

## **Terms of Reference**

**Assignment:** Establishment of a long-term agreement for the provision services - Design, Supply, and Installation of Greywater Treatment Systems in Institutions.

**Location:** All Governorates

**Duration:** 12 months with a possibility of additional extension for 12 months based on needs of the service, satisfactory performance of the contractor

**Reporting to:** WASH Section - UNICEF Jordan

### **1. BACKGROUND AND JUSTIFICATION**

Jordan, a country located in the arid region of the Middle East, is one of the most water-scarce countries in the world. The northern governorates of Jordan, including Irbid, Mafrq, Jerash, and Ajloun, are densely populated and face significant challenges in meeting their water demands due to rapid population growth, urbanization, and the influx of refugees. The increased pressure on the already limited water resources has further exacerbated the situation, leading to water scarcity, environmental degradation, and negative impacts on public health and socio-economic development.

Greywater, the wastewater generated from domestic activities such as bathing, laundry, and kitchen activities, constitutes a significant portion of the total water consumption in schools and mosques. However, this water is often discharged directly into the sewage system or the environment without proper treatment, resulting in pollution of water resources, reduced groundwater recharge, and increased demand for fresh water.

In response to these challenges, the government of Jordan has prioritized the implementation of sustainable water management strategies, including the promotion of water reuse through greywater treatment and recycling. The Jordanian Standards and Metrology Organization (JSMO) has developed the JS 1776:2013, JS 893:2021 and JS 202:2017 standards to regulate greywater treatment systems and their reuse in non-potable applications, such as irrigation and toilet flushing.

The implementation of greywater treatment systems in schools and mosques in the northern governorates of Jordan will not only help in mitigating the water scarcity issue but also contribute to the conservation of the environment and the promotion of sustainable water management practices.

The installation of these greywater treatment systems will:

1. Reduce the demand for fresh water in schools and mosques by reusing treated greywater for irrigation and toilet flushing purposes.
2. Decrease the amount of untreated greywater being discharged into the sewage system or the environment, thereby reducing pollution and the risk of contamination of water resources.
3. Promote awareness of sustainable water management practices among students, staff, and worshippers, leading to long-term behavioral changes and a culture of water conservation.
4. Support the national strategy for water security and contribute to the achievement of the United Nations Sustainable Development Goal 6: Clean Water and Sanitation and Sustainable Development Goal 13: Climate Action.

Given this context, there is a clear justification for the implementation of greywater treatment systems in schools and mosques in the northern governorates of Jordan.

### **2. OBJECTIVE, PURPOSE AND EXPECTED RESULTS**

**Objective:**

The primary objective of this project is to improve water management and promote sustainable water use practices in schools and mosques in the northern governorates of Jordan by implementing advanced greywater treatment systems.

**Purpose:**

The purpose of this project is to design, supply, install, test, and commission greywater treatment systems in selected schools and mosques in the northern governorates of Jordan. The systems shall comply with the Jordanian Standards JS 1776:2013, JS 893:2021 and JS 202:2017, ensuring the treated greywater meets the quality requirements for reuse in toilet flushing and other non-potable applications, such as irrigation.

**Expected Results:**

The successful implementation of this project will lead to the following expected results:

1. Increased water reuse: The installation of greywater treatment systems in schools and mosques will significantly increase the volume of greywater that is treated and reused for irrigation and toilet flushing purposes, reducing the demand for fresh water.
2. Enhanced environmental protection: By treating greywater and preventing its direct discharge into the sewage system or the environment, the project will contribute to the reduction of water pollution and the risk of contamination of water resources.
3. Improved awareness and adoption of sustainable water management practices: The project will serve as a model for sustainable water use in the community, promoting awareness and encouraging the adoption of water conservation practices among students, staff, and worshippers.
4. Compliance with national standards and regulations: The greywater treatment systems will be designed and installed in accordance with the Jordanian Standards JS 1776:2013, JS 893:2016 and JS 202:2017, ensuring their safe and efficient operation and compliance with local regulations.
5. Capacity building and knowledge transfer: Local staff will be trained in the operation, maintenance, and troubleshooting of the installed greywater treatment systems, enhancing their skills and knowledge in sustainable water management practices.
6. Contribution to national and global goals: The project will support the national strategy for water security and contribute to the achievement of the United Nations Sustainable Development Goal 6: Clean Water and Sanitation.

The successful realization of these expected results will significantly contribute to the improvement of water management in the northern governorates of Jordan, promoting water conservation, environmental protection, and sustainable development in the region.

**3. DESCRIPTION OF THE ASSIGNMENT- LOCATIONS and SCOPE OF WORK****I. Location of Work**

The greywater treatment systems will be installed in selected schools and mosques located in the northern governorates of Jordan, including Irbid, Mafrq, Jerash, and Ajloun. The specific sites will

be determined in consultation with local authorities and stakeholders during the design phase of the project.

## **II. Purpose**

The purpose of this assignment is to engage a qualified and experienced contractor to design, supply, install, test, and commission greywater treatment systems using advanced technologies in selected schools and mosques. The contractor shall ensure that the installed systems comply with the Jordanian Standards JS 1776:2013, JS 893:2016 and JS 202:2017 and meet the quality requirements for treated greywater reuse in toilet flushing, irrigation, and other non-potable applications.

## **III. Scope of Work**

The contractor will be responsible for the following tasks:

- Conduct site assessments and surveys to determine suitable locations and configurations for the greywater treatment systems.
- Develop detailed design plans, including process flow diagrams, piping and instrumentation diagrams, and equipment specifications, in compliance with the Jordanian Standards JS 1776:2013, JS 893:2016 and JS 202:2017.
- Procure all materials, equipment, and components necessary for the installation of the greywater treatment systems.
- Install the greywater treatment systems at the designated sites, ensuring compliance with local building codes, environmental regulations, and safety standards.
- Conduct performance testing and commissioning of the installed systems, verifying that they meet the design specifications and capacity requirements.
- Provide training to local staff on the operation, maintenance, and troubleshooting of the installed systems.
- Obtain necessary permits and approvals from relevant authorities.

## **4. DELIVERABLES AND RESPONSIBILITIES OF THE CONTRACTOR**

### **I. General Deliverables**

- a. Detailed design plans, including process flow diagrams, piping and instrumentation diagrams, and equipment specifications.
- b. Site assessment and survey reports, including recommendations for system locations and configurations.
- c. Environmental Impact Assessment (EIA) report, if required by local regulations.
- d. Construction/ installation of greywater treatment systems in targeted institutions, as per the required standards, and according to the indicated bill of quantities.
- e. A comprehensive commissioning report, including test results, as-built drawings, and operation and maintenance manuals.
- f. Training materials and records of training sessions conducted for local staff.

### **II. Labor Productivity**

The Contractor must utilize and assign at minimum a Project Manager, Two Team Leaders, and Site Engineers who are experienced and capable of managing and leading the project personnel to ensure satisfactory performance of the project.

- Efficient use of labor resources, ensuring that work is completed on time and within budget.
- Compliance with local labor laws and regulation, including health, safety and environmental requirements. Contractor will be requested to submit a health, safety and environmental management plan prior to the start of works.
- Proper supervision and management of labor resources, including skilled and unskilled workers, to ensure high-quality workmanship and adherence to project specifications.

### **III. Conditions, Specifications and formalities:**

Conditions, specifications, and formalities are as the following:

- Compliance with the Jordanian Standards JS 1776:2013, JS 893:2016 and JS 202:2017 for greywater treatment systems and the reuse of treated greywater.
- Adherence to local building codes, environmental regulations, and safety standards during the installation of the greywater treatment systems.
- Obtaining all necessary permits, approvals, and certifications from relevant authorities before commencing work.
- Provision of warranties and guarantees for the installed systems and components, as required by the terms of the contract.
- Maintenance of adequate insurance coverage for the project, including liability and other n insurances, as required by local regulations and the terms of the contract.

### **5. REPORTING REQUIREMENTS**

The contractor will be required to submit regular progress reports and other documentation throughout the duration of the project to ensure effective communication, monitoring, and evaluation. The reporting requirements are as follows:

#### **1. Inception Report:**

Within two weeks of the contract commencement, the contractor shall submit an inception report outlining the project's initial work plan, including a detailed schedule of activities and milestones, as well as a list of key personnel and their roles and responsibilities.

#### **2. Progress Reports:**

The contractor will be required to submit monthly progress reports to the designated project manager or their representative. The progress reports should include:

- A summary of the work completed during the reporting period, including any milestones achieved and any deviations from the planned schedule.
- An updated project schedule, highlighting any changes or adjustments to the original work plan.
- A summary of any issues, risks, or challenges encountered during the reporting period, along with the proposed mitigation measures and any assistance required from the project manager or other stakeholders.

- A financial report, including a summary of expenditures incurred during the reporting period and a comparison of actual vs. budgeted costs.
- Any other relevant documentation, such as site assessment reports, design plans, or permits, as applicable.

### 3. Commissioning Report:

Upon completion of the installation and commissioning of the greywater treatment systems, the contractor shall submit a comprehensive commissioning report, including:

- A summary of the performance testing results, confirming that the installed systems meet the design specifications and capacity requirements.
- As-built drawings of the installed systems, indicating any changes or modifications made during the installation process.
- Operation and maintenance manuals for the greywater treatment systems, providing detailed instructions for local staff on the proper operation, maintenance, and troubleshooting of the systems.
- A list of any warranties or guarantees provided for the installed systems and components, along with relevant contact information for any after-sales support or service.

### 4. Final Report:

Upon completion of the project, the contractor shall submit a final report summarizing the overall project achievements, lessons learned, and recommendations for future improvements. The final report should include:

- A summary of the project's objectives, scope, and expected results, along with an assessment of the extent to which these have been achieved.
- A description of any challenges or constraints encountered during the project and the measures taken to address them.
- A financial report, providing a final account of all project expenditures and a comparison of actual vs. budgeted costs.
- Recommendations for future improvements or enhancements to the installed greywater treatment systems, based on the experiences and lessons learned during the project.

All reports and documentation must be submitted in both hardcopy and electronic formats and must be written in both English and Arabic with a separate document per language, unless otherwise specified by the project manager or their representative. The contractor may be required to present the reports at progress meetings, workshops, or other events, as requested by the project manager.

## 6. DURATION OF THE LTA:

The duration of the LTA shall be 12 months with a possibility of additional extension for 12 months based on needs of the service, satisfactory performance of the contractor.

## 7. AGREEMENT MANAGEMENT

The Agreement Management outlines the roles, responsibilities, and relationships between the project owner, UNICEF Jordan, and the beneficiary institutions, the Ministry of Education and the Ministry of Awqaf and Islamic Affairs.

### 1. Roles and Responsibilities

a. UNICEF Jordan, as the project owner, will be responsible for:

- Providing overall guidance and supervision of the project.
- Coordinating with the contractor and the beneficiary institutions to ensure timely and efficient project implementation.
- Monitoring and evaluating the project's progress and performance, ensuring compliance with UNICEF policies and procedures, as well as local laws and regulations.
- Facilitating communication and collaboration between the contractor and the beneficiary institutions.
- Ensuring the availability of necessary funding and resources for the project.

b. The Ministry of Education and the Ministry of Awqaf and Islamic Affairs, as the beneficiary institutions, will be responsible for:

- Identifying and selecting the schools and mosques that will receive the greywater treatment systems.
- Supporting the contractor in conducting site assessments and surveys, as well as obtaining necessary permits and approvals from relevant authorities.
- Facilitating access to the project sites for the contractor and their personnel.
- Providing local staff for training in the operation, maintenance, and troubleshooting of the installed greywater treatment systems.
- Ensuring the proper operation, maintenance, and management of the greywater treatment systems after the project's completion.

c. The Contractor will be responsible for the tasks and deliverables outlined in the Description of the Assignment section of the Terms of Reference.

### 2. Coordination and Communication

Regular coordination and communication between UNICEF Jordan, the contractor, and the beneficiary institutions will be essential for the successful implementation of the project. This will include:

- Regular progress meetings between all parties, either in-person or via teleconference, to review project progress, address any challenges or issues, and discuss any necessary adjustments to the project plan.
- The establishment of a designated point of contact within each organization, responsible for coordinating communication and collaboration between the parties.
- The timely sharing of information, documentation, and reports between all parties, as required by the Reporting Requirements section of the Terms of Reference.

In all cases, it shall be noted that:

- UNICEF will practice full monitoring over this project to ensure the satisfactory implementation of the works under this LTA.
- UNICEF might collaborate with relevant government counterparts for daily supervision/monitoring of works being implemented under this LTA.

## **8. SUPERVISION**

Effective supervision is crucial to guarantee the quality and timeliness of the contractor's work and to identify and address any issues or challenges that may arise during the project.

### **1. Project Manager**

UNICEF Jordan will appoint a Project Manager or designate a representative responsible for the supervision of the contractor throughout the duration of the project. The Project Manager will have the following responsibilities:

- Providing overall guidance, direction, and support to the contractor.
- Reviewing and approving the contractor's plans, reports, and deliverables.
- Monitoring the contractor's progress and performance, ensuring compliance with the project schedule, budget, and quality standards.
- Identifying and addressing any issues or challenges that may arise during the project, in collaboration with the contractor and the beneficiary institutions.
- Facilitating communication and coordination between the contractor and the beneficiary institutions, as well as any other relevant stakeholders.
- Evaluating the contractor's performance upon the completion of the project, providing feedback and recommendations for future improvements or enhancements.

### **2. Site Visits and Inspections**

The Project Manager or their representative will conduct regular site visits and inspections to verify the contractor's progress and the quality of the work. These visits may be scheduled or unscheduled and may include:

- Technical inspections of the project sites, ensuring that the installation of the greywater treatment systems is being carried out according to the approved design plans and specifications.
- Reviewing the contractor's records and documentation, including site assessment reports, permits, and approvals, to ensure compliance with local laws, regulations, and project requirements.
- Observing the contractor's performance during testing and commissioning of the installed systems, verifying that they meet the design specifications and capacity requirements.
- Assessing the effectiveness of the contractor's training sessions for local staff on the operation, maintenance, and troubleshooting of the installed systems.

- Together with representatives from the Ministry of Education, Ministry of Awqaf and Islamic Affairs, UNICEF will take part of the final testing and commissioning for completed systems prior to the handover.

### **3. Reporting and Documentation**

As outlined in the Reporting Requirements section of the Terms of Reference, the contractor will be required to submit regular progress reports and other documentation to the Project Manager or their representative. The Project Manager will review these reports and provide feedback to the contractor, as necessary, to ensure the project remains on schedule, within budget, and in compliance with the quality standards.

### **4. Performance Evaluation**

Upon the completion of the project, the Project Manager will conduct a final performance evaluation of the contractor. This evaluation will consider the contractor's adherence to the project schedule, budget, and quality standards, as well as their responsiveness to any issues or challenges that may have arisen during the project. The results of this evaluation may be used to inform future decisions regarding the contractor's eligibility for future projects or opportunities with UNICEF Jordan.

## **9. QUALITY ASSURANCE**

The contractor (s) shall take the required tests for quality assurance and provide samples when required.

### ***NON-CONFORMING PRODUCTS***

Non-conforming products will be rejected. Defects or poor workmanship or inferior quality or any deviation for the design and requirements shall be corrected by the vendor (s), within 5 workdays of the rejection notice. If these cannot be corrected within 5 workdays, the vendor (s) will immediately notify the UNICEF Engineers or field representative of the reason for the delay in writing and provide a proposed corrective action plan within estimated workdays.

## **10. FREQUENCY OF PERFORMANCE REVIEWS AND PERFORMANCE INDICATORS**

Performance of the contractor shall be checked against the approved work program per intervention (Per P.O). The performance of the contractor will be regularly reviewed to ensure that the project is on track and meeting the quality standards, as well as to identify any potential issues or challenges that may arise. The following frequency of performance reviews and performance indicators will be used to monitor and evaluate the contractor's performance:

### **A. Frequency of Performance Reviews**

1. **Monthly Performance Reviews:** The contractor's performance will be reviewed on a monthly basis through the submission and evaluation of monthly progress reports, as outlined in the Reporting Requirements section of the Terms of Reference. These reviews will focus on the contractor's progress, adherence to the project schedule and budget, and the quality of their work.
2. **Site Visits and Inspections:** The Project Manager or their representative will conduct regular site visits and inspections, as described in the Supervision section of the Terms of Reference. These visits may be scheduled or unscheduled and will provide an opportunity to assess the contractor's performance in person and verify the quality of their work.



3. **Mid-term Performance Review:** A mid-term performance review will be conducted approximately halfway through the project's duration. This review will involve a comprehensive assessment of the contractor's performance to date, focusing on their ability to meet project milestones, address any issues or challenges, and maintain the required quality standards.
4. **Final Performance Review:** Upon the completion of the project, a final performance review will be conducted by the Project Manager, as detailed in the Supervision section of the Terms of Reference. This review will evaluate the contractor's overall performance, including their adherence to the project schedule, budget, and quality standards.

## **B. Performance Indicators**

The following performance indicators will be used to evaluate the contractor's performance throughout the project:

1. **Timeliness:** The contractor's ability to meet project milestones and adhere to the approved project schedule.
2. **Budget Compliance:** The contractor's ability to manage and control project expenditures, ensuring that costs remain within the approved budget.
3. **Quality of Work:** The contractor's ability to deliver work that meets or exceeds the quality standards outlined in the Terms of Reference, as well as any applicable local laws, regulations, and industry standards.
4. **Responsiveness:** The contractor's ability to identify and address any issues or challenges that may arise during the project, as well as their ability to adapt to changing circumstances or requirements.
5. **Communication and Collaboration:** The contractor's ability to effectively communicate and collaborate with UNICEF Jordan, the beneficiary institutions, and other relevant stakeholders.
6. **Capacity Building:** The contractor's ability to provide effective training to local staff on the operation, maintenance, and troubleshooting of the installed greywater treatment systems.
7. **Compliance with Regulations and Standards:** The contractor's ability to ensure that the project complies with all relevant local laws, regulations, and industry standards, as well as the requirements of the Jordanian Standards JS 1776:2013, JS 893:2021 and JS 202:2017.

## **11. WARRANTY AND DEFECTS LIABILITY PERIOD**

The Warranty outlines the contractor's obligations to provide guarantees for the quality and performance of the installed greywater treatment systems and their components which is crucial to ensure that any defects, malfunctions, or other issues with the systems are promptly addressed and rectified by the contractor at no additional cost to UNICEF Jordan or the beneficiary institutions.

### **1. Warranty Period**

The contractor shall provide a comprehensive warranty for the installed greywater treatment systems and their components, covering a period of at least 12 months from the date of successful commissioning and acceptance by UNICEF Jordan and the beneficiary institutions. The warranty

period may be extended for specific components or systems, as agreed upon by the parties during the contract negotiations.

## **2. Warranty Coverage**

The warranty shall cover all defects in materials, workmanship, and performance of the installed greywater treatment systems and their components, including but not limited to:

- Mechanical and electrical components, such as pumps, motors, control panels, and sensors.
- Treatment process equipment, such as modules, filters, and disinfection systems.
- Piping, valves, and fittings.
- Structural elements, such as tanks, supports, and foundations.
- Performance of treatment efficiency within agreed limits.

## **3. Warranty Extension**

In the event that the contractor is required to repair or replace any components or systems under warranty, the warranty period for the affected components or systems shall be extended by the duration of the repair or replacement process.

## **4. Performance and Defects Liability Bonds**

The contractor shall submit a performance bond to UNICEF for the institutional contracts {10% of contract value) as performance assurance and satisfactory implementation of the tasks here in that contract. UNICEF reserves the right to cash the bond if the contractor fails to perform the tasks in timely and satisfactory manner. A 5% defect liability bond shall be required on substantial completion of the work of each institutional contract.

## **12. DESIRED QUALIFICATIONS, SPECIALIZED KNOWLEDGE OR EXPERIENCE**

The bidder should have established credibility in working in the construction/rehabilitation/upgrade sector.

### **a. Requirements and experience**

Legally registered and licenced to conduct business in the Hashemite Kingdom of Jordan for construction Works.

Officially registered in Jordan with a minimum classification of Grade 3 in "Water/Wastewater Treatment {Water and Wastewater Networks Construction are not equivalent to the required classification)" and/or grade 3 in Electromechanical works in case of a contractor, in case of a vendor, bidder must be registered with the Ministry of Industry and Trade as water/wastewater treatment solutions supplier.

The bidder must have a minimum of five (5) years of experience in the design, supply, installation, and commissioning of greywater treatment systems using advanced technologies.

The bidder must have a proven track record of successfully completing similar projects in educational or religious institutions, preferably within the context of the northern governorates of Jordan or similar environments.

The contractor must demonstrate financial stability and the ability to provide performance guarantees, such as a performance bond or bank guarantee.

Bidder must submit the latest 3 years' audited/certified financial statements clearly demonstrating an Average Annual Turnover of a minimum of USO\$ 200,000.

**b. Technical Expertise:**

The bidder must have in-house technical expertise in advanced water/wastewater treatment technologies, with a team of qualified engineers and technicians experienced in the design, installation, and commissioning of greywater treatment systems.

The bidder must have experience in designing and implementing systems in compliance with Jordanian Standards, specifically JS 1776:2013 and JS 202:2017.

The bidder must have a thorough understanding of local environmental regulations and permitting processes, as well as experience in obtaining necessary approvals and permits from relevant authorities.

**c. Project Management Experience:**

The bidder must have a demonstrated ability to manage projects on time, within budget, and according to the specified quality standards.

The bidder must have experience in coordinating and collaborating with multiple stakeholders, including international organizations, government agencies, and local institutions.

The bidder must have a proven track record in providing training and capacity building for local staff in the operation, maintenance, and troubleshooting of greywater treatment systems.

**d. Language and Communication Skills:**

The bidder's project management team must be proficient in both written and spoken English and Arabic.

The bidder must have the ability to produce clear and concise reports, plans, and other project documentation in English, as required by the Reporting Requirements section of the Terms of Reference.

**e. Key staff to mobilize:**

The contractor is required to mobilize a team of qualified and experienced key staff to ensure the successful implementation of the project. The list of staff and qualifications below is indicative of the key personnel needed. However, the bidder must ensure that their proposed team is available on-site when UNICEF requests any work under this LTA. Key Personnel should include at minimum:

**Project Manager:**

- a. Minimum Qualifications: A bachelor's degree in civil engineering, construction management, or a related field. A master's degree in a relevant field will be considered an advantage.
- b. Experience: A minimum of 10 years of experience in managing and overseeing construction, structural, rehabilitation, and upgrade civil engineering projects. Previous experience working with international organizations, government agencies, or educational and religious institutions is highly desirable.
- c. Skills: Excellent project management, communication, and leadership skills, with the ability to coordinate and collaborate with multiple stakeholders, manage budgets and schedules, and ensure compliance with quality standards.

**Senior Site Engineers (minimum of 3):**

- a. Minimum Qualifications: A bachelor's degree in civil engineering or a related field. A master's degree or relevant professional certifications will be considered an advantage.
- b. Experience: A minimum of 6 years of experience in structural, construction, upgrade, and rehabilitation of civil engineering works. Experience in designing, installing, and commissioning greywater treatment systems using advanced technologies is highly required. Familiarity with the northern governorates of Jordan or similar environments is a plus.
- c. Skills: Strong technical knowledge and problem-solving skills, with the ability to oversee and manage on-site construction activities, ensure compliance with design specifications and local regulations, and coordinate with the project manager and other stakeholders.

In addition to the Project Manager and Senior Site Engineers, the contractor should ensure the mobilization of the following key staff to ensure a successful project implementation:

**Environmental and Wastewater Treatment Specialist:**

- a. Minimum Qualifications: A bachelor's degree in environmental engineering, chemical engineering, or a related field. A master's degree or relevant professional certifications will be considered an advantage.
- b. Experience: A minimum of 5 years of experience in designing, implementing, and maintaining wastewater treatment systems, specifically using advanced treatment technologies. Familiarity with Jordanian Standards and local regulations is highly desirable.
- c. Skills: Strong technical knowledge of wastewater treatment processes and technologies, with the ability to evaluate system performance, troubleshoot issues, and optimize treatment efficiency.

**Health and Safety Officer:**

- a. Minimum Qualifications: A bachelor's degree in occupational health and safety, environmental health, or a related field. Relevant professional certifications, such as OSHA or NEBOSH, will be considered an advantage.
- b. Experience: A minimum of 5 years of experience in managing health and safety on construction sites, specifically related to civil engineering and wastewater treatment projects.
- c. Skills: Excellent knowledge of local and international health and safety regulations, with the ability to develop and implement site-specific safety plans, conduct risk assessments, and ensure compliance with all safety requirements.

**Quality Assurance/Quality Control (QA/QC) Engineer:**

- a. Minimum Qualifications: A bachelor's degree in civil engineering, quality management, or a related field. Relevant professional certifications, such as ISO 9001, will be considered an advantage.
- b. Experience: A minimum of 5 years of experience in QA/QC roles for civil engineering and wastewater treatment projects.
- c. Skills: Strong knowledge of quality management principles and practices, with the ability to develop and implement project-specific quality plans, conduct inspections and tests, and ensure compliance with design specifications and industry standards.

**Training and Capacity Building Specialist:**

- a. Minimum Qualifications: A bachelor's degree in education, training, engineering, or a related field.
- b. Experience: A minimum of 5 years of experience in providing training and capacity building for technical personnel, specifically related to the operation and maintenance of wastewater treatment systems.
- c. Skills: Excellent communication and presentation skills, with the ability to develop and deliver customized training programs for local staff in the beneficiary institutions. By mobilizing a diverse team of key staff with specialized knowledge and experience in various aspects of the project, the contractor can ensure that all project requirements are effectively addressed, and the project objectives are achieved.

**Reporting and Communication Specialist:**

- a. Minimum Qualifications: A bachelor's degree in communications, journalism, public relations, or a related field. A master's degree or relevant professional certifications will be considered an advantage.
- b. Experience: A minimum of 5 years of experience in reporting and communication for projects, preferably in the fields of engineering, infrastructure, or environmental sectors. Experience working with international organizations, government agencies, or educational and religious institutions is highly desirable.
- c. Skills: Excellent writing, editing, and communication skills, with the ability to produce clear and concise reports, plans, and other project documentation in English and the local language(s) spoken in the northern governorates of Jordan. Strong interpersonal skills to maintain effective communication with project stakeholders, including UNICEF Jordan, the Ministry of Education, and the Ministry of Awqaf and Islamic Affairs.

**13. PROPOSED PAYMENT METHODOLOGY**

During the term of the LTA, based on the need and requirements, UNICEF shall issue Corporate Contracts to the LTA holder (s) setting out the requirements and other instructions for the delivery of the services/works. For this, UNICEF will pay the contractor against actual quantities implemented in each site.

The Proposed Payment Methodology section outlines the payment schedule and milestones for the contractor, ensuring that payments are made based on the satisfactory completion of project phases and milestones. The payment schedule is designed to align the contractor's incentives with the successful and timely completion of project tasks.

The following payment schedule shall apply for this project:

**1. First Payment - 20% of the total contract value**

Milestone: Completion of the design phase

Criteria: The contractor must submit the final design documents, including detailed engineering drawings, technical specifications, and calculations, which must be approved by UNICEF Jordan and the beneficiary institutions.

**2. Second Payment - 20% of the total contract value**

Milestone: Completion of 30% of works

Criteria: The contractor must provide a progress report demonstrating the completion

of 30% of the works, including on-site installation, commissioning, and testing. The progress report must be approved by UNICEF Jordan and the beneficiary institutions.

**3. Third Payment - 35% of the total contract value**

Milestone: Completion of 50% of works

Criteria: The contractor must provide a progress report demonstrating the completion of 50% of the works, including on-site installation, commissioning, and testing. The progress report must be approved by UNICEF Jordan and the beneficiary institutions.

**4. Fourth Payment - 25% of the total contract value**

Milestone: Completion of 100% of works

Criteria: The contractor must provide a final progress report demonstrating the completion of all works, including on-site installation, commissioning, testing, and training for the beneficiary institutions' staff. The final progress report must be approved by UNICEF Jordan and the beneficiary institutions, and a final inspection and acceptance of the installed systems must be conducted.

All payments shall be made upon the submission of an invoice by the contractor, accompanied by the required documentation and reports demonstrating the satisfactory completion of the relevant milestones. UNICEF Jordan reserves the right to withhold or adjust payments in case of delays, non-compliance with the project requirements, or unsatisfactory performance by the contractor.

Proposed Payment Methodology	
1 <sup>st</sup> payment	20% upon completing of design phase.
2 <sup>nd</sup> payment	20% upon completing 30% of all the works.
3 <sup>rd</sup> payment	35% upon completing 50% of all the works.
4 <sup>th</sup> payment	25% upon completing 100% of all the works, handover of greywater systems and successful training to beneficiaries

No advance payment arrangement will be made.

Payment will be made only upon UNICEF's acceptance of the work performed.

The terms of payment are Net 30 days, after receipt of invoice and acceptance of work.

Payment will be effected by bank transfer in the currency of billing.

**14. STRUCTURE AND EVALUATION PROCESS OF THE PROPOSAL**

A two-stage procedure shall be utilized in assessing the proposals, with an assessment of the technical proposal being completed prior to any price proposal being compared.

Each proposal should include a technical and a financial proposal that should be submitted as separate documents in separate emails.

Each proposal will be assessed first on its technical merits (including by reference to legal requirements) and subsequently on its price. In making the final decision, UNICEF considers

both technical and financial aspects. The Evaluation Team first reviews the technical aspect of the offer followed by the review of the financial offer of the technically compliant bidders. The proposal obtaining the overall highest score after adding the scores for the technical and financial proposals is the proposal that offers best value for money and will be recommended for award of the agreement.

- **Technical Proposal:**

1. **ADMISSIBILITY**

The bidder must demonstrate that they meet the following requirements and experience:

- o Legally registered and licensed to conduct business in the Hashemite Kingdom of Jordan for construction works.
- o Officially registered in Jordan with a minimum classification of Grade 3 in "Water/Wastewater Treatment (Water and Wastewater Networks Construction are not equivalent to the required classification)" and/or grade 3 in Electromechanical works in case of a contractor, in case of a vendor, bidder must be registered with the Ministry of Industry and Trade as water/wastewater treatment solutions supplier.
- o The bidder must have a minimum of five (5) years of experience in the design, supply, installation, and commissioning of greywater treatment systems using advanced technologies.
- o The bidder must have a proven track record of successfully completing similar projects in educational or religious institutions, preferably within the context of the northern governorates of Jordan or similar environments.
- o The contractor must demonstrate financial stability and the ability to provide performance guarantees, such as a performance bond or bank guarantee.
- o Bidder must submit the latest 3 years' audited/certified financial statements clearly demonstrating an Average Annual Turnover of a minimum of JOD 140,000.

2. **COMPANY EXPERIENCE & EXPERTISE**

- o Bidder General Information
- o Company Profile
- o Company structure with staffing
- o Bidder must submit evidence of at least three (3) completed similar projects performed within the last three (3) years (indicating the client's name, description of works, location, duration and value, with a minimum value of JOO 70,000)
- o Bidder must provide a copy of the substantial completion certificate for the 3 projects mentioned above.
- o Bidder must provide a statement of satisfactory performance from the client, for any of the projects mentioned in (a) above.
- o Details of contracts and references for works undertaken in the last 5 years.

3. **COMPANY FINANCIAL STATUS**

- o Turnover in the past 3 years
- o Certified Audited Financial Statements of the past 3 years
- o Value of Works in hand
- o Litigation history (current or during the past 3 years)

**4. PROPOSED IMPLEMENTING METHODOLOGY AND APPROACH**

The bidder should include the following in their proposal:

- o Method statement for the implementation of works
- o Health and Safety Management Plan
- o Proposed draft Project Management Plan

Refer to item 6. *Proposed Detailed Design* below for more details on the scope of work and required technical specifications for the proposal.

**5. PROPOSED TEAM AND EQUIPMENT**

- o Project Manager:
  - o Minimum Qualifications: A bachelor's degree in civil engineering, construction management, or a related field. A master's degree in a relevant field will be considered an advantage.
  - o Experience: A minimum of 10 years of experience in managing and overseeing construction, structural, rehabilitation, and upgrade civil engineering projects. Previous experience working with international organizations, government agencies, or educational and religious institutions is highly desirable.
  - o Skills: Excellent project management, communication, and leadership skills, with the ability to coordinate and collaborate with multiple stakeholders, manage budgets and schedules, and ensure compliance with quality standards.
- o Senior Site Engineers (minimum of 3):
  - o Minimum Qualifications: A bachelor's degree in civil engineering or a related field. A master's degree or relevant professional certifications will be considered an advantage.
  - o Experience: A minimum of 6 years of experience in structural, construction, upgrade, and rehabilitation of civil engineering works. Experience in designing, installing, and commissioning greywater treatment systems using advanced technologies is highly required. Familiarity with the northern governorates of Jordan or similar environments is a plus.
  - o Skills: Strong technical knowledge and problem-solving skills, with the ability to oversee and manage on-site construction activities, ensure compliance with design specifications and local regulations, and coordinate with the project manager and other stakeholders.
- o Environmental and Wastewater Treatment Specialist:
  - o Minimum Qualifications: A bachelor's degree in environmental engineering, chemical engineering, or a related field. A master's degree or relevant professional certifications will be considered an advantage.
  - o Experience: A minimum of 5 years of experience in designing, implementing, and maintaining wastewater



treatment systems, specifically using advanced treatment technologies. Familiarity with Jordanian Standards and local regulations is highly desirable.

- o Skills: Strong technical knowledge of wastewater treatment processes and technologies, with the ability to evaluate system performance, troubleshoot issues, and optimize treatment efficiency.
- o Health and Safety Officer:
  - o Minimum Qualifications: A bachelor's degree in occupational health and safety, environmental health, or a related field. Relevant professional certifications, such as OSHA or NEBOSH, will be considered an advantage.
  - o Experience: A minimum of 5 years of experience in managing health and safety on construction sites, specifically related to civil engineering and wastewater treatment projects.
  - o Skills: Excellent knowledge of local and international health and safety regulations, with the ability to develop and implement site-specific safety plans, conduct risk assessments, and ensure compliance with all safety requirements.
- o Quality Assurance/Quality Control (QA/QC) Engineer:
  - o Minimum Qualifications: A bachelor's degree in civil engineering, quality management, or a related field. Relevant professional certifications, such as ISO 9001, will be considered an advantage.
  - o Experience: A minimum of 5 years of experience in QA/QC roles for civil engineering and wastewater treatment projects.
  - o Skills: Strong knowledge of quality management principles and practices, with the ability to develop and implement project-specific quality plans, conduct inspections and tests, and ensure compliance with design specifications and industry standards.
- o Training and Capacity Building Specialist:
  - o Minimum Qualifications: A bachelor's degree in education, training, engineering, or a related field.
  - o Experience: A minimum of 5 years of experience in providing training and capacity building for technical personnel, specifically related to the operation and maintenance of wastewater treatment systems.
  - o Skills: Excellent communication and presentation skills, with the ability to develop and deliver customized training programs for local staff in the beneficiary institutions.
  - o By mobilizing a diverse team of key staff with specialized knowledge and experience in various aspects of the project, the contractor can ensure that all project

requirements are effectively addressed, and the project objectives are achieved.

- o Reporting and Communication Specialist:
  - o Minimum Qualifications: A bachelor's degree in communications, journalism, public relations, or a related field. A master's degree or relevant professional certifications will be considered an advantage.
  - o Experience: A minimum of 5 years of experience in reporting and communication for projects, preferably in the fields of engineering, infrastructure, or environmental sectors. Experience working with international organizations, government agencies, or educational and religious institutions is highly desirable.
  - o Skills: Excellent writing, editing, and communication skills, with the ability to produce clear and concise reports, plans, and other project documentation in English and the local language(s) spoken in the northern governorates of Jordan. Strong interpersonal skills to maintain effective communication with project stakeholders, including UNICEF Jordan, the Ministry of Education, and the Ministry of Awqaf and Islamic Affairs.
- o Other Proposed team members outlining their qualification, experience, and specific roles and responsibilities.
- o Proposed equipment owned by the bidder.

## **6. Proposed Detailed Design:**

The Proposed Detailed Design section of the technical proposal should be comprehensive and demonstrate the bidder's understanding of the project requirements, local context, and relevant Jordanian Standards.

For the below requirements, bidders should ensure three types of systems are to be considered in all designs and calculations as per the following capacities:

- Type A: 1.5 m3
- Type B: 2.0 m3
- Type C: 3.0 m3.

The bidders should include the following elements in their technical proposal:

- o Design Plans and Drawings: Bidders should provide a complete set of detailed design plans and drawings, including but not limited to:
  - o Hypothetical site layout plans showing the location of the greywater treatment system components and any related infrastructure.
  - o Process flow diagrams illustrating the treatment stages and the flow of greywater through the system.
  - o Piping and instrumentation diagrams depicting the piping network, control elements, and instrumentation for the

greywater treatment system.

- o Equipment specifications and data sheets, including dimensions, capacities, and performance characteristics for all major components of the greywater treatment system, such as pumps, filters, reactors, and disinfection systems.
- o Treatment Calculations: Bidders should include detailed treatment calculations that demonstrate the proposed design's ability to achieve the required treatment efficiency in accordance with Jordanian Standards JS 1776:2013, JS 893:2016, and JS 202:2017. These calculations should cover the following aspects:
  - o Hydraulic loading rates and residence times for each treatment unit.
  - o Biological and chemical treatment processes, including calculations for biological oxygen demand (BOD), total suspended solids (TSS), and nutrient removal.
  - o Disinfection calculations, such as chlorine or ultraviolet (UV) dosage rates and contact times, to ensure the treated greywater meets the required microbial standards.
- o System Certificates and Compliance: Bidders should provide any relevant certificates or compliance documents for the proposed greywater treatment system components or technologies. This may include certifications from international or national regulatory bodies, testing and inspection reports, or declarations of conformity to applicable standards.
- o Adaptability and Resilience: The proposed design should consider the unique context of the institutions in the northern governorates of Jordan and demonstrate adaptability and resilience. This may include considerations such as:
  - o Sizing and configuration of the treatment system to account for fluctuations in greywater flow rates and quality due to seasonal variations, holidays, or special events.
  - o Selection of materials and components that are resistant to corrosion, wear, and fouling, given the local water quality and environmental conditions.
  - o Design features that facilitate ease of operation, maintenance, and troubleshooting, with consideration for the capacity and resources of the beneficiary institutions.
- o Detailed treatment calculations of the proposed design plans for treatment efficiency according to Jordanian Standards JS 1776:2013, JS 893:2016, and JS 202:2017, knowing that the assumed capacities of the systems are **either 1.5 cubic meters, 2 cubic meters, and 3 cubic meters.**
- o For the detailed design and calculations, it is assumed that the raw water parameters are as following and the bidder shall design the effluent as per the above mentioned standards for toilet flushing:

Parameters	Definition	Unit	Raw greywater
BOD-' (mg/L)	Biochemical oxygen demand	mg/l	479-876
COD (mg/L)	Chemical oxygen demand	mg/l	1938-8454
DO (mg/L)	Dissolved oxygen	mg/l	2.8
TSS (mg/L)	Total suspended solids	mg/l	156-1018
pH	Negative logmithm of H+ concentration	Unit	6.96
NO <sub>3</sub> - (mg/L)	Nitrates	mg/l	1.8
T-N (mg/L)	Total nitrogen	mg/l	15.5
Turbidity (NTU)	Turbidity	NTU	245
E. coli (cfu/100 mL)	Escherichia coli	(Number/100 ml)	1.1E+07
Total coliform	Total coliform	(cfu/100 ml)	1.5E+07
T-P (mg/L)	Total phosphate	mg/l	3.1
SO <sub>4</sub> (mg/L)	Sulfate	mg/l	75
SAR	Sodium adsorption ratio		3.5
Na (mg/L)	Sodium	mg/l	124.6
Mg (mg/L)	Magnesium	mg/l	22.6
Ca (mg/L)	Calcium	mg/l	57.9
Ph (mg/L)	Lead	mg/l	0.03
Cd (mg/L)	Cadmium	mg/l	0.01
Zn (mg/L)	Zinc	mg/l	0.0675

The above ranges are based on sampling results and must be validated on-site by the awarded contractor during the initial design phase as per the general deliverables section of this terms of reference.

- o Design shall include an embedded fully automated, IoT capable control panel that is connected to a cloud based control and monitoring system that shows key parameters of the system in terms of flows, alerts, quantities...etc.
- o Control Panel shall be made ready to accommodate an IoT water parameters monitoring system (to be installed later and not being part of the assignment)

## 15. REQUEST FOR PROPOSAL EVALUATION AND WEIGHTING CRITERIA

60 technical+ 40 financial= 100 total

Submitted proposals will be assessed using Cumulative Analysis Method. All request for proposal will be weighed according to the technical (60 points) and financial considerations (40 points). Financial proposals will be opened only for those application that attained 70% (42 out of 60) or above on the technical part. Below are the criteria and points for technical and financial proposals.

The technical evaluation will be based on the following structure and only those companies which pass the 42 points threshold, will have their financial offers opened. Financial offers must be separated. Any technical bids which contain financial pricing will be disqualified.

### Technical Evaluation Criteria (60%)

CATEGORY	POINTS
1. ADMISSIBILITY	(5)

o Legally registered and licensed to conduct business in the Hashemite Kingdom of Jordan for construction works.	1
o Officially registered in Jordan with a minimum classification of Grade 3 in "Water/Wastewater Treatment (Water and Wastewater Networks Construction are not equivalent to the required classification)" and/or grade 3 in Electromechanical works in case of a contractor, in case of a vendor, bidder must be registered with the Ministry of Industry and Trade as water/wastewater treatment solutions supplier.	1
o The bidder must have a minimum of five (5) years of experience in the design, supply, installation, and commissioning of greywater treatment systems using advanced technologies.	1
o The bidder must have a proven track record of successfully completing similar projects in educational or religious institutions, preferably within the context of the northern governorates of Jordan or similar environments.	1
o The contractor must demonstrate financial stability and the ability to provide performance guarantees, such as a performance bond or bank guarantee.	1
o Bidder must submit the latest 3 years' audited/certified financial statements clearly demonstrating an Average Annual Turnover of minimum of JOD 140,000.	1
<b>2. COMPANY EXPERIENCE &amp; EXPERTISE</b>	<b>(10)</b>
o Bidder General Information	1
o Company Profile	1
o Company structure with staffing	1
o Bidder must submit evidence of minimum 3 completed similar projects performed within the last 3 years (indicating the client's name, description of works, location, duration and value for a minimum of JOD 70,000) <ul style="list-style-type: none"> <li>■ Bidder must provide a copy of the substantial completion certificate for the 3 projects mentioned above.</li> <li>■ Bidder must provide a statement of satisfactory performance from the client, for any of the projects mentioned in (a) above.</li> </ul>	6
o Details of contracts and references for works undertaken in the last 5 years.	1
<b>2. COMPANY FINANCIAL STATUS</b>	<b>(4)</b>
o Certified Audited Financial Statements of the past 3 years	2
o Value of Works in hand	1

o	Litigation history (current or during the past 3 years)	1
<b>3. PROPOSED IMPLEMENTING METHODOLOGY AND APPROACH</b>		<b>(6)</b>
o	Method statement for the implementation of works	2
o	Health and Safety Management Plan	2
o	Proposed draft Project Management Plan	2
<b>4. PROPOSED TEAM AND EQUIPMENT</b>		<b>(15)</b>
o	Project Manager	3
o	Senior Site Engineers (minimum of 3)	3
o	Environmental and Wastewater Treatment Specialist	1
o	Health and Safety Officer	1
o	Quality Assurance/Quality Control (QA/QC) Engineer	1
o	Training and Capacity Building Specialist	1
o	Reporting and Communication Specialist.	1
o	Other Proposed team members outlining their qualification, experience, and specific roles and responsibilities.	2
o	Proposed equipment owned by the bidder.	2
<b>5. PROPOSED DETAILED DESIGN:</b>		<b>(20)</b>
o	Design Plans and Drawings	4
o	Treatment Calculations	10
o	System Certificates and Compliance	4
o	Adaptability and Resilience	1
o	Design of embedded fully automated, IoT capable control panel that is connected to a cloud based control and monitoring system that shows key parameters of the system in terms of flows, alerts, quantities...etc. and that is ready to accommodate an IoT water parameters monitoring system (to be installed later and not being part of the assignment)	1
<b>TOTAL MARKS</b>		<b>{60}</b>

• **Financial Proposal**

The financial proposal should include a price list as per the 'Annex A' MS Excel templated provided by UNICEF with the Request for Proposal. Price lists provided in any other formats will be considered INVALID. Please refer to Annex A for detailed list of items.

**Financial Evaluation Criteria (40%)**

The maximum number of points will be allotted to the lowest price proposal that is opened and compared among those invited contractors who obtain the threshold points in the evaluation of the technical component. All other price proposals will receive points in inverse proportion to the lowest price.

Financial score will be calculated using this equation:

**Score of proposal A= (Max. score for price proposal)\* (lowest price)/ price of proposal A**

**Errors in the Proposals:**

- Bidders are expected to examine all instructions and documentation of the RFP. Failure to do so will be at Bidders' own risk. In case of errors in the aggregate/total price, the unit price shall govern.
- In the event of any discrepancy between the copies of the Proposals, the original shall govern. The original and - each copy of the Technical and Financial Proposal shall be prepared and be signed by the authorized contractor's representative.
- The Proposal shall contain no interlineations or overwriting except as necessary to correct errors made by the Bidders themselves. Any such correction shall be initiated by the person or persons signing the Proposal.

**16. Long-term agreements (LTAs) requirements**

- a. Long Term Agreement are contractual instruments whereby a supplier agrees to fix prices for a defined period for goods and services that are required by UNICEF on a recurring basis. This process has been designed to avoid repetitive competitive procurement process which would reduce the lead-time for delivery of the required services/works.
- b. Notwithstanding any agreed discounts, prices offered by bidders, shall constitute maximum ceiling prices and shall remain fixed during the validity of the LTA.
- c. The resulted LTA awarded to the winning bidder (s) resulting from this tender shall be valid for an initial period of 12 months and may be extended for an additional 12 months subject to the contractor's satisfactory performance and need for the service.
- d. The LTA shall be nonexclusive and carry no commitment, expressed or implied, of any minimum off-take, and will not accord any exclusivity to the contractor/Supplier.
- e. UNICEF has the right to terminate the LTA or reduce the office coverage in terms of details of the service to be provide or office location.
- f. During the term of an LTA, based on the need and requirements, UNICEF JCO shall issue Corporate Contracts to the LTA holder (s) and, with reference to the LTA, setting out the requirements and other instructions for the delivery of the services/works. It has to be noted that it is the contract(s) issued under the LTA and not the LTA itself that constitutes a legally binding contractual agreement.
- g. The LTA holder (s) agree to provide the work to UNICEF pursuant to the Corporate Contracts received during the term of the LTA, which shall conform to the description of the scope of work and the prices specified in the LTA.

**17. Enquiries:**

Please direct any enquiries to the below dedicated email address indicating the bid reference:  
UNICEF Jordan procurement team: JCO-Procurement@unicef.org

**18. SUBMISSION**

Proposals with all supporting documents should be addressed separately to:  
UNICEF Jordan Bids: Jordanbids@unicef.org