quantities set forth in Clause I below. Invoicing procedures for all payments are described below.

##### **(3) Contractor Invoice Requirements**

USTDA will make all disbursements of USTDA Grant funds directly to the Contractor. The Contractor must provide USTDA with an ACH Vendor Enrollment Form (available from USTDA) with the first invoice. The Client shall request disbursement of funds by USTDA to the Contractor for performance of the contract by submitting the following to USTDA:

**(a) Contractor's Invoice**

The Contractor's invoice shall include reference to an item listed in the Contract payment schedule, the requested payment amount, and an appropriate certification by the Contractor, as follows:

(i) For a mobilization payment (if any):

"As a condition for this mobilization payment, the Contractor certifies that it will perform all work in accordance with the terms of its Contract with the Client. The Contractor has received the *pro rata* payment due to the Contractor from the Client under this invoice, in accordance with the applicable Contract provisions and the terms and conditions of the USTDA Grant Agreement. To the extent that the Contractor does not comply with the terms and conditions of the Contract, including the USTDA mandatory provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(ii) For contract performance milestone payments:

"The Contractor has performed the work described in this invoice in accordance with the terms of its contract with the Client and is entitled to payment thereunder. To the extent the Contractor has not complied with the terms and conditions of the Contract, including the USTDA mandatory provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(iii) For final payment:

"The Contractor has performed the work described in this invoice in accordance with the terms of its contract with the Client and is entitled to payment thereunder. Specifically, the Contractor has submitted the Final Report to the Client, as required by the Contract, and received the Client's approval of the Final Report. To the extent the Contractor has not complied with the terms and conditions of the Contract, including the USTDA mandatory provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

**(b) Client's Approval of the Contractor's Invoice**

(i) The invoice for a mobilization payment must be approved in writing by the Client.

(ii) For contract performance milestone payments, the following certification by the Client must be provided on the invoice or separately:

"The services for which disbursement is requested by the Contractor have been performed satisfactorily, in accordance with applicable Contract provisions and the terms and conditions of the USTDA Grant Agreement. The Client has disbursed its *pro rata* payment due to the Contractor under this invoice in accordance with the applicable Contract provisions and the terms and conditions of the USTDA Grant Agreement."

(iii) For final payment, the following certification by the Client must be provided on the invoice or separately:

"The services for which disbursement is requested by the Contractor have been performed satisfactorily, in accordance with applicable Contract provisions and terms and conditions of the USTDA Grant Agreement. The Final Report submitted by the Contractor has been reviewed and approved by the Client. "

**(c) USTDA Address for Disbursement Requests**

Requests for disbursement shall be submitted by courier or mail to the attention of the Finance Department at USTDA's address listed in Clause M below.

**(4) Termination**

In the event that the Contract is terminated prior to completion, the Contractor will be eligible, subject to USTDA approval, for reasonable and documented costs which have been incurred in performing the Terms of Reference prior to termination, as well as reasonable wind down expenses. Reimbursement for such costs shall not exceed the total amount of undisbursed Grant funds. Likewise, in the event of such termination, USTDA is entitled to receive from the Contractor all USTDA Grant funds previously disbursed to the Contractor (including but not limited to mobilization payments) which exceed the reasonable and documented costs incurred in performing the Terms of Reference prior to termination.

**I. USTDA Final Report**

**(1) Definition**

"Final Report" shall mean the Final Report described in the attached Annex I Terms of Reference or, if no such "Final Report" is described therein, "Final Report" shall mean a substantive and comprehensive report of work performed in accordance with the attached Annex I Terms of Reference, including any documents delivered to the Client.

**(2) Final Report Submission Requirements**

The Contractor shall provide the following to USTDA:

(a) One (1) complete version of the Final Report for USTDA's records. This version shall have been approved by the Client in writing and must be in the English language. It is the responsibility of the Contractor to ensure that confidential information, if any, contained in this version be clearly marked. USTDA will maintain the confidentiality of such information in accordance with applicable law.

and

(b) One (1) copy of the Final Report suitable for public distribution ("Public Version"). The Public Version shall have been approved by the Client in writing and must be in the English language. As this version will be available for public distribution, it must not contain any confidential information. If the report in (a) above contains no confidential information, it may be used as the Public Version. In any event, the Public Version must be informative and contain sufficient Project detail to be useful to prospective equipment and service providers.

and

(c) Two (2) CD-ROMs, each containing a complete copy of the Public Version of the Final Report. The electronic files on the CD-ROMs shall be submitted in a commonly accessible read-only format. As these CD-ROMs will be available for public distribution, they must not contain any confidential information. It is the responsibility of the Contractor to ensure that no confidential information is contained on the CD-ROMs.

The Contractor shall also provide one (1) copy of the Public Version of the Final Report to the Foreign Commercial Service Officer or the Economic Section of the U.S. Consulate in Jerusalem for informational purposes.

### **(3) Final Report Presentation**

All Final Reports submitted to USTDA must be paginated and include the following:

(a) The front cover of every Final Report shall contain the name of the Client, the name of the Contractor who prepared the report, a report title, USTDA's logo, USTDA's mailing and delivery addresses. If the complete version of the Final Report contains confidential information, the Contractor shall be responsible for labeling the front cover of that version of the Final Report with the term "Confidential Version." The Contractor shall be responsible for labeling the front cover of the Public Version of the Final Report with the term "Public Version." The front cover of every Final Report shall also contain the following disclaimer:

"This report was funded by the U.S. Trade and Development Agency (USTDA), an agency of the U. S. Government. The opinions, findings, conclusions or recommendations expressed in this document are those of the author(s) and do not necessarily represent the official position or policies of USTDA. USTDA makes no representation about, nor does it accept responsibility for, the accuracy or completeness of the information contained in this report."

(b) The inside front cover of every Final Report shall contain USTDA's logo, USTDA's mailing and delivery addresses, and USTDA's mission statement. Camera-ready copy of USTDA Final Report specifications will be available from USTDA upon request.

(c) The Contractor shall affix to the front of the CD-ROM a label identifying the West Bank as the location of the Activity, USTDA Activity Number, the name of the Client, the name of the Contractor who prepared the report, a report title, and the following language:

"The Contractor certifies that this CD-ROM contains the Public Version of the Final Report and that all contents are suitable for public distribution."

(d) The Contractor and any subcontractors that perform work pursuant to the Grant Agreement must be clearly identified in the Final Report. Business name, point of contact, address, telephone and fax numbers shall be included for Contractor and each subcontractor.

(e) The Final Report, while aiming at optimum specifications and characteristics for the Project, shall identify the availability of prospective U.S. sources of supply. Business name, point of contact, address, telephone and fax numbers shall be included for each commercial source.

(f) The Final Report shall be accompanied by a letter or other notation by the Client which states that the Client approves the Final Report. A certification by the Client to this effect provided on or with the invoice for final payment will meet this requirement.

## **J. Modifications**

All changes, modifications, assignments or amendments to this contract, including the appendices, shall be made only by written agreement by the parties hereto, subject to written USTDA approval.

## **K. Study Schedule**

### **(1) Study Completion Date**

The completion date for the Study, which is November 30, 2011, is the date by which the parties estimate that the Study will have been completed.

### **(2) Time Limitation on Disbursement of USTDA Grant Funds**

Except as USTDA may otherwise agree, (a) no USTDA funds may be disbursed under this contract for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (b) all funds made available under the Grant Agreement must be disbursed within four (4) years from the Effective Date of the Grant Agreement.

## **L. Business Practices**

The Contractor agrees not to pay, promise to pay, or authorize the payment of any money or anything of value, directly or indirectly, to any person (whether a governmental official or private individual) for the purpose of illegally or improperly inducing anyone to take any action favorable to any party in connection with the Study. The Client agrees not to receive any such payment. The Contractor and the Client agree that each will require that any agent or representative hired to represent them in connection with the Study will comply with this paragraph and all laws which apply to activities and obligations of each party under this Contract, including but not limited to those laws and obligations dealing with improper payments as described above.

## **M. USTDA Address and Fiscal Data**

Any communication with USTDA regarding this Contract shall be sent to the following address and include the fiscal data listed below:

U.S. Trade and Development Agency  
1000 Wilson Boulevard, Suite 1600  
Arlington, Virginia 22209-3901  
USA

Phone: (703) 875-4357  
Fax: (703) 875-4009

### Fiscal Data:

|                    |               |
|--------------------|---------------|
| Appropriation No.: | 11 10/11 1001 |
| Activity No.:      | 2010-21014A   |
| Reservation No.:   | 2010210013    |
| Grant No.:         | GH2010210008  |

## **N. Definitions**

All capitalized terms not otherwise defined herein shall have the meaning set forth in the Grant Agreement.

## **O. Taxes**

USTDA funds provided under the Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in the West Bank. Neither the Client nor the Contractor will seek reimbursement from USTDA for such taxes, tariffs, duties, fees or other levies.

# ANNEX 5

## **AMENDMENT NO. 1 TERMS OF REFERENCE**

### **1. PURPOSE AND OBJECTIVE OF THE STUDY**

The purpose of this U.S. Trade and Development Agency (USTDA) grant assistance is to provide technical support to the Bayti Real Estate Investment Company (the "Grantee") through a feasibility study (FS) on the proposed Regional Wastewater Treatment Plant (WWTP) project (the "Project") in Ramallah, West Bank.

The FS will assess wastewater treatment technologies for a wastewater treatment plant (WWTP) that will provide wastewater reclamation and reuse both within the Rawabi community and the surrounding communities of Bani Zeid and Ein Synia, and for irrigation of agricultural land and industrial sites outside of the Rawabi area.

### **2. BACKGROUND**

The objective of the Rawabi Land Development project (Rawabi) is to provide affordable homes to a projected population of 19,058 by 2015, 22,756 by 2020, and 30,582 by 2030, respectively. Rawabi is located approximately 9 km to the Northeast of the City of Ramallah along the eastern-western corridor between Amman and Tel Aviv at a distance of 70 and 40 km from these cities, respectively. The Grantee intends that Rawabi will be a self-sustainable city of 40,000 residents when fully developed. The Palestinian Water Authority (PWA) has requested that the Project provide a regional solution for wastewater generated at Rawabi and the Bani Zeid and Ein Synia communities; the current population within each community is estimated at 21,000 and 42,000, respectively. Therefore, the FS will assess a WWTP that identifies wastewater management solutions for Rawabi and the Bani Zeid and Ein Synia communities.

The Contractor will investigate the suitability of current wastewater treatment technology such as Membrane Bioreactor (MBR) and Sequential Bioreactor (SBR) for wastewater treatment for reuse in accordance with current water quality standards for treated wastewater irrigation. The evaluation will assess the advantages and disadvantages of using these technologies to implement wastewater reclamation systems for agriculture wastewater reuse in the study area. The proposed Project is part of a necessary non-potable water supply service expansion to ameliorate water supply shortage conditions that prevail in the West Bank. The proposed Project is consistent with PWA current water resources conservation policies and with Rawabi's overall strategic plan aimed at reducing dependency on overexploited water resources in the study area.

#### **TASK 1 DETAILED BACKGROUND REVIEW**

The Contractor shall commence the work by becoming familiar with the Project area's environmental setting, which shall include reconnaissance field trips to Rawabi and the Bani Zeid and Ein Synia communities and visits to the potential sites already identified within these two communities for the location of the WWTP. The Grantee shall provide

to the Contractor all the necessary Rawabi planning level information, such as population estimates, per capita flow and topographical maps of the Project's area in order for the Contractor to establish the Project's design criteria and complete this FS. The Contractor shall review all information provided by the Grantee and any other available information applicable to the Project. As a result of this task the Contractor shall become fully acquainted with the service area and its potential water reuse customers, requirements of the wastewater treatment plant effluent and the scope of technical services to satisfy the requirements of the assignment and begin drafting an Inception Report.

## **TASK 2 PROJECT MANAGEMENT PLAN**

The Contractor shall meet with all of the relevant stakeholders, including Grantee personnel, the Palestinian Water Authority, the Jerusalem Water Undertaking, the West Bank Water Department, the Israeli Water Commission, and other stakeholders identified while performing Task 1. The Contractor shall organize a one day workshop for the stakeholders at the start of the Project to exchange ideas and develop an integrated work plan for all components of the Project. The Contractor shall prepare an Inception Report that includes a detailed Project Management Plan outlining the responsibility of each professional participating in the Project.

Deliverable: The Contractor shall provide an Inception Report, including all of the work performed under this task, as well as the Project Management Plan.

## **TASK 3 RECLAIMED WATER POTENTIAL AND DEMAND ASSESSMENT**

The Contractor shall identify and establish the potential universe of customers for reclaimed water in the study area. The Contractor shall conduct a survey to identify agricultural, industrial and institutional customers and their specific requirements regarding the quality and quantity of reclaimed water and a detailed review of their willingness to pay for the proposed service. The Contractor and the Grantee shall contact institutions with vested stakes in the use of treated wastewater in the study area. The survey shall identify the location of all potential customers. In the case of agriculture reclaimed water users, the survey shall provide the water application rate per unit area per day. Data obtained from the survey shall be compiled in a computerized Excel database and shall be presented in a report using a Geographic Information System (GIS). The Contractor shall present the results of the survey in a one-day workshop with appropriate Grantee officials to discuss the estimated reclaimed water demand and pricing policy.

Deliverable: The Contractor shall provide a report of all the work performed under this task, including the Reclaimed Water Demand Survey Report.

## **TASK 4 REVIEW OF RECLAIMED WATER QUALITY AND REGULATORY REQUIREMENTS**

The Contractor shall investigate, obtain and review all reclaimed water regulatory requirements under current applicable regulations. These shall include, but not be limited to, water quality requirements for water reuse and environmental discharge. In the event water quality standards specified in the local regulations preclude the use of reclaimed water for food crop irrigation, the Contractor, in agreement with accepted professional practice, shall propose the adoption of international standards, such as the State of California water quality standards, for water reuse.

The Contractor shall identify the reclaimed water system sampling and analysis required to assert that the reclaimed water quality meets the water quality demanded by the potential reclaimed water users and any regulatory permits.

Deliverable: The Contractor shall provide a report of all the work performed under this task, including the Reclaimed Water Quality and Regulatory Requirements Report.

#### **TASK 5 ESTABLISH PROJECTED RECLAIMED WATER FLOWS**

The Contractor shall assess the wastewater flow to be treated at the WWTP. The determination of the design flow will be based on: the planning level assessment of the wastewater flow anticipated from the Bani Zeid and Ein Synia communities, and the Rawabi community master plan. Wastewater quality data will originate from surveys previously conducted by the Grantee's wastewater consultants (Birzeit University and/or other local consultants). The Contractor shall establish the quantity of wastewater to be treated at the WWTP including a definition of the average, peak and seasonal variations of the flow in quality and quantity.

Deliverable: The Contractor shall provide a report of all the work performed under this task, including the Tertiary Treatment Wastewater Flow Rate Report.

#### **TASK 6 WWTP SITING AND WASTEWATER CONVEYANCE PLANNING**

The Contractor shall investigate the suitability of each of the sites presently identified as potential locations for the WWTP in the Bani Zeid and Ein Synia communities. If necessary, the Contractor shall recommend one additional potential site for the location of the WWTP. The Contractor shall also evaluate the suitability of the WWTP sites using a set of technical factors that include, but are not limited to, the following:

- Site Requirements (including access, buffering, floodplain, electric power availability, water supply, site size and expandability);
- Community Impacts;
- Public Health and Safety Concerns;
- Environmental Impacts;

- Land Use Impacts; and
- Economic Impacts.

The Contractor shall prepare the Rawabi, Bani Zeid, and Ein Synia communities' wastewater transmission system's conceptual designs in order to illustrate the wastewater conveyance system planning level layout and related capital investment and O&M costs.

Any topographic and geotechnical surveys required by the Contractor for the completion of the WWTP siting and wastewater conveyance task will be conducted and provided by the Grantee within 45 days of their request by the Contractor. If such necessary surveys are not provided by the Grantee, the Contractor shall provide written notice to USTDA and the USTDA Grant may be terminated.

Deliverable: The Contractor shall provide a report of all the work performed under this task, including the WWTP Siting and Wastewater Conveyance Planning Report.

## **TASK 7 WASTEWATER TREATMENT TECHNOLOGIES EVALUATION**

The Contractor shall assess various wastewater treatment technologies to meet the water quality requirements required by the reclaimed wastewater users.

### **Subtask 7.1 Establishing Design Criteria**

The Contractor shall work closely with the Grantee to establish the appropriate design criteria for the various components of the WWTP to ensure that its capacity can be scaled up to accommodate increasing demand as the local populations grows over time. In concert with the Grantee, the Contractor shall establish the power source and cost of the electric power supply for the Project. The Contractor shall prepare the design criteria for the reclaimed water storage, conveyance and distribution pipelines and related appurtenances such as pump stations. As indicated in Task 4, when establishing appropriate design parameters, the Contractor shall take local and international regulations on wastewater treatment for industrial and agriculture reuse into account. At the completion of this Task, the Contractor shall prepare a technical memorandum to document the proposed design criteria for the Project.

Deliverable: The Contractor shall provide report of all the work performed under this Sub-task, including the Technical Memorandum.

### **Subtask 7.2 Evaluation of Wastewater Treatment Alternatives**

The Contractor shall identify, describe and evaluate viable wastewater treatment alternatives. The Contractor shall identify alternatives based on actual wastewater characteristics (quantity and quality), water quality requirements for reuse, land availability, implementation costs and operation and maintenance (O&M) factors. The

Contractor shall identify all components of the tertiary wastewater management systems including, but not limited to, pumps, MBRs, SBRs, Ultra Filtration (UF), Reverse Osmosis and UV units. The Contractor shall prepare a conceptual design for each tertiary wastewater management alternative. The technical details of each alternative shall include pipeline sizes and route alignment, pump stations, process flow diagrams, site layouts, hydraulic profiles and equipment lists. In addition, alternative pipeline materials shall be assessed.

The Contractor shall perform a detailed evaluation of potential viable alternatives for tertiary treatment of the wastewater generated from Rawabi and the communities in Bani Zeid and Ein Synia. Criteria to be used in the evaluation shall include, but will not be limited to: expected effectiveness and reliability; health risks and environmental concerns; implementability and constructability; expandability; operational considerations; and ability to be implemented in phases. As part of the evaluation, the Contractor shall prepare and articulate a comprehensive cost analysis of the alternatives that includes life cycle costs, present costs, and cost/benefits. At the end of this subtask the Grantee, in consultation with the Contractor, will select the preferred alternative.

Deliverable: The Contractor shall provide a report of all the work performed under this Sub-task, including a Tertiary Wastewater Treatment Alternatives Evaluation Report.

### **Subtask 7.3 Preliminary Design**

The Contractor shall prepare the preliminary design of the infrastructure under the preferred alternative selected in subtask 7.2. The infrastructure shall include, but will not be limited to, pump stations, electrical and mechanical equipment for the wastewater treatment system and discharge pipelines, and the preliminary design of reclaimed water storage, conveyance and distribution pipelines. Any required topographic and geotechnical surveys will be conducted by the Grantee. The overall preliminary design for the Project shall be presented in a descriptive and schematic form. The preliminary design will be discussed with the Grantee prior to its completion.

Deliverable: The Contractor shall provide a report of all the work performed under this Sub-task, including the Preliminary Design Report.

## **TASK 8 FEASIBILITY ANALYSIS OF THE WASTEWATER TERTIARY TREATMENT PLANT**

The Contractor shall conduct and articulate a detailed feasibility analysis of the WWTP design developed in Task 7.

### **Subtask 8.1 Technical Assessment**

The technical assessment shall include, but will not be limited to, the analysis of the following factors:

- Engineering and design parameters, complexity, and limitations;
- Constructability with identification of major problem areas;
- Operability including operating costs;
- Maintenance requirements, personnel needs and costs;
- Long-term adaptability and effects on the existing secondary wastewater treatment system; and
- Life cycle costs.

### **Subtask 8.2 Economic Analysis**

The Contractor shall conduct an economic assessment of the Project based on a set of indicators that may include, but will not be limited to, the effect of wastewater reclamation and reuse on agriculture production and industrial output.

The Contractor shall examine the economic benefits of using reclaimed water in the service area as opposed to using groundwater and surface water systems. The Contractor shall estimate the economic and financial impacts of the investment by means of a comparison of current water use and availability conditions (without the Project) to future potential water use and availability scenarios (with the Project).

### **Subtask 8.3 Financial Analysis**

The Contractor shall prepare a financial plan for the implementation of the Project that addresses the Grantee's needs in seeking donor or capital market financing. This shall include assessment of alternative financing approaches such as Public Private Partnerships (e.g. Build-Own-Transfer, or BOT). The financial plan shall also satisfy the requirements of all prospective funding institutions that shall be identified by the Grantee at the onset of the assignment. In consultation with the Grantee, the Contractor shall assess the potential interest of the U.S. Ex-Im Bank, World Bank and other local and international financial institutions interested in lending support to the Project.

The financial plan shall include, but shall not be limited to, a detailed analysis of the proposed debt-equity structure and a full description of the cost-recovery program required for the self-sustainability of the Project. The cost-recovery program shall take into account the costs associated with the operation and maintenance of the Project, equipment and facilities depreciation, debt service and anticipated equipment replacement costs. The cost-recovery program shall contemplate a replacement account such as a trust fund for the self-sustainability of the Project. All sources of revenue must be identified.

### **Subtask 8.4 Human Health and Preliminary Environmental Impact Assessment**

The Contractor shall identify and discuss the impacts on human health and environment that may result from implementation of the Project as well as the economic benefits of these impacts. The preliminary environmental impact assessment of the Project shall take

into account international standards such as those used by the World Bank in addition to local standards. The Contractor shall assess and describe environmental control and mitigation measures as necessary.

#### **Subtask 8.5 Water Quality Impacts**

The Contractor shall identify short-term and long-term (positive and/or negative) impacts on water quality that may result from the implementation of the Project. The analysis shall include the identification and discussion of mitigation measures available to reduce any negative water quality impacts to the greatest extent possible.

#### **Subtask 8.6 Ecological Impacts**

The Contractor shall describe any short-term and long-term impacts on sensitive life forms and ecological systems caused by the implementation of the Project. The Contractor shall include the identification and discussion of mitigation measures available to reduce negative impacts to the greatest extent possible.

#### **Subtask 8.7 Socioeconomic Impacts**

The Contractor shall identify, discuss and analyze short-term and long-term impacts on human health and wellbeing, employment, income, education, agricultural production, and commercial and industrial activity that may result from the implementation of the Project.

Deliverable: The Contractor shall provide a report of all the work performed under this Task, including a WWTP Feasibility Evaluation Report.

### **TASK 9 DEVELOPMENTAL IMPACT ASSESSMENT**

The Contractor shall report on the potential developmental impact of the Project. While specific focus should be paid to the immediate impact of the specific Project, the Contractor shall include, where appropriate, any additional developmental benefits of the Project, including spin-off, demonstration, and implementation effects. The analysis of potential benefits should be as concrete and detailed as possible. The developmental impact factors are intended to provide the Grantee and other interested parties with a broader view of the Project's potential effects. The Contractor shall provide estimates of the Project's potential benefits in the following areas:

**Infrastructure:** A description of the infrastructure created as a result of the Project such as municipal infrastructure that reduces public health risks, enhances agriculture

productivity, deters environmental deterioration and promotes social wellbeing and economic growth.

**Building Human Capacity:** The number and type of positions that have been or will likely be created as a result of the Project. The Contractor shall distinguish between temporary jobs and permanent jobs and comment on the prospect of any training recommended in the Final Report, including an estimate of the number of people to be trained, type of training required and desired outcome of training.

**Technology Transfer and Productivity Improvement:** A description of any advanced technologies that have been implemented during or may be implemented as a result of the Project. The Contractor shall provide a description of any efficiency that has or would be gained through the implemented technologies. The Contractor shall discuss how wastewater reclamation technology can be replicated in other parts of the West Bank to generate water for safe reuse.

**Market-oriented reform:** A description of any market-oriented reforms such as regulation, laws, or institutional changes that are recommended, and the effect they would have if implemented. These may include government wastewater management policy changes, change in tax policy and tariffs, privatization of state owned assets, or increased competition in a particular sector associated with wastewater reclamation projects.

**Other:** Any other direct or indirect developmental benefits to the Project. These may include spin-off or demonstration effects; improved security; increases in industrial productivity; investments; employment generation, collection of taxes, and impacts on businesses; and the creation of indirect jobs that are not captured in the four categories listed above.

Deliverable: The Contractor shall provide a report of all the work performed under this Task, including a Developmental Impact Report.

#### **TASK 10 ANALYSIS OF U. S. MANUFACTURERS OF WASTEWATER TREATMENT AND RECLAMATION TECHNOLOGY**

The Contractor shall estimate the scale of the expected acquisition of technology and construction of related infrastructure. The Contractor shall assess the availability of U.S. manufactured equipment and products for all components of the wastewater reclamation system. The Contractor shall provide detailed technical specifications of the U.S. manufactured equipment and include business name, website, point of contact, address, telephone and fax numbers, and an email address for each manufacturer.

The Contractor shall contact the U.S. manufacturers identified in this Task and discuss their potential interest in the Project and include this information in the Final Report.

Deliverable: The Contractor shall provide a report of all the work performed under this Task, including a Report on U.S. Manufacturers of Wastewater Treatment and Reclamation Technology.

#### **TASK 11 PROJECT IMPLEMENTATION PLAN**

The Contractor shall prepare an Implementation Plan that describes and documents the timeframe and financial resources available for the implementation of the Project. The Implementation Plan shall provide detailed information on the Grantee's confirmed schedule for the design, acquisition and deployment of the wastewater reclamation system. The Implementation Plan shall contain an overview of the wastewater reclamation system, a brief description of the major tasks involved in the implementation, the overall resources needed to support the implementation effort (such as hardware, software, facilities, materials, and personnel), and any site-specific implementation requirements. The Implementation Plan shall be developed by the Contractor in concert with the Grantee and shall take into account other requirements of local government institutions and stakeholders with vested interest in the Project including the stakeholders identified during Tasks 2 and 3.

The Contractor shall prepare an overall plan for the implementation of each of the Project's components (primary and secondary wastewater treatment upgrade, tertiary treatment and wastewater conveyance for reuse).

Deliverable: The Contractor shall provide a report of all the work performed under this Task, including a Project Implementation Plan.

#### **TASK 12 WORKSHOP**

The Contractor shall organize and carry out a one-day workshop to present the findings of the FS and showcase, promote and demonstrate the benefits of advanced wastewater treatment technology manufactured in the U.S. The workshop shall aim at providing West Bank institutions with a direct opportunity to learn about how U.S. wastewater technology can be used to cost-effectively meet water quality requirements for wastewater reclamation and reuse. The workshop shall be a full day event divided into three sessions. The first session will discuss the results and recommendations of the Study. The second session will speak to the capability of U.S. wastewater technology in meeting water quality standards for wastewater reclamation and reuse. The third session is aimed at addressing audience questions regarding specific applications. The workshop audience will include personnel from the Grantee, Palestinian Water Authority, the Jerusalem Water Undertaking, the West Bank Water Department and other stakeholders identified while performing Task 2.

Deliverable: The Contractor shall provide a report of all the work performed under this Task, including Workshop Hand-out and Presentations, Audio and Visual Aids.

#### **TASK 13 FINAL REPORT**

**The Contractor shall prepare and deliver to the Grantee and USTDA a substantive and comprehensive final report of all work performed under these Terms of Reference (“Final Report”). The Final Report shall be organized according to the above tasks, and shall include all deliverables and documents that have been provided to the Grantee. The Final Report shall be prepared in accordance with Clause I of Annex II of the Grant Agreement.**

The Contractor shall deliver six copies (each) of the Final Report to the Grantee. The CD-ROM version of the final report will include:

- Portable Document File (PDF) readable copies of all documents;
- Source files for all drawings in AutoCad or Visio format; and
- Source files for all documents.

**Notes:**

- (1) **The Contractor is responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of the Terms of Reference.**
- (2) **The Contractor and the Grantee shall be careful to ensure that the public version of the Final Report contains no security or confidential information.**
- (3) **The Grantee and USTDA shall have an irrevocable, worldwide, royalty-free, non-exclusive right to use and distribute the Final Report and all work product that is developed under these Terms of Reference.**

# ANNEX 6

## COMPANY INFORMATION

### A. Company Profile

Provide the information listed below relative to the Offeror's firm. If the Offeror is proposing to subcontract some of the proposed work to another firm(s), the information below must be provided for each subcontractor.

1. Name of firm and business address (street address only), including telephone and fax numbers:
  
  
  
  
  
  
  
  
  
  
2. Year established (include predecessor companies and year(s) established, if appropriate).
  
  
  
  
  
  
  
  
  
  
3. Type of ownership (e.g. public, private or closely held).
  
  
  
  
  
  
  
  
  
  
4. If private or closely held company, provide list of shareholders and the percentage of their ownership.
  
  
  
  
  
  
  
  
  
  
5. List of directors and principal officers (President, Chief Executive Officer, Vice-President(s), Secretary and Treasurer; provide full names including first, middle and last). Please place an asterisk (\*) next to the names of those principal officers who will be involved in the Feasibility Study.
  
  
  
  
  
  
  
  
  
  
6. If Offeror is a subsidiary, indicate if Offeror is a wholly-owned or partially-owned subsidiary. Provide the information requested in items 1 through 5 above for the Offeror's parent(s).

7. Project Manager's name, address, telephone number, e-mail address and fax number .

**B. Offeror's Authorized Negotiator**

Provide name, title, address, telephone number, e-mail address and fax number of the Offeror's authorized negotiator. The person cited shall be empowered to make binding commitments for the Offeror and its subcontractors, if any.

**C. Negotiation Prerequisites**

1. Discuss any current or anticipated commitments which may impact the ability of the Offeror or its subcontractors to complete the Feasibility Study as proposed and reflect such impact within the project schedule.

2. Identify any specific information which is needed from the Grantee before commencing contract negotiations.

**D. Offeror's Representations**

Please provide exceptions and/or explanations in the event that any of the following representations cannot be made:

1. Offeror is a corporation [*insert applicable type of entity if not a corporation*] duly organized, validly existing and in good standing under the laws of the State of \_\_\_\_\_ . The Offeror has all the requisite corporate power and authority to conduct its business as presently conducted, to submit this proposal, and if selected, to execute and deliver a contract to the Grantee for the performance of the Feasibility Study. The Offeror is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment, or ineligible for the award of contracts by any federal or state governmental agency or authority.

2. The Offeror has included, with this proposal, a certified copy of its Articles of Incorporation, and a certificate of good standing issued within one month of the date of its proposal by the State of \_\_\_\_\_. The Offeror commits to notify USTDA and the Grantee if they become aware of any change in their status in the state in which they are incorporated. USTDA retains the right to request an updated certificate of good standing.
3. Neither the Offeror nor any of its principal officers have, within the three-year period preceding this RFP, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.
4. Neither the Offeror, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 3 above.
5. There are no federal or state tax liens pending against the assets, property or business of the Offeror. The Offeror, has not, within the three-year period preceding this RFP, been notified of any delinquent federal or state taxes in an amount that exceeds \$3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.
6. The Offeror has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law. The Offeror has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.

The selected Offeror shall notify the Grantee and USTDA if any of the representations included in its proposal are no longer true and correct at the time of its entry into a contract with the Grantee.

Signed: \_\_\_\_\_  
(Authorized Representative)

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**E. Subcontractor Profile**

1. Name of firm and business address (street address only), including telephone and fax numbers.
  
  
  
  
  
  
  
  
  
  
2. Year established (include predecessor companies and year(s) established, if appropriate).

**F. Subcontractor's Representations**

If any of the following representations cannot be made, or if there are exceptions, the subcontractor must provide an explanation.

1. Subcontractor is a corporation [*insert applicable type of entity if not a corporation*] duly organized, validly existing and in good standing under the laws of the State of \_\_\_\_\_. The subcontractor has all the requisite corporate power and authority to conduct its business as presently conducted, to participate in this proposal, and if the Offeror is selected, to execute and deliver a subcontract to the Offeror for the performance of the Feasibility Study and to perform the Feasibility Study. The subcontractor is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment or ineligible for the award of contracts by any federal or state governmental agency or authority.
  
2. Neither the subcontractor nor any of its principal officers have, within the three-year period preceding this RFP, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.

3. Neither the subcontractor, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 2 above.
4. There are no federal or state tax liens pending against the assets, property or business of the subcontractor. The subcontractor, has not, within the three-year period preceding this RFP, been notified of any delinquent federal or state taxes in an amount that exceeds \$3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.
5. The subcontractor has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law. The subcontractor has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.

The selected subcontractor shall notify the Offeror, Grantee and USTDA if any of the representations included in this proposal are no longer true and correct at the time of the Offeror's entry into a contract with the Grantee.

Signed: \_\_\_\_\_  
(Authorized Representative)

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_