**Design services for the Jordanian Armed Forces’ Vehicle** **Holding Area in Al- Ghabawi, Zarqa Governorate**

**Terms Of Reference (TOR)**

# BACKGROUND AND JUSTIFICATION

The people in Gaza are in the midst of an epic humanitarian catastrophe since October 2023; facing hunger and starvation, including a collapse of the healthcare system and basic services. The level of humanitarian need in the Gaza Strip is immense. Since the start of the war on Gaza; Jordan’s commitment to support the humanitarian needs of the people in Gaza was declared as one of the most important priorities for the government and Jordanian people. The prevailing trends in humanitarian assistance distribution demonstrate an unwavering commitment of Jordanians to supporting the people of Gaza.

With the ongoing war and escalating conflict, Gaza has become a battleground, with civilians suffering from severe shortages of food and supplies, the Jordanian Armed Forces (JAF) carried out many airdrops and ground shipments via trucks of humanitarian and food aid targeting several sites in many parts of the Gaza Strip. The JAF is dedicated to expanding the reach of the humanitarian community to deliver the relief aid mainly the much-needed food, medicine, and other essential supplies to the people in Gaza in the name of the government and the people.

According to the JAF; AL- Ghabawi is the main location for JAF locations for receiving the trucks transporting the humanitarian aid for Gaza. This site will need to be designed and implemented properly to include a holding area for trucks (mainly sheds), offices (steel structure hangers), logistics services, infrastructure and networks and all external needed services and works. Since the beginning of the crises and the nomination of JAF to be the official channel for the Jordanian aid; the JAF existing yards and buildings were fully deployed to accommodate for the logistical needs.

Providing the holding areas in the proposed station in Al-Ghabawi area with the needed infrastructure, sheds, services, hangers, and external works is currently a challenge as the needs are imminent. Therefore, JAF has plans to design properly these structures needed as soon as possible to provide the proper services to the trucks needed for shipping the humanitarian aid. Also; there is a need to improve the conditions around the holding areas to serve for the sensitive aid supplies such as medical deliveries that will need better cooling and storage and transportation conditions. The designs and implementation of these new holding areas will also address the transportation around and provide the sites with sustainable and innovative infrastructure including but not limited to: roads network, lighting, drainage, proper levels and site needs.

United Nations Office for Projects Services (UNOPS) will support the design for:

* General site master plan/ master layout for the distribution of the proposed holding areas for 300 trucks and utilities in Al-Ghabawi site. The site master plan/layout will be planned in the JAF Ghabawi land (total estimated area 90 donum). The master plans/layouts will include the schematic most efficient holding areas’ distribution including the infrastructure needs such as roads, lightening and drainage networks for the sheds, utilities building, services ..etc, as well as the site cleaning, preparation and leveling. The master plans/layouts can indicate the site planning, distribution of sheds and hangers, internal roads networks, site drainage and connection to main utilities in addition to site mechanical and electrical works and connection to existing network, Site lighting and external services and site landscape,..etc. Here is an indicative layout that indicate the schematic distributions of the sheds and utilities: A diagram of a building

  Description automatically generated
* Detailed design and technical documents for the preparation of the land including cleaning, excavation, backfilling, leveling and preparation,
* For the site in Ghabawi area; a detailed design for the construction of 300 covered parking sheds to be located in the new site, steel buildings to serve as dormitory for the drivers, offices and other services buildings as indicated in the schematic drawing provided for Administration Block and Service Block. The detailed technical designs shall include the detailed designs and technical details and documents for the steel structure, electrical and mechanical details and other infrastructure designs needed for the construction of all the needed facilities,

# PROJECT AREA

The JAF proposed land in Ghabawi area is located in Zarqa governorate (coordinates 32.039394, 36.149197.) .

# PROJECT OBJECTIVES

The project aims to the enhance JAF capacity to respond to Gaza crises and provide the logistics support the humanitarian operation needs:

3.1. This will be achieved through:

* Design site master plan/ master layout for the distribution of the proposed holding areas for trucks and utilities in the Al-Ghabawi area. The site master plan/layout will be planned in the JAF Ghabawi land (total estimated area 90 donums). The master plan/layout will include the schematic most efficient holding areas’ distribution including the infrastructure needs such as roads, lighting, electricity, future PV network, water and drainage networks for the sheds, utilities buildings, services ..etc, as well as the site cleaning, preparation and leveling earthworks. The master plan/layout can indicate the site planning, distribution of sheds and hangers, internal roads networks, site drainage and connection to main utilities in addition to site mechanical and electrical works and connection to existing network, Site lighting and external services and site landscape,..etc.
* Detailed design and technical documents for the preparation of the land including cleaning, excavation, backfilling, leveling and preparation,
* Detailed technical designs for the construction of 300 parking sheds in 2 typical designs to provide a 4mX12m covered area per vehicle (trailer-truck), and to be located in the Ghabawi site steel hangers (steel structure), paved roads, fence, main gate, watch towers, maintenance station with all infrastructure, and other services buildings. The detailed technical designs shall include the detailed designs and technical details and documents for the steel structure, electrical and mechanical details and other infrastructure designs needed for the construction of all the needed facilities,
* All tasks shall be conducted by the Consulting Firm (CF) under the overall guidance of the UNOPS Project Manager and the direct supervision of the Project Team, all in accordance with UNOPS Guidelines and Procedures.

The CF shall coordinate all its on-site surveys, testing, sampling, etc. with the UNOPS Project Team and the relevant public authorities.

The CF shall be responsible for obtaining the needed permits and clearances from relevant stakeholders, including the approvals of relevant Ministries, public authorities as well as the Jordanian Armed Forces (JAF) on the design.

The CF shall take into consideration that the Deliverables would be subject to review by UNOPS Infrastructure Project Management Group- IPMG Design Review Team. The CF shall provide comprehensive detailed design (or design modifications) and accurate documents with full details in order to avoid lengthy review processes.

# THE ASSIGNMENT

The Designer is expected to carry out the tasks as described below:

## Expected Outputs:

* Design of master plans/layouts for the most efficient and sustainable distribution of 300 trailer parking sheds (approx.. area = 15000m2). And, infrastructure needed around the sheds to serve the offices, dormitories and other utilities/services with an approximate built-up area of 3500m2
* At Ghabawi; Detailed design for site cleaning, site preparation, site leveling and site planning needed for the construction of the 300 sheds, hangers, offices, services buildings, including needed infrastructure networks and utilities. The design for site preparation will include technical details for the external and internal connections of services, infrastructure networks including internal roads and yards,
* The CF should be fully coordinated and incorporated not only with the physical interaction of designed elements, but must also consider foreseeable risks to health and safety. The design must as far as be reasonably practicable should eliminate hazards and reduce risk associated with those hazards which remain.
* The Consulting Firm must provide adequate information about any significant risks to health and safety associated with the design such as environmental assessment if needed for any proposed infrastructure. The study should investigate the direct and indirect impacts of Biodiversity, land degradation, natural resources, pollution prevention, social and economic aspects, and waste management if needed.

* The CF must coordinate their work with that of others such as JAF or other Government authorities in order to improve the way in which health and safety risks are managed and controlled.

# DESIGN PHASING

## Design Brief & Master Plan

Site master plans/layouts for the distribution of the sheds and utilities hangers to be constructed on the assigned land with needed infrastructure and networks,

The prepared design brief shall include the results of the data collection including the flow of infrastructure networks, outline design, assumptions, Design criteria and all necessary to complete the detailed design as per JAF standards & requirements.

The outline design study includes hydraulic analysis for the storm water drainage within the project location and submit a full Topographical and Hydrology map for all levels regarding storm water drainage to ensure that there are no flooded areas in the project and if any a full study with solutions and recommendations should be provided.

## Detailed Design

Subject to the approval of UNOPS and JAF to the design brief and master plan, the following activities shall be implemented in the Detailed Design:

* **Data Collection & analyzing the existing information**

The Design Firm shall be fully responsible for collecting all required data, analyzing the preparatory survey, verifying the need and conducting site visits to understand the existing situation there.

The Design Firm shall liaise with JAF in coordination with UNOPS to collect all required data & maps including electrical dry utilities and other wet utilities in the studied area to ensure that coordination between existing utilities will take place.

The Design Firm shall collect the data required for the work and adequately study buried objects, other hindrances (utility pole, overhead weirs, etc.), including future plans of projects in charge and making any necessary tests for that.

The Design Firm shall provide a complete engineering survey for the existing studied area to be undertaken covering: Structural, Architectural, and Electro-Mechanical disciplines. The utility assessment, such as water supply continuity, municipality sanitary drainage networks availability, electrical power in the existing area, and lighting system existence. The design study should include hydraulic analysis for the storm water drainage within the project location and submit a full Topographical and Hydrology map for all levels regarding storm water drainage to ensure that there are no flooded areas in the project and if any a full study with solutions and recommendations should be provided.

* **Topographic Survey**

The Design Firm shall be responsible for carrying all the survey works. This will be carried out by specialized survey companies appointed and paid by the Design Firm.

* **Geotechnical Investigation**

Geotechnical surveys should be conducted to understand the information required for planning and estimating earth work as required. The Design Firm shall be responsible to carry all the additional soil Investigation works and tests (if required by UNOPS Engineers). This will be carried out by specialized companies appointed and paid by the Design Firm.

* **Quantity Calculations**

The Design Firm shall estimate the quantities of all project elements etc. by type of work and by space, based on the design drawings for detailed forms of temporary structures. Quantity calculations shall include road appurtenances, restoration of pavements, etc. Moreover, The Design Firm is responsible for providing accurate quantities matching with Site condition and the submitted plans and BOQs.

* **Preparation of Documents and Data for Discussions with Relevant Organizations**

The Design Firm shall coordinate with JAF and prepare relevant documents for obtaining their consent for the works related to (road cutting, filling, and related services such as manholes, water pipes, electrical cables etc.) and documents and data for explanations and for discussions with relevant organizations based on the design plan.

The Design Firm shall take into consideration and comply with the requirements to coordinate with UNOPS assuring compliance with UNOPS Infrastructure and Project Management Group (IPMG) requirements, and the most relevant up-to-date international design guidelines, local and international codes and standards code or the local regulators as applicable which should be provided in the first design stage (design brief report) and approved by UNOPS project’s team.

The design firm's responsibility is to adopt and apply the best engineering practices to achieve the desired output of the assignment, by merging the most up to date international/local design guidelines, design codes and standards, local market engineering practices, and UNOPS project’s team advice and/or instructions. Eventually, the design firm shall be held responsible and liable for the design output and its relevant products which have to be functional, viable, achievable, yet feasible.

* **Preparation of documents and data for estimation**

The following data and information shall be prepared related to the area and components being studied:

* Quantity and price studies,
* Special work specifications,
* Construction period calculation plan/programme,
* All related tests needed for the area such as soil tests, any related structural tests without any additional costs,
* Other necessary information.

# DELIVERABLES

The Deliverables for this design package can be summarized by the following:

1. **Design Brief and Concept Design (3 weeks)**

The preparation of the design brief, in consultation with stakeholders, should serve to identify user requirements, relevant codes and standards, a budget, and quality expectations.

Relevant codes, standards, and minimum requirements must be clearly identified, and all feasibility studies, site investigations, site tests and environmental and risk assessments should be carried out in preparation for the design brief, with the Design Firm verifications.

The design brief must be accepted by UNOPS before further design work resumes. This is to ensure that the brief accurately represents the scope of the works and to prevent any changes to the scope without a corresponding adjustment to agreed budget and timelines.

The design brief documentation should include the following:

1. A full description of the scope of works with an attached formal approval from stakeholders,
2. Site information based on site investigations, tests and surveys, an environmental assessment, and all other necessary technical surveys (topographical, geotechnical, hydrographic, etc.). Also, gather any needed information or guidelines related to the design from JAF,
3. Budget for work and ensure that it matches the budget of the project and inform UNOPS if there will be items above budget,
4. Proposed updated codes and standards to be used in the design. Any other national or international requirement,
5. Any specific design considerations, such as material choice, and compatibility with existing built environments.
6. **Final Designs (3 weeks)**

The final design must include the following documentation:

* **Detailed Design report.** It provides a background to the development of the design, and a concise synopsis of the design issues and the design philosophy applied, including information on user requirements, site surveys, and relevant codes and standards.
* **Supporting documentation.** As part of the design report, or as a set of addendums, the design documentation and any other information, including topographical reports, geotechnical reports, and scour surveys.
* **Detailed Construction Documents.** At the final design stage, drawings must be “constructible”, that is, sufficiently detailed and informative to allow a contractor to build the desired structure to the performance requirements. It will be necessary to include the following:
* Location site plans/site information,
* Bulk earthworks and demolition/clearing plans,
* Temporary works and diversion plans,
* Construction details suitable to local capacity,
* Profiles and cross-sections, if relevant,
* Standard details if any from UNOPS or JAF for the targeted area,
* Structural work details,
* Signage plans,
* Timeline of execution (critical path)
* Other necessary documentation related to specific types of works.
* **Technical specifications & schedules.** At the final design stage, detailed specifications and any associated schedules specify the requirements to be satisfied by a material, product or service incorporating any special provisions and constraints. Technical specifications shall be provided with a full description of work for every BoQ work activity. All relevant standards, manuals, and guides should be cited, as these will be used as the basis for quality assurance, control and payment for completed works.
* **Structural & MEP calculations.** Calculations of the source and the basis for formulas, figures and references used in the calculation process shall be made easily understandable.
* **Bill of Quantities (BoQ) with a cost estimate for the construction works.** The BoQ shall include all relevant applicable work activities and quantities, description of work, material, methods of QA/ QC measurement, and basis of pricing. The BoQ will generally include a preamble that indicates the inclusiveness of prices and the methods of measurement used to arrive at the BoQ. Items should be grouped into sections to distinguish those parts of the works that may give rise to different methods of construction, phasing of the works, or cost considerations. General items common to all parts of the works may be grouped as a single section. Quantities should be computed from the drawings, and ground and excavation levels identified and noted. **Cost estimates for all construction works activities must be provided and should be based on the local market prices.**
* High-level construction timeline/programme

1. **IPMG Design Certificate (2 weeks):**

The design package shall be reviewed by UNOPS/IPMG during the design review process, which is necessary to certify the design for tendering purposes; it requires the design firm to provide all required support during this process by answering inquiries, and perform any required design modifications to fulfill the gaps. The design review shall be conducted into stages if it is classified as medium risk. The staged review is conducted in different stages (i.e. Brief/concept design, preliminary design and draft final design stage).

The Design firm shall also obtain UNOPS approval on the full design package, ensure that the final package is up to the allocated budget, and obtain approvals from local authorities related to licensing the engineering design. It is essential to note that the design shall be reviewed, certified and approved by UNOPS HQ, which usually takes 2 weeks per cycle, and the number of cycles depends on the quality of the design documents in terms of compliance with UNOPS design requirements.

1. **Technical Support during the Construction Phase**

The Design Firm shall make available during the construction period suitably qualified technical staff to attend ad-hoc meetings when required, and to respond promptly and efficiently to technical queries relating to the design and specification of the project.

# CONSTRUCTION DOCUMENTS

The Design Firm cannot proceed in preparing the final package of the detailed design before receiving written announcement that the detailed design is approved from UNOPS, and he/she shall incorporate their comments if any then produce the final package as per required standard.

After approval of the design development documents, the designer will commence the development of construction documents and regular consultation with the UNOPS Project Manager regarding the selection of materials, and work specifications. The designer will revise and update the cost estimate and advise the Project Manager of these revisions. The designer will be responsible for the following:

1. Submit final construction documents including specifications to the project manager for review and approval.
2. Designs. All drawings shall be prepared to ISO standards. They shall include all layouts, sections, details, dimensions…etc. Drawings shall include:
3. Full title blocks include the name and logo of the Jordanian Armed Forces,
4. UNOPS project number
5. Drawing numbers,
6. Revision numbers,
7. Revision details,
8. Legends,
9. Scale.
10. Full set of drawings. Drawings shall consist of the following types of sheets in the order listed:
11. Cover Sheet
12. Index Sheet (if necessary)
13. Standard general Notes and Notes
14. Plan Sheets
15. Profile Sheets (can be combined with Plan sheets)
16. Standard Sheets and Special Details.
17. Full set of drawings is required to be reviewed by UNOPS before issuing for approval, price includes submitting 2 two hard copies on A1 paper size (or suitable for scale of sheets) for the full set of tendering drawings per each revision, accompanied with the PDF and CAD soft copies, named and classified as per UNOPS filing system for reviewing by UNOPS.
18. Full set of drawings is required. Submitting 3 three hard copies on A1 paper size (or suitable for scale of sheet) for the full set of approved construction drawings per each revision. And a full set of drawings, soft copies with PDF and CAD.
19. All documents and drawings should be arranged, named and classified using the approved UNOPS filing system.
20. The Design Firm should make any necessary visits to the project site or UNOPS offices or JAF to integrate full coordination with UNOPS engineers and the Project technical committee for the design requirements, and reviewing, in addition to follow up any further technical queries during construction.

## Reporting / Weekly Design reports

The weekly design reports will detail project status related to: design progress against the schedule, potential delays and recommended course of actions; outstanding issues from the previous month and remedial actions undertaken; and planned activities for the coming month.

## General Codes / Standards

The building codes and construction standards will include, but not limited to:

* Standard of Jordanian Ministry of Public Works and Housing (MPWH) specifications and requirements.

The consultant must propose applicable design codes and standards within the submission of the Design Brief, which will be subject to review and acceptance by UNOPS and its partners.

## Design Standards

The Design Firm shall ensure that all drawings, details, specifications, calculations and schedules are as far as possible correct and accurate in order to avoid related contractual complications and construction faults.

The design shall cover all details for the complete execution of the project and according to the Jordanian National Building Code. All documents shall be prepared in English.

## Design Considerations

The design Firm is deemed to have allowed for all expenses involved in completing the project in his/her bid, including but not limited to; survey works, geotechnical investigation, existing utilities assessment, site visits etc. Therefore, such expenses will be INCLUDED in the lump sum price of the contract. UNOPS will not pay any additional costs for these works.

It is the responsibility of the Design Firm to provide all the required equipment and facilities to perform the services and to obtain all pertinent information and other data as shall be necessary to perform his obligation.

Design Activities include but are not necessarily limited to the following requirements:

1. The design Firm shall be deemed to have scrutinized prior to submission of the Tender quotation for the works based on the provided data and confirm suitability of this document for the purpose of completing a fully detailed design that encompasses all aspects of the project. The design Firm shall allow for any other detailed Site Investigation / data collection as required. UNOPS shall not be responsible for any error, inaccuracy or omission of any kind within the provided information. Any data or information received by the Design Firm from UNOPS or otherwise shall not relieve the designer from his responsibility for the design of the works,
2. Any additional site investigation works carried out must be completed by an accredited engineering laboratory and should be made and submitted for UNOPS relating all necessary data required for the design,
3. The final reports, drawings and all related documents will be a property of UNOPS, and will be handed to the Jordanian Armed Forces for their future use,
4. Bill of Quantities and Preambles. The bill of quantities should clearly describe and specify the items based on specifications considered in the design and approved by UNOPS. In addition to preparing preambles for each work category clearly states the measuring and pricing methodology and includes collection pages and grand summary sheets. Bill of Quantities shall be supplied in hard (A4 size) and electronic format (excel),
5. Design review Process. To mitigate risks inherent in the design and construction of Infrastructure works and ensure a minimum standard of safety and functionality, and in line with professional engineering practice, UNOPS carries out a design review process. Once the Design Firm completed the detailed design document for the work, UNOPS will commence its internal design review process. The designer shall remain responsible to implement appropriate modifications to the design until it meets the minimum requirement set out in the design planning manual that will be provided upon signing the contract,
6. Design Liability shall rest with the Design Firm. Design reviewer’s’ liability shall be limited to evaluating the compliance of the design against the minimum requirements set out in the design planning manual and shall not include any liability for the design itself, which shall remain with the Design Firm.

# 8. DESIGN PROGRAMME

The design should be delivered according to the milestones table below. The period indicated is envisioned from commencement to completion of the design works, subsequent design review process, and handover of information to UNOPS. The period starts when a commencement order is issued by UNOPS for the works. If the Design Firm fails to deliver the service or part thereof in accordance with the milestone date specified in the contract, UNOPS may, without prejudice to its other remedies under the Contract, deduct from the payments due to Design firm, as liquidated damages, 200 USD/day. The total amount of liquidated damages so applied may not exceed 10% of the total Contract price.

|  | Area of Works | Period |
| --- | --- | --- |
| Design Brief | A full description of the scope of works with an attached formal approval from stakeholders. Master layout plan and site information based on site investigations, tests and surveys, an environmental assessment, and all other necessary technical surveys, and gather any needed information or guidelines related to the design from JAF. Budget for work and ensure that it matches the budget of the project and inform UNOPS if there will be items above budget, proposed updated codes and standards to be used in the design. Any other national or international requirement | 3 weeks |
| Final Design | Design works for the Al-Ghabawi site master plans/layouts, Design works for site preparation and leveling including earthworks and paved roads and yards, Design works for the construction of the sheds, utilities and infrastructure including main gate, watch towers and maintenance station for the trucks. | 3 weeks |

# 9. Key Personnel

1. The Design Firm should provide details of in house / external consulting disciplines that they propose to use and details of their qualifications,
2. Information provided as part of the proposal should include the curriculum vitae of the external senior professional members assigned to the team, and the curriculum vitae of members related to individuals assigned to the project,
3. The following are deemed to be the minimum qualifications required for the project design team. These credentials will form part of the evaluation criteria;

* Design Manager, BSC in Civil/Architectural engineering with Infrastructure Design/ Steel Structure Design with minimum 15 years’ experience,
* Architect : minimum BSC in Architectural Engineering, 10 years’ experience in Urban planning
* Civil engineer: minimum BSC in Civil Engineering, 10 years’ experience in Water, Storm water and hydraulics,
* Mechanical engineer: BSC in Mechanical Engineering minimum 5 years’ experience in infrastructure design,
* Electrical Engineer: BSC in Electrical Engineering minimum 5 years’ experience in infrastructure design,
* Road Engineer: BSC in Civil Engineering minimum 5 years’ experience in Roads design,
* Quantity surveyor: Diploma Civil/Survey Engineering, minimum 5 years’ experience in infrastructure projects,
* Geotechnical Specialist, Diploma in Civil Geotechnical or Survey Engineering, minimum 5 years’ experience in infrastructure projects
* Draftsmen/Support team: Diploma in Civil or Architectural Engineering, minimum 5 years’ experience in infrastructure/ steel structure projects.

Staffing: a description of the inputs/resources (team of experts, facilities, etc.) required to achieve the expected results. A Design Firm should describe the structure and composition of its key experts for provision of the services (e.g. recruiters) including support staff and list the main activities of the assignment and the key expert(s) responsible for these activities, the key experts shall be employed directly by the Design Firm. An organogram illustrating the reporting lines together with a description of such organization of the team structure should support the proposal. The curriculum vitae of all proposed experts must be included and duly signed by the nominated expert in the proposal as an annex.

# 11. PAYMENT SCHEDULE

| **Stage** | **Payment Percentage** |
| --- | --- |
| 1. **Design Brief** | **30 %** |
| 1. **The Final Design** | **65%** |
| 1. Detailed Design report | 10% |
| 1. Supporting documentation (Drawings, Topographical and Hydrology maps, Geotechnical report) | 10 % |
| 1. Detailed Construction Documents | 15 % |
| 1. Technical specifications & schedules | 5 % |
| 1. Structural calculations | 5 % |
| 1. Bill of Quantities (BoQ) with a cost estimate for the construction works. | 10% |
| g . IPMG Design Certificate Approval | 10% |
| **3. Technical Support during the construction phase** | **5%** |