Technical Specifications

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1. **Preamble:**

The Contractor shall consider, include, and cost or expense all requirements stated in the "Preamble to the Bill of Quantities (BOQ)" section preceding the BOQ when pricing the BOQ.

2. **Scope of Works:**

The Scope of the proposed works shall be as delineated on the Drawings and set-out in the Particular Conditions and Specifications together with any Drawings which may be issued by the Engineer during the implementation period of the contract.

The location of the work is Wadi Gaza and its sides, from Salah El-Din Street in the west to Central sewage treatment plant in the east. The work area was divided into 7 segments (segment 10 to segment 16).

The scope of work activities shall include the GIS works to reflect what was implemented and linked with the as built drawings, surveying works including GPS in close coordination with the municipalities that document the works implemented.

All identified utilities that are buried need to be also mapped and properly documented through the process.

Prior to or during the excavation, the Contractor, at this sole option and expense, may elect to perform exploratory borings or test pits in order to assess the availability of suitable structural fill materials within the limits of mass excavation in order to do the proper work

3. **General Notes:**

All works must be implemented according to drawings, specifications, conditions of the contract, and the engineer's instructions.

The bills of quantities shall be read together in conjunction with the general and special specifications, drawings, and any other tender documents.

The contractor has to consider that the project is located in a region with special climatic and geological conditions and is subject to special political and security circumstances due to the siege imposed on the Gaza Strip.

The price includes all leveling works that may be resulting due to removal of wastes after cleaning according to the nearest surroundings treated wastewater channel path in the valley bed, using the existing clean soil in the wadi bed.

According to the JSC decision, the concrete waste maybe cutting down the concrete lumps to parts not greater than 50x50x50cm including any protruding steel reinforcement, crushing to sizes approved by the engineer, transferring the materials to dumpsites or designated locations as instructed by the engineer, and removal of any damaged or existing debris within the assigned area for cleaning.
The contractor is deemed to have visited the site and fully acquainted himself as to the location of all work to be carried out and to all conditions, which may affect the performance of the works, including but not limited to:

- All of the access roads that lead to the project.
- Access to reach and provide all the required equipment and materials for the project.
- Surface conditions.
- Restrictions applicable to working in the Gaza Strip area.
- All safety regulations and employer site safety procedures.
- All Palestine regulations.

The Contractor shall be responsible for the behavior of the final works during and after the construction phases.

The contractor shall visit the site and ascertain the location of required access onto the site and the location of allowance for complying with the requirements and for the reinstatement to the original condition of all roads and areas used or disturbed by the Contractor to the satisfaction of the Engineer.

Before the commencement of the work for all items, the contractor shall submit a method statement to the engineer for approval. This should include but is not be limited to: Details of the arrangements and methods which the contractor proposes to adopt for the execution of the works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the engineer.

The Specifications cover the materials and works of engineering for cleaning wadi Gaza from the solid waste, which described to cover all items in the tender.

The Contractor shall be responsible for the behavior of the final works during and after the removal phases. It must provide all devices and accessories and all the implementing measures needed to limit the stress that structural stability is not compromised.

The contractor has to consider that the existing Project is located in a region with special climatic and geological conditions.

**Site visit is mandatory and to be held 3 days before the pre-bid meeting.**

- The contract's price should include complete cleaning of all segments from any types of solid wastes that may be found within the wadi area, in addition to any apparent wastes within the surrounding areas of the wadi up to 100 meters from each side (the 100 meters to be measured from the edge of the existing Chanel except for Segment 6 – to be measured separately based on the existing wastes).

- The price shall also include the landfill fees (XX) and weighing scale fees and any other fees that may be encountered.
- The price shall also include providing two guards to the contractor staff (2 shifts), and confirming that the safety of the site is the sole responsibility of the contractor 24 hr. per day along the contractual period.

4. Engineering supervisor and surveyor

The Project Manager should have the following qualifications:

1- Approved certificate of civil or environmental engineer.
2- At least 7 years' experience.
3- V. good command of written and spoken English language.
4- V. good in reporting skills
5- Have a valid driving license.

The Site Engineer should have the following qualifications:

1- Approved certificate of civil or environmental engineer
2- At least 5 years' experience in relevant field with similar scope of works.
3- Have a valid driving license.

5. Manager responsibility:

The following reports shall be prepared by the supervisor engineer and submit it to the UNDP office.

1- Daily progress reports.
2- Weekly progress reports.
3- Monthly progress reports.
4- Any issues faced by the project.

6. Manager and site engineer salary:

Manager salary will be paid by the contractor on monthly salary ($1200/month) throughout the project implementation period.

Site engineer salary will be paid by the contractor on monthly salary ($1100/month) throughout the project implementation period.

Daily time work for both engineer and surveyor 8 hours from 8:00 am to 4:00 pm.

Weekly workdays are 6 days.

Any additional work time should be paid to the engineer based on UNDP laws.

7. Project equipment

At least the following equipment's should be provided by the contractor to be available on-site on a daily basis:
• Two loaders with their drivers.
• One Big excavator with its driver:
• Eight trucks with their drivers.
• Manual tools such as shovels, scrapers, wheelbarrows, and digging tools.
The contractor should provide enough number of labors to do the work as required.

8. Safety requirements

The contractor should be submitting a safety plan explaining, the type of work, methodology, hazards that may be faced, and mitigation measures for these hazards.

The contractor shall abide with all safety requirements as per the UNDP training manual for safety, health and welfare on construction site. The arrangements shall include but not limited to:

• All needed for protection of people, machines and equipment and works.
• The contractor will include safety engineers within his team.
• All moving machineries will have to be accompanied with safety labors just to guide the driver and prevent any possible accidents.
• All equipment has to have valid license and driver with valid driving permit. Insurance on the equipment and machinery is mandatory.
• The sides of Wadi shall be maintained with safe inclination angle.
• At all times the contractor is obliged to secure safe access to workers, vehicles, equipment and the engineer including sufficient access to safe roads for easy movement.
• No openings / holes shall be left uncovered during implementation. All holes shall be temporarily protected until the needed leveling is completed.

9. Duration of project:

The project duration will be: six months

10. Definitions

10.1 PART 1 - GENERAL

The following Definitions are applicable to the specification:

a. The word "Owner" shall be as set forth in the Agreement, or a duly authorized representative.
b. The word "Contractor" shall mean that entity as set forth in the Agreement, or a duly authorized representative.
c. The word "ENGINEER" shall mean the Owner's representative during the construction period. They shall have authority to reject the Work whenever such rejection may be necessary in their reasonable opinion to ensure the proper execution of the Contract.
d. "Subcontractor" shall mean any individual, firm or corporation supplying either work and/or material at the Site pursuant to a separate agreement with the Contractor. The volume of subcontractor works is indicated in the prequalification data sheets.
e. "Site" shall mean the specific area adjacent to and including the area upon which the Work is to be performed.

f. "Work" shall mean all activities of the Contractor undertaken at the Site pursuant to the Contract Documents relating to the Agreement.

g. "Project" shall mean the total construction of which the Work performed under the Contract Documents may be the whole or a part.

h. "Superintendent" shall be that person or persons appointed by the Contractor as his agent at the Site.

i. "Quality Assurance Consultant" shall mean a firm that observes and documents the Work on behalf of the Owner.

j. “Drawings”, "Contract Drawings", and "Construction Drawings" as used herein are the same.

11. On-Site Health and Safety Requirements

11.1 SUMMARY

A. Construction activities at Site may place CONTRACTOR'S personnel, personnel of other Contractors hired by OWNER to perform Work at site, and public in potentially hazardous situations.

B. CONTRACTOR is responsible for implementation and enforcement of safe Work practices for operation of equipment and safety of public during progress of Work.

11.2 QUALITY ASSURANCE

A. Regulatory Requirements:

1. CONTRACTOR shall plan for and ensure personnel comply with basic provisions of OSHA Safety and Health Standards (29 CFR 1910) and General Construction Standards (29 CFR 1926) as appropriate.

2. Comply with applicable laws and regulations of any public body having jurisdiction for safety of persons or property.

B. Other Requirements

1. Contractor shall comply with the Site-Specific Health and Safety Requirements including:

   a. Contractor’s Safety Declaration.

   b. Safety Regulations for Outside Contractors.

   c. Install and equip first aid room.

   d. Provide fire extinguishers around site offices.

   e. Provide signs in the site and on the roads leading to the landfill, and banners of code of conduct.
11.3 OPERATIONS AND EQUIPMENT SAFETY

A. CONTRACTOR is responsible for initiating, maintaining, and supervising safety precautions and programs in connection with Work. CONTRACTOR shall take necessary precautions for safety of employees on Project site and other persons and organizations who may be affected by Project.

B. CONTRACTOR'S duties and responsibilities for safety in connection with Work shall continue until such time as Work is complete and ENGINEER has issued notice to CONTRACTOR that Work is complete.
11.4 HEALTH AND SAFETY

A. CONTRACTOR is responsible for implementation and enforcement of health and safety requirements and shall take necessary precautions and provide protection for following.
   1. Personnel working on or visiting Project site, irrespective of employer.
   2. Work and materials or equipment to be incorporated in Work area on- or off-site.
   3. Other property at or adjacent to Project site.
   4. Public exposed to job related operations or potential release of toxic or hazardous materials.

B. CONTRACTOR shall prepare site-specific health and safety plan (HASP). CONTRACTOR is solely responsible for adequacy of HASP's preparation, monitoring, management, and enforcement. At minimum, CONTRACTOR'S HASP shall address following.
   1. Site description and history.
   2. Project activities and coordination with other Contractors.
   3. Hazard evaluation.
   4. On-site safety responsibilities.
   5. Work zones.
   6. Personnel training.
   7. Atmospheric monitoring.
   8. Personal protection, clothing, and equipment.

11.5 ENGINEER'S RESPONSIBILITIES

A. When ENGINEER is required to be present on Project site to perform engineering services, ENGINEER will comply with CONTRACTOR'S safety plans, programs, and procedures.

B. If ENGINEER determines that CONTRACTOR'S safety plans, programs, and procedures do not provide adequate protection for ENGINEER, ENGINEER may direct its employees to leave Project site or implement additional safeguards for ENGINEER'S protection. If taken, these actions will be in furtherance of ENGINEER'S responsibility to its employees only, and ENGINEER will not assume responsibility for protection of any other persons affected by Work.

C. If ENGINEER observes situations which appear to have potential for immediate and serious injury to persons, ENGINEER may warn persons who appear to be affected by such situations. Such warnings, if issued, shall be given based on general humanitarian concerns, and ENGINEER will not, by issuance of any such warning, assume any responsibility to issue future warnings or any general responsibility for protection of persons affected by Work.
11.6 **SUBMITTALS**

A. Submit copies of HASP to OWNER and ENGINEER within 10 days after Notice to Proceed. Work on-site shall not proceed until HASP has been submitted to ENGINEER.

1. Submittal of CONTRACTOR'S HASP to ENGINEER is to inform ENGINEER and OWNER so they can comply with HASP during performance of their on-site responsibilities as described in Contract Documents.

2. Submittal of CONTRACTOR'S HASP shall neither impose on ENGINEER responsibility for adequacy of HASP nor relieve CONTRACTOR from full responsibility therefore.

3. CONTRACTOR shall certify to OWNER weekly by notarized certificate that CONTRACTOR is in compliance with HASP.

12. **Project Coordination and Meetings**

12.1 **PRELIMINARY MEETING**

A. The Contractor shall not begin work until a preliminary meeting with representatives of the Contractor, Quality Assurance Consultant, Engineer and Owner is conducted. This pre-construction conference will be arranged by the Owner and is intended to establish lines of communication between the parties involved. Time and place of the preliminary meeting will be determined at time of award.

12.2 **PROGRESS MEETINGS**

A. The Contractor will attend weekly progress meetings. The meetings will be held to review the work progress, to discuss upcoming work, to make necessary adjustments to schedules, to discuss submittals, changes and substitutions, and to discuss any and all other items affecting the Project. The Owner, or in his absence the Engineer, will preside at progress meetings.

B. Attendance at the progress meetings will include the Contractor, Owner, Engineer, JSC. as appropriate to discuss agenda topics for each meeting.

C. Minutes of each progress meeting will be formally prepared and distributed to attendees by the Owner/Engineer or his appointed representative.

12.3 **JOB SITE ADMINISTRATION**

A. The Contractor shall keep a competent and authorized supervisory representative at each work location during all working hours who shall act as the agent of the Contractor.

B. The supervisory representative shall be a competent English-speaking superintendent capable of reading and thoroughly understanding the Contract Plans and Specifications, with full authority to fulfill the Contractor's duties and responsibilities on the job. If, in the opinion of the Owner, the supervisory representative or any of his successors proves incompetent, not conscientious, or not industrious, then the Contractor shall replace the supervisory representative upon written request by the Owner.

C. The Contractor shall only employ competent individuals on the job. Whenever the Engineer or the Owner notifies the Contractor in writing that, in his opinion, any individual on the job,
whether employed by the Contractor or any of the Subcontractors, is not adhering to the Contractor Safety Requirements or imperils the safety of others or is incompetent, unfaithful, disorderly, or otherwise unsatisfactory, such individual shall be discharged from the Contract Work and shall not be employed on it, except with the written consent of the Owner.

13. Submittals

13.1 DEFINITIONS

A. Submittal for Review:
   1. Submittal for ENGINEER’S review in accordance with Contract Documents.

B. Submittal for Record:
   1. Submittal for inclusion into OWNER’S records prior to Substantial Completion. Submittal will not be reviewed by ENGINEER.

13.2 CONSTRUCTION PROGRESS SCHEDULES

A. Prepare and submit Progress Schedule in accordance with General Conditions.

B. Night work may be established by CONTRACTOR as regular procedure with written permission of OWNER. Such permission may be revoked at any time by OWNER.

C. Prepare schedules in form of horizontal bar chart.
   1. Provide separate horizontal bar for each operation or activity.
   2. Horizontal Time Scale: Identify first Workday of each week.
   3. Scale and spacings to allow space for notations and future revisions.
   4. Arrange listings in order of start of each item of Work.

14. OFFICE Facilities and Temporary Control

14.1 OFFICE FACILITIES

A. Provide complete prefabricated temporary site offices for the ENGINEER including engineer office, buffet, and W/C.

B. The Contractor should remove all temporary buildings and the connecting facilities on his own expense after the completion of the project

14.2 TEMPORARY UTILITIES

A. The contractor must provide the site/project with all services including but not limited to; an electricity, water, sanitary, telephone installation and any required services (According to the ENGINEER Instruction); all these services must be valid until the project handover certificate is issued.

B. The Contractor shall provide drinking water for the ENGINEER and for his employees.

C. The Contractor will provide temporary sanitary facilities for the ENGINEER and for his employees.
D. The Contractor shall maintain areas outside the limits of the Work free of waste materials, debris, and rubbish, which are a direct result of work performed by the Contractor.

14.3 TEMPORARY CONTROLS

A. The Contractor shall maintain excavations free of water, protect the site from puddling, or running water, and furnish and install all required temporary puddling erosion control facilities to comply fully with the Contract Documents.

B. The Contractor shall be responsible for controlling dust generated during performance of the Contract Work. The Contractor will use water, obtained from an off-site source approved by the Engineer and Owner, to control dust.

14.4 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. The Contractor shall remove temporary above grade or buried utilities, equipment, facilities, and materials which the Contractor installed during the performance of the Contract Work prior to substantial completion inspection. The Contractor shall restore existing and permanent facilities such as access roads, staging areas, etc., used during the performance of the Contract Work to original or better condition according to engineer instruction.

15. Project Documents

15.1 MAINTENANCE OF PROJECT DOCUMENTS AND SAMPLES

A. The Contractor shall maintain at the site for the Owner's permanent record one complete set of Project Documents, which include a print and a copy of the Contract Drawings, Contract Specifications, Addenda, Change Orders, Owners Field Orders, Shop Drawings, Quality Control Field Reports, Product Data, and Samples. The Contract Plans are to be used as Record Drawings by the Contractor.

B. The Project Documents shall be stored in the Contractor's field office apart from other field documents used by the Contractor for construction purposes. The Contractor shall maintain the Project Documents in a clean, dry, and legible condition and in good order. The Project Documents shall be made available at all times for inspection by the Owner and Engineer, and the Project Documents shall become the property of the Owner at the completion of the Work.

16. Material and Equipment

16.1 INSTALLATION AND INSTRUCTIONAL SERVICES

1. Work day is defined as an 8-hour period during a calendar day. Work day for purposes of this section does not include travel to or from the Project site.

16.2 PROTECTION

CONTRACTOR shall assume responsibility for protection of completed works and shall repair and restore damage to completed Work equal to original condition.

17. Mass Excavation
17.1 1.1 SCOPE OF WORK

A. Furnish all labor, material, tools and equipment necessary to mass excavate waste in accordance with the specification set forth herein, including transporting of waste materials from excavation areas to stockpile or disposal area.

17.2 EXECUTION

A. Contractor shall protect existing structures and utilities against damage during all operations.

B. Existing erosion and sedimentation control devices shall be maintained throughout the entirety of the project. The Contractor shall be responsible for the control of water and safety of excavation at all times during the course of working including weekends, holidays and during periods of work stoppages. The method of control, handling and discharge of groundwater and surface water shall be whatever means necessary to obtain satisfactory working conditions and maintain the progress of the work. The Contractor's responsibility in this regard also includes all work necessary to restore, repair or replace at its expense, any property damaged due to surface water disturbance.

C. Uniformly grade areas to smooth surface, free from irregular surface changes. Provide smooth transition between existing adjacent grades and new grades.

D. Slope grades to direct water away from work areas and to prevent ponding to required elevations tolerances.

E. It is planned to establish a Quality Assurance contractor by the plan, which will focus on the short term and long-term stability of the slopes of the cells.