THE HASHEMITE KINGDOM OF JORDAN

MINISTRY OF LOCAL ADMINSTRATION

TERMS OF REFERENCE

FOR

PROVISIONS OF CONSULTANCY SERVICES

FOR

PROFESSIONAL ENGINEERING DESIGNING SERVICES FOR THE ESTABLISHMENT OF A NEW TRANSFER STATION IN AL DHLEEL DUMPSITE AT ZARQA GOVERNORATE

August 2020

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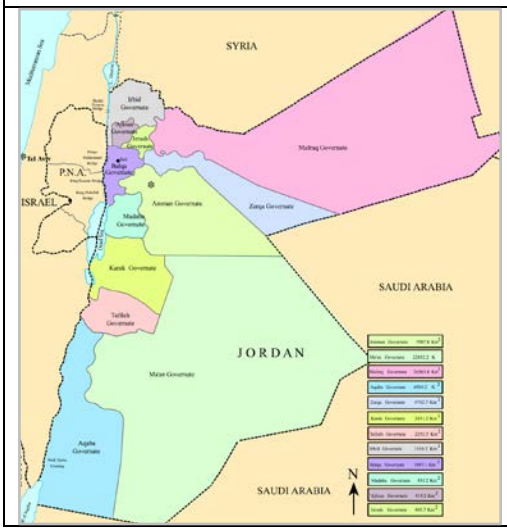
1 BACKGROUND

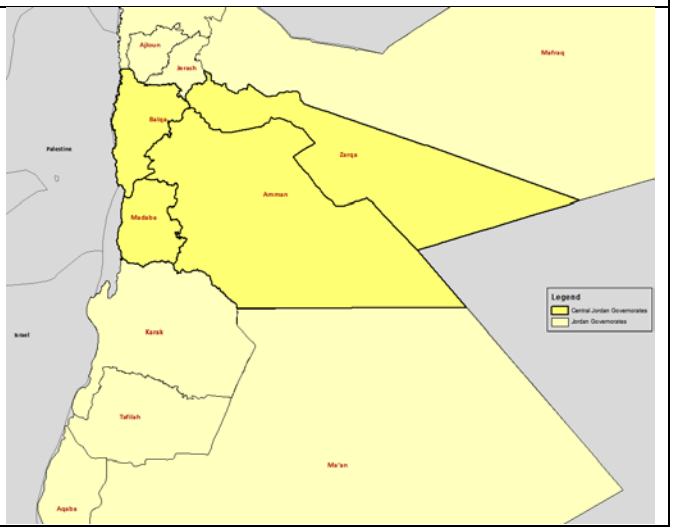
The deterioration of the security and humanitarian situation in Syria has forced hundreds of thousands of Syrians to flee and seek refuge in neighboring countries, including Jordan, placing a considerable burden on local Jordanian host communities and their basic social and economic services. Crowding effects in the local market, in particular concerning housing and labour, are widely reported in the Northern governorates, as is the pressure on basic service delivery, especially solid waste management, where municipalities are unable to meet the demands. In addition, a growing feeling of unfairness and exclusion are emerging among Jordanians, especially the poorer and more vulnerable groups.

Al Dhleel sub-district is part of Zarqa Qasabah District which is part of Zarqa Governorate, which is the third largest Governorate in Jordan by population. Its capital is Zarqa City, the largest city of the Governorate that is located 25 km east of the Jordanian capital Amman. The Governorate borders to Mafraq, Amman, Jerash and Balqa Governorates, whereas to its South-eastern edge its sustains part of Jordan's international borders to Saudi Arabia.

Map 1 : Administrative division of Jordan in Governorates



Map 2: Administrative division of Central Jordan in Governorates



Zarqa Governorate is one of the four (4) Governorates of the Jordan Central Region and the third largest governorate in Jordan by population. The other three (3) are Amman, Madaba and Balqa Governorates. Zarqa Governorate consists of seven (7) Municipalities, which are a) Al Zarqa, b) New Bierain; c) Al Dhlail; d) Al Hallabat; e) New Al Azraq; f) Al Russaifa; and g) New Al Hashemiyah. In particular the administrative division of Zarqa Governorate is provided hereby below:

Table 1: Administrative division of Zarqa Governorate

District	Sub-District	Municipality
Zarqa Qasabah District	Zarqa	Al Zarqa
	Bierain	New Bierain
	Dhlail	Al Dhlail
		Al Hallabat

District	Sub-District	Municipality
	Azraq	New Al Azraq
		Al Azraq Sahara (not a Municipality – desert)
Russaifa District	Russaifa	Al Russaifa
Hashemiyah District	Hashemiyah	New Al Hashemiyah

Within this context, the Ministry of Local Administration (MOLA) seeks the engagement of the services of reputable and experienced professional engineering entities for consultancy services to design and submit all required technical documents such as but without being limited to designs, BOQs, drawings, estimated cost, technical specifications, time schedules, … etc. The present TOR details the professional engineering supervision services required for the elaboration of this assignment.

2 CURRENT SITUATION

With the Syrian crisis, the number of refugees entering Northern and Central Governorates such as Zarqa and Irbid has increased the population substantially; and caused a considerable burden on local Jordanian host communities, exacerbating existing vulnerabilities, pressure on national resources, and the governmental and sub-national budgets. Hence, the public basic social, municipal, and economic services in addition to infrastructure are affected and overloaded due to demographic aspects. The recent increase of the local population represents an additional waste volume, which exceeds the current collection capacity and overloads the disposal capacity.

The SWM services are no longer of the same standard as prior to the influx of refugees; hence MSW collection and disposal became the major challenge for local municipalities and Joint Services Councils (JSCs); as the average MSW generation rates have dramatically increased during the last seven years, and further stressed the existing MSW collection capacity, the limited airspace and operational capacity of the operating landfill and disposal facilities. Accordingly, the overall situation of the MSWM system in most of local municipalities of Northern and Central Governorate of Zarqa is characterized by a massively littered environment; deteriorated MSW collection systems with damaged equipment and vehicles, a total absence of any MSW recycling and inappropriate waste disposal activities in the existing random site of Al Dhleel.

Al Dhleel existing dump site covers around 270,000 square meters. The site is serving around four (4) municipalities in Zarqa Governorate which are Al Dhleel, Halabat, Bierain and New Al Hashemiyah municipalities. In addition to MSW being disposed at the dump site from the mentioned municipalities, the site receives MSW from Azraq Refugees Camp and the several factories in the region. The MSW is landfilled randomly as the current dumping site doesn't have neither sanitary landfill cells nor lined leachate ponds. The current quantity of MSW that delivered to Al Dhleel dump site is around (300 – 350) tones per day which will be increased rapidly due to the normal population growth, increase in industry … etc.

In addition, there are no leachate and gas collection systems at the site. The waste disposal method currently practiced involves unloading of solid waste openly, where it is subjected to spreading. Compaction is not applied properly due to mechanical failure of the compactor and lack of spare parts. Cover material is obtained from a designated on-site borrow area or with residue from evaporated liquid wastes as a result of earth cut excavations. It consists mainly of sandy soil and it is applied on a daily basis. Thickness of the daily cover ranges between 30cm - 50cm.

Although the process is improved in comparison with the past practices, the dump site is considered unsanitary, as it lacks any environmental protection measures and infrastructure (leachate drainage and management, gas collection and management, etc.…). Accordingly, the available airspace at the dumpsite is almost inefficiently used up, and therefore the current stressed dump site capacity is in urgent need for closing this dump site; in order to establish a new roll-on roll-off transfer station as a long-term operational solution for the existing dump site, while this planned new transfer station at Al Dhleel will be one of the main MSW sources for new Al Azraq sanitary landfill which is under design currently.

3 OBLIGATIONS OF CONTRACTOR

The Consultancy Entity shall perform the services and carry out their obligations hereunder with all due diligence, efficiency and economy, in accordance with generally accepted professional techniques and practices, and shall observe sound management practices, and employ appropriate advance technology and safe and effective equipment, machinery, materials and methods.

The Consultancy Entity shall exercise all reasonable care to protect the interests of the MOLA, to ensure the timely completion of services.

Under this request for proposal, the Consultancy Entity will be responsible for providing the required team of qualified experts and resources capable to perform the services upon award of contract by MOLA.

The Consultancy Entity will be responsible to ensure that the services provided to MOLA shall not be shared with any Contractor/Entity that could ultimately lead toward leakage of internal information to other potential Consultancy Entities. Such action will severely impact the contract and leads toward termination and imposing a penalty on the Contractor as well as Legal procedure by blacklisting the Consultancy Entity for further participation in the tendering process within governmental tenders.

4 PROJECT BENEFICIARIES

Project beneficiaries are considered to be the Ministry of Local Administration (MOLA), Al Dhleel, Halabat and Bierain municipalities, Azraq camp and Al Zarqa JSC.

5 CONSULTANCY ASSIGNMENT OBJECTIVES

The following activities comprise the consultancy assignment objectives, which will be translated into general tasks to be undertaken by the project consultant:

- Liaising with relevant local authorities and representing MOLA on the ground;
- Coordinating all on-the-ground assignment related activities with the various relevant parties;
- Inspection, surveying, etc. the designated site;
- Preparation of technical specifications, sketches for the design and construction and bill of quantities with estimated costs;
- Producing the final design files and documents necessary for the upcoming tendering and implementation. The final design shall include detailed designs, BOQs, detailed drawings, estimated cost, technical specifications, time schedules, … etc.;
- Ensuring standards of quality assurance in executing the services in accordance with the most appropriate national, international and professional practices;
- Ensuring completion of the work within the stipulated time limit, and ensuring handover of the services properly with getting the MOLA's approval step by step.

6 PROJECT AREA

The project location is in Al Dhleel dump site at Al Dhleel sub-district that is part of Zarqa Qasabah District which is part of Zarqa Governorate.
All land registration documents are attached with this TOR as Annex I.

7 INTERVENTION OUTLINE

The Consultancy Entity shall conduct all necessary pre-engineering surveys and investigations for the targeted site that are required for buildings, infra-structure, steel structure, roads, landscaping … etc. duly. Based on the actual assessment of the work, the Consultancy Entity will then prepare design drawings, Bill of Quantities, technical requirements and specifications and estimated costs based on prevailing market rates.

The design shall include the following facilities without being limited to them subject to the outcome of initial consultations with MOLA and site investigations:

1) All required civil &structural works;
2) All required electrical works;
3) All required mechanical works;
4) All required landscaping works;
5) All required furniture, machinery & equipment works.

In this context, the consultant shall prepare all engineering designs, drawings, technical specifications, bills of quantities, estimated cost, schedules … etc. associated with the above mentioned elements.

8 SCOPE OF SERVICES

The planned land area for the new transfer station in Al Dhleel will around (10,000 – 25,000) square meters. The components of the transfer station without being limited to the following (**shall not consider exhaustive; they are rather indicative**):

1) Administration Building: it will be composed of two floors constructed using concrete. Each floor's area around (150) square meters inclusive all required services civil, structural, electrical, mechanical, plumbing, fire-fighting … etc.
2) Compaction Unit Building: it will be composed of two floors constructed using concrete for the first floor of area around (350) square meters, while the second floor will be from steel structure of area around (350) square meters with considering that the steel columns shall be constructed only at the exterior walls with a structural opening of dimensions around (8.20 x 4.20) meter in the ground floor slab. This building has special requirements, so it is very important to coordinate with MOLA, machinery's supplier and to visit similar roll-on roll-off transfer stations such as New Al Taybeh Transfer Station which is of roll-on roll-off type to get an actual image about the planned transfer station in Al Dhleel which will be of the same type. The clear height of the first floor will be around (4.80) meter, while the height of the second floor will be around (8) meter. Ground beams on the slab on grade at the ground floor will be installed with special traversing system (concrete ground beams and slabs on grade) will be constructed in front of the ground floor inclusive all required services civil, structural, electrical, mechanical, plumbing, fire-fighting … etc., while such traversing

system must carry heavy containers which the consultant must coordinate with MOLA and the machinery's supplier to get full technical data that needed for designing this traversing system.

The live weights that will be considered in the design of the building must be calculated by the consultant based on the usage of the building that will be clarified by the client where solid waste compactors will dump their loads of MSW on the first floor through the mentioned structural opening. Also, the dead weights that will be considered in the design must be calculated by the consultant with considering the machinery and equipment weights that will be supplied by the machineries' supplier contracted by MOLA. The consultant must coordinate through MOLA with the machinery's supplier to get all required technical specifications and data required for the design duly.

3) Washing Station: it will be one floor from steel structure of total area around (200) square meters and of height around (8) meter inclusive all required services civil, structural, electrical, mechanical, plumbing, fire-fighting … etc.
4) Maintenance Workshop: it will be one floor from steel structure of total area around (200) square meters and of height around (8) meter inclusive all required services civil, structural, electrical, mechanical, plumbing, fire-fighting, concrete ramp for heavy vehicles, oil changing pit, … etc.
5) Toilets and Resting Area Building: it will be of one floor building constructed using concrete of total area around (150) square meters. It will contain at least four toilets, four showers, resting area, kitchen, locker cabinets' area inclusive all required services civil, structural, electrical, mechanical, plumbing, fire-fighting … etc.
6) Weighing Bridge Room: it will be of one floor building constructed using concrete of total are around (10) square meters inclusive all required services civil, structural, electrical, mechanical, plumbing, fire-fighting … etc.
7) Control Room: it will be one floor from steel structure of total area around (10) square meters and of height around (3) meter that will be constructed at the first floor of the compaction unit building besides the mentioned structural opening at the first floor of the compaction's unit building inclusive all required services civil, structural, electrical, mechanical, plumbing, fire-fighting, … etc.
8) Guard Room: it will be of one floor building constructed using concrete of total are around (12) square meters inclusive all required services civil, structural, electrical, mechanical, plumbing, fire-fighting … etc.
9) Full internal and external infra-structure inclusive water supply, sewage network, leachate septic tank, concrete water tank, electrical cables … etc.
10) Solar PV street lighting system.
11) Main and sub-electrical distribution boards.
12) Stand-by electrical generator with ATS panel and synchronizing panel.
13) Landscaping services inclusive roads, sidewalks, parking areas for normal vehicles and heavy vehicles, signage, green belt, irrigation system, fence … etc.

The Consultancy Entity must follow MOLA's instructions (if requested from MOLA) to visit similar plants in Jordan such as New Al Taybeh Transfer Station (coordinates are 32°32'50.3"N 35°39'20.6"E) which is of roll-on roll-off type to get an actual image about the planned transfer station in Al Dhleel which will be of the same type. Also, the Consultancy Entity must fully coordinate with the most well-known machinery suppliers locally and internationally to get full data and technical specifications about the roll-on roll-off machineries that can be used, so that the Consultancy Entity considers that strictly duly within the consultant's design from all aspects (architectural, structural, electrical, mechanical … etc.).

The scope of the required services has been divided into the following two basic phases:

- **Phase I**: Conceptual Design (Preliminary Design).
- **Phase II**: Detailed Designs and Portions.

These phases have been furthermore subdivided into tasks/activities covering the broad spectrum of required services as presented in the following sections. Consultants are alerted that the proposed tasks/activities to achieve the overall called upon scope of services shall not be **considered exhaustive; they are rather indicative**.

Each of the above phases involves specific tasks, time schedules, deliverables and responsibilities for the consultant. These phases have been furthermore subdivided into tasks/activities covering the broad spectrum of required services as presented in the following sections.

The consultancy services and assignments of this project would be commenced by the consultant in Phases. The services will be provided in Phases by way of a separate Notice to Proceed (NTP) to be issued before the beginning of each Phase to activate the Phase contractually & financially. For example, at end of Phase 1 the consultant shall submit a summary report outlining the successful completion of the Phase 1 with handing over process of the related contractual deliverables to request MOLA's approval. **ONLY** in case of approval, the consultant will get a separate NTP issued by MOLA for the commencement of the Phase 2. MOLA reserves the full rights to withhold and/or omit the next Phase/Phases either partially or completely of the Services (next Phase means all or any Phase after Phase 1), as stated above without any impact of any type on MOLA's contractual, financial or otherwise. The consultant will not have any right of any type for compensation in case of withholding/omitting any Phase/Phases by MOLA.

The Consultancy Entity is fully responsible lonely to obtain the needed approvals from all relative/related governmental authorities regarding the buildings (construction licence).

Given the importance of national ownership, a PSC comprising MOLA shall be the responsible for revising, developing remarks, approving, etc. all assignment related deliverables of all Phases.

8.1 PHASE II: CONCEPTUAL DESIGN (PRELIMINARY DESIGN)

In this Phase, the consultant shall carry out the tasks presented herein in addition to being the focal point of liaison with all local authorities/counterparts through MOLA and to representing MOLA on the ground.

8.1.1 Task 1: Data Collection and Records Documentation

The consultant shall collect all project related information including, but not limited, to:

8.1.1.1 Maps for project area relevant locations.

8.1.1.2 Site plans for the construction site.

8.1.1.3 Full site survey for the existing situation –if any-.

8.1.1.4 Relevant data, info, brochures, leaflets, etc for the envisaged project supplies.

8.1.1.5 All structurally required information including dead weights, live weights, wind pressures, external forces, geotechnical information, etc.

8.1.1.6 All relevant sites specific information including geography, topography, groundwater table, soil conditions, site boundaries, etc.

8.1.1.7 Existing underground utilities.

8.1.1.8 National requirements regarding the targeted facilities.

8.1.1.9 Areas architectural setup.

8.1.1.10 Locally available construction materials.

8.1.1.11 Full surveying works required to achieve the scope of services.

8.1.1.12 Internal & external infra-structure.

8.1.1.13 Machinery, equipment, furniture, signage … etc.

8.1.1.14 Green belt.

8.1.1.15 Breakdown of prices from recent projects of relevant nature.

8.1.1.16 National requirements regarding transfer stations and landfills sites.

8.1.1.17 Others.

The Consultant has to collect design data from all sources and not only depend on reviewing the given baseline data.

8.1.2 Task 2: Collected Data Review and Analysis

In this task, the consultant shall review and study all collected data, reports, plans, maps, drawings, etc with the purpose of fully familiarizing itself with the project area and conditions, identifying information gaps, arranging for additional data requirements collection, field investigations and finally commencing the engineering services.

8.1.3 Task 3: Interviews with MOLA and Counterparts

In order to ensure a coherent approach, the consultant shall launch a series of extensive meetings with MOLA and the counterparts with a view of defining the overall requirements in all aspects including:

8.1.3.1 Architectural setup.

8.1.3.2 Functions of buildings & areas.

8.1.3.3 Surface areas.

8.1.3.4 Occupancy requirements.

8.1.3.5 Space requirements.

8.1.3.6 Space allocation.

8.1.3.7 Utilities' requirements.

8.1.3.8 Minimum standards.

8.1.3.9 Design standards and performance criteria.

8.1.3.10 Others.

During this task, the consultant shall also arrange for land plots turnover including fixation of site boundary marks and identification on surveying plans.

Following completion of this task, the consultant is expected to have developed a full idea regarding site requirement that may evolve into a design concept.

8.1.4 Task 4: Field Verification of Collected Data

In this task, the consultant shall carry out all required field investigations and verifications with the purpose of verifying the collected data, information, maps, plans, etc and for collecting and additionally required information.

8.1.5 Task 5: Surveying Works

In this task, the consultant shall carry out the required detailed leveling surveys for the site. The site survey shall include all boundaries, general location, angels, lengths, surrounding facilities, levels in 5 meters intervals, etc to enable the consultant to prepare a detailed site layout, roads profiles & cross sections and facilitate cut and fill calculations and other downstream work.

8.1.6 Task 6: Geotechnical/Soil Investigations and Analysis

Field investigations and laboratory subsurface soil exploration tests and all the required laboratory tests shall be carried out to ensure the viability and cost estimates of the project, of the different facilities in accordance with approved national and international codes of practice. The results shall define the soil bearing capacity and other physical, as well as, mechanical properties of the soils encountered.

8.1.6.1 Field Work

Borings shall be executed by rotary rigs at the selected sites and to appropriate depths.
Samples and blow counts shall be taken according to the approved standard.
Water levels shall be established when first encountered, at the completion of the borings and 24 hours after completion. Elevation at which groundwater (if needed) is lost or gained when using casing shall be observed and recorded.

Furthermore, the consultant shall also prepare site plans indicating the required boreholes locations (for geotechnical investigations) including depths, coordinates, geotechnical investigations specifications, required site and laboratory testing, etc for subsequent execution. **At least 1 borehole shall be implemented per 100 square meter** and/or as per the recommendations/instructions of the client.

8.1.6.2 Laboratory Tests (if requested & needed)

Mechanical, physical and chemical laboratory tests shall be performed in accordance with the approved standards by **an independent and governmental recognized institute which must be approved in advance from MOLA after awarding the contract**. The later shall comprise but not be limited to:

- Sieve analyses for some non-cohesive samples;
- Percentage passing through sieve No. 200;
- Natural density moisture content;
- Atterberg limits for cohesive soil;
- Shear box;
- Unconfined compressive strength;
- Compaction proctor or modified proctor;
- Consolidation;
- Soil aggressiveness;
- Groundwater aggressiveness;
- Groundwater chemical composition analysis;

- Ultra sonic & Schmidt hammar tests;
- Any other test of any type.

8.1.6.3 Technical Report

The results of the laboratory and field data shall be studied by the consultant and tabulated in standard forms for final recommendations.

The technical report shall recommend the most feasible type of foundation, bearing stress suggested for use, optimum bedding for the various components, protections, etc. These shall be supported by drawings of the boring locations, boring logs and other necessary information.

8.1.7 Task 7: Preliminary Engineering Services for the Facilities included in the Scope of Service

In this task, the consultant shall prepare all required preliminary architectural and general engineering designs, drawings, calculations, plans, BOQs with cost estimates, etc for all project components including:

8.1.7.1 Site layout plans including internal roads, access roads, connection to external facilities and utilities, etc.

8.1.7.2 Detailed architectural, structural, mechanical, electrical designs and drawings for the site facilities under the scope of work.

8.1.7.3 Designs and full technical specifications for the machinery, equipment & furniture.

8.1.7.4 Site landscaping plans.

8.1.7.5 Municipal power supply, water supply and sewage requirements.

8.1.7.6 Water utilities.

8.1.7.7 Electrical utilities.

8.1.7.8 Wastewater utilities.

8.1.7.9 Mechanical utilities.

8.1.7.10 Internal & external infra-structure.

8.1.7.11 Green belt.

8.1.7.12 Machinery, equipment, furniture, signage … etc.

8.1.7.13 Others.

8.1.8 Functions & Scenarios

The consultant has to conduct enough meetings with MOLA to ensure the required functions of the buildings and facilities. In case of request to change the function of a building to a new function, then the designer must apply that duly.

If the submitted preliminary design is not accepted from MOLA, then the consultant must submit other scenarios where each scenario must has (drawings, BOQs, estimated costs, technical specifications, schedules … etc.) till agree with MOLA on the most feasible scenario.

8.1.9 Task 8: Preliminary Design Report

The report shall include Detailed Comprehensive Assessment for all categories and specialties with Recommendation.

The report include all collected data and information, carried out designs and drawings for all categories (architectural, structural, electrical, mechanical, infra-structure, landscaping … etc.), calculations, BOQ, estimated costs, technical specifications, schedules … etc. and shall clearly portray all spent efforts during the entire phase. The report shall be submitted for review, remarks and approval by the project PSC.

The report shall be submitted in draft format (i.e. 5 hard copies to MOLA) then the final version incorporating all PSC remarks shall be submitted in 5 hard copies and 2 electronic copies.

8.2 PHASE II: DETAILED DESIGN FOR THE SELECTED SCENARIO

Upon approval of Phase I deliverables, the consultant shall proceed to Phase II.

8.2.1 Task 1: Detailed Designs and Construction Drawings

Based on the findings of forgoing activities, the consultant shall further the approved preliminary designs in such a manner that reflects the facilities as they should be constructed. The consultant shall prepare all necessary detailed designs and technical specifications for the works under consideration, including architectural, landscaping, structural, civil, mechanical, electrical, control, instrumentation, etc for site including all components.

Detailed architectural drawings shall be prepared. Detailed plans shall be plotted to suitable scales in accordance with international standards, illustrating different parts of the buildings, fully dimensioned and detailed. Sections, elevations and side views shall be prepared to illustrate the different parts, finishing, and levels of the various internal and external slabs. Reflected ceiling plans to show the required ceiling design and lighting fittings locations shall also be prepared. Special details to larger scale shall be prepared showing staircases, WC's, and any special purpose parts with the purpose of clearly portraying the scope of required works.

Finishing materials schedules doors schedules, windows schedules, all types of finishing works and detailed drawings shall be prepared. Detailed drawings for the latter shall also be prepared to define their construction, shape model, size, materials, size, type of glass, and specify hardware lists. The architectural drawings shall also allow for detailing of any other construction or finishing requirements.

Landscaping inclusive full detailed infra-structure plans for site shall also be prepared including water supply system, sewage system, fire-fighting system, electrical system, roads, green belt, irrigation system, roads lighting, signage system, illumination, etc.

Roads drawings shall include design, profiles, cross sections & signage.

Green belt drawings shall include design, type of trees and plants, distribution, irrigation system design with full details.

Mechanical drawings shall be in adequate detail illustrating; equipment; piping; fittings; electromechanical components; connections, etc.

Full detailed plans for equipment, machinery, furniture … etc. must be submitted duly.

Electrical drawings shall include wiring diagrams, single line diagrams, site illumination, cabling, grounding, control, instrumentation, etc for all components and for site. The drawings shall illustrate

electric operation and control panels, switchboards, measurement equipment panels, synchronizing equipment, lighting panels, locations of roads electrical poles, routes of electrical cables, design & details of electrical cables, details of lighting poles (solar lighting method) etc.

Careful studies shall be carried out to select the most appropriate and economic structural design. The latter shall ensure reduction of both construction period and costs. Detailed structural drawings shall be prepared illustrating the required detail for the foundations, reinforcement, tie beams, axes, columns, etc. The stability rigidity of the structure is the consultant's full responsibility lonely.

Foundations for relevant electromechanical equipment such as switchboards, standby diesel generation sets, etc shall also be drawn in sufficient details showing all required insulations and supports.

Work drawings to suitable scales (i.e. 1:100, 1:50 … etc.) and large-scale details shall be prepared. The drawings will comprise plans, sections and elevations and will provide sufficient details for the construction and installation of all works.

Provide and give assurance of the highest quality of detailed engineering consulting services required to do civil works design; topographic survey; detailed engineering design; technical specifications, unit price analysis, BOQs engineering estimates, construction, drawings and environmental and social impact assessments.

Provide Technical Specifications that shall comply with the latest Design Standards and shall include the descriptions of the work items, material requirements, construction requirements and methods of measurements. The sampling, testing and inspection requirements, and production and delivery requirements, shall be included in the specifications of applicable work items.

Provide Time schedule that shall illustrate the Consultancy Entity's design stages. This is a graphic representation of the project activities, the time it takes to complete them, and the sequence in which they must be done.
The engineering consultancy Entity shall prepare the following documents for the work after MOLA’s approval on preliminary design plan proposal, taking into consideration the local regulatory, standards and in accordance with the required specifications:

1. Detailed bill of quantities for each structure/scheme;
2. Technical requirements / specifications for the required task, civil, mechanical, electrical;
3. Engineering Estimates detailed budget for the civil, mechanical, electrical, surveillance and architectural work;
4. Detail drawings/ (depends on the required task) that should include but not limited to;
    a. Detailed civil and architectural drawings that should include “Profiles, elevations, plans, and details”;
    b. Detailed structural drawings;
    c. Detailed electrical drawings;
    d. Detailed finishing tables & drawings;
    e. Detailed mechanical drawings;
    f. Detailed Security CCTV drawings;
    g. Detailed landscaping & infra-structure drawings inclusive green belt;
    h. Detailed machinery, equipment, furniture, equipment; signage … etc;
    i. Detailed sanitary drawings;
5. Material Specifications including standard coding requirements for materials;
6. Any other documentation required for the tender process.

8.2.2 Task 2: Specifications, Bill of Quantities and Final Cost Estimates

The consultant shall prepare all required technical specifications in accordance with national, international and MOLA standards for all works components designed. Furthermore, detailed BOQ's shall also be prepared of all items of works and for each component and subcomponent on separate basis. The BOQ's shall be developed to such a level of details as to allow easy estimation of construction costs, which would allow receipt of responsive contractor bids for the works under consideration.

Following preparation of the BOQ's, the consultant shall utilize the data and information collected in foregoing tasks to prepare detailed cost estimates of all included works. The specifications and BOQ's shall be formatted as per an agreed international/national format.

8.2.3 Task 3: Detailed Designs Report

The report include all collected data and information, carried out designs and drawings for all categories (architectural, structural, electrical, mechanical, infra-structure, landscaping … etc.), calculations, detailed BOQ, estimated costs, technical specifications, schedules … etc. and shall clearly portray all spent efforts during the entire phase. The report shall be submitted for review, remarks and approval by the PSC.

The report shall be submitted in draft format (i.e. 5 hard copies to MOLA) then the final version incorporating all PSC remarks shall be submitted in 5 hard copies and 5 electronic copies.

9 STANDARDIZATION OF CONSTRUCTION WORKS

9.1 Standards

The equipment and works shall be designed and executed in accordance with specified requirements and in accordance with the latest versions of the standards given in the specifications or other recognized engineering standards and codes of practice approved by MOLA. The Contractor shall investigate the existence of any regulations and local by-laws governing the proposed works and shall fully comply with relevant requirements therein.
The following quality and shipping standards should be complied with in design, manufacture, and testing for all equipment and materials supplied by the contractor.

9.2 Construction and Manufacturing Standards

All works, activities, equipment and materials of any type shall be strictly in accordance with the latest technical standards & specifications of the following which serialized according to the following priorities:

- All materials, equipment, construction activities and all works of any type to be implemented under this contract shall fully comply with the latest "Technical Standards & Technical Specifications" published by Government of Jordan and applied in Jordan.
- British Standard (BS), European Standards (EN) and American Society for Testing and Materials (ASTM).
- International Electro technical Commission (IEC).
- Standards (ANSI), Electromagnetic Compatibility (EMC), Deutsches Institute fur Normay (DIN).

9.3 Quality Standards

- ISO 9000: Quality Assurance
- ISO 9001: Quality Systems - Model for quality assurance in design, development, production and servicing.
- ISO 9002: Quality Systems - Model for quality assurance in production, installation and servicing.
- ISO 9004: Quality Management and Quality System Elements.

9.4 Shipping Standards

- CFR 49: Code of Federal Regulations - Title 49 Part 100 - Part 185
- IATA: International Air Transport Association.
- IMFC: International Motor Freight Code.
- IMO: International Maritime Organization, regulations.

10 GENERAL RESPONSIBILITIES / REQUIREMENTS

10.1 Reporting and Photography

Given the remote management nature of the project and the fact that MOLA may not maintain prolonged and/or frequent on-the-ground presence, one of MOLA's management tools is through comprehensive progress reports supported by photographs and similar materials from its counterparts and consulting engineers. The same also applies for illustrating project impacts.

10.1.1 Contents of Report

The consultant shall provide MOLA with bi-weekly progress reports including yet not limited to:

10.1.1.1 Meetings held with counterparts, contractors, etc.

10.1.1.2 Progress reporting, delays, etc.

10.1.1.3 Staff employed by consultant, contractors, counterparts.

10.1.1.4 Contractor's plant and equipment.

10.1.1.5 Financial status, predicted cash flow, expected variations.

10.1.1.6 Technical Issues.

10.1.1.7 Challenges and means to resolve these.

10.1.1.8 Security incidents.

10.1.1.9 Completed, in-progress, delayed, envisaged, etc. activities.

The Consultancy Entity shall prepare and submit the detailed reports duly certified by all designs, Bill of Quantities, technical requirements / specifications, Engineering estimates and any other document that will help MOLA to proceed with tender. The report should also highlight any major issues/problems identified by the consulting Entity and also suggest mitigation strategies accordingly.

10.1.2 Photography

The consultant shall provide adequate photographs as an integral part of any submitted reports with the purpose of illustrating progress, impact, elements requiring particular attention and so forth. Photographs shall also be captured and submitted as frequent as requested by MOLA.
While in certain instances the photographs shall be required to portray the status of technical elements, which necessitates that these be of technical nature portraying an engineering view of the photographed element (i.e. site before construction), in other instances the photographs are rather required for general illustrative purposes and should convey a general inclusive overview for non-engineering purposes. It should be noted that these should have an artistic essence to them.
The consultant is alerted to the particular requirements for non-engineering purposes photography, which are required to achieve several purposes including yet not limited to:

10.1.2.1 Conveying the overall extent and magnitude of the intervention;

10.1.2.2 Conveying the overall intervention nature;

10.1.2.3 Conveying a broad overview of the overall intervention;

10.1.2.4 Conveying the pre-intervention conditions (i.e. random dumping MSW, staff without access to administration building and the needed facilities … etc.);

10.1.2.5 Conveying the post-intervention conditions (i.e. random dumping MSW stopped and is controlled, staff with access to administration building and the needed facilities … etc), which are generally used to assess the intervention impact.

Although many professionals have adequate capacity to capture photographs, the consultant shall ensure a professional photographer is appointed for this particular purpose that has adequate capacity to capture technical and non-technical photographs with the required artistic essence.

The consultants cost shall be deemed included and/or surcharged in/to the consultant's fee rates under each phase.

11 FACILITIES PROVIDED BY MOLA

No site facilities shall be provided by MOLA.

12 FACILITIES TO BE PROVIDED BY THE CONSULTANT

All required facilities for proper development of all phases of the assignment shall be its own responsibility. Unless otherwise explicitly called upon, any facilities shall be deemed included and/or surcharged in/to the consultant's fee rates. All facilities, equipment, resources, and other expenses necessary for the proper performance of the services and to be provided by the consultant should be broken down in their unit prices.

13 INSURANCE CONTRACTUAL REQUIREMENTS

The consultant is responsible for maintaining professional indemnity/liability insurances in relation to design negligence, errors, and omissions arising out of the performance of the consultancy services in the project or its failure to comply with any of its professional and/or contractual obligations.
The consultant, at his own cost and expense shall provide and maintain for the duration of the contract, the following insurance policies with minimum coverage in favor of MOLA:

A. **Professional Indemnity Insurance**
Minimum level of Professional Indemnity Insurance: Minimum JOD [70,000] per occurrence for JOD 700,000] in aggregate.

The Insurances should be issued by a reputable insurance company in accordance with MOLA general conditions for services. The Consultant shall maintain such professional indemnity insurance from the effective date service agreement for a period not less than three (3) years from completion of the Project or the earlier termination of the agreement. The consultant has to submit the above mentioned insurances within (14) calendar days from the date of issuing the notice to proceed (NTP).

14 LIAISON

The consultant shall liaise with counterparts on all matters related to the execution of the contract. All activities are to be conducted according to MOLA rules and regulations. The consultant shall also obtain the MOLA's endorsement of all its submittals.

For the bidders, MOLA will facilitate the access to the governorates conduct the sites visits and provide a feedback for any inquiry regarding any specific requirements.

The Consultancy Entity shall provide a complete SOW, including the BOQs, Drawings. Etc. as detailed previously signed and stamped by the Consultancy Entity and all other relevant documents such as Warranties/Guarantees and correspondences related to the contract.

15 STAFF REQUIRED

The Consultant shall provide the required staff and qualifications to manage all the different tasks of the assignment. The Consultant should specify their project management, methodology and approach. In the table below, the personnel that will need to be mobilized.

Regardless of the below mentioned staff, it will be the Consultant's full responsibility lonely to bring additional supporting staff to achieve the required scope of work on time without any additional fees.
MOLA reserves the right to reject and/or instruct removal of staff due nonperformance.
MOLA has the full right to make an appropriate deduction from the consultant's progress payments in case of his failure to secure the below mentioned staff.

15.1 Phases I & II

The following table shows the minimum qualifications and staffing requirements required for the proper performance of the design consultancy services in line with the scope of this assignment:

Main Expertise & professional	Particular Experience & Qualifications	Minimum Years of Experience	Minimum experience (year in similar position)	Quantity
Project Manager Civil Engineer	Minimum B.A. in civil engineering. Excellent experience in designing construction projects (concrete and steel structure). Excellent communication and management skills. Excellent ability in reading, writing and communicating in English.	10	5	1
Electrical Engineer	Minimum B.A. in electrical engineering. Excellent experience in designing construction projects (concrete and steel structure). Excellent communication and management skills. Excellent ability in reading, writing and communicating in English.	7	3	1

Main Expertise & professional	Particular Experience & Qualifications	Minimum Years of Experience	Minimum experience (year in similar position)	Quantity
Mechanical Engineer	Minimum B.A. in mechanical engineering. Excellent experience in designing construction projects (concrete and steel structure). Excellent communication and management skills. Excellent ability in reading, writing and communicating in English.	7	3	1
Structural Engineer Civil Engineer	Minimum B.A. in civil/structural engineering. Excellent experience in designing construction projects (concrete and steel structure). Excellent communication and management skills. Excellent ability in reading, writing and communicating in English.	10	5	1
Land Surveyor	Excellent experience in land surveying of infrastructure and construction projects. Excellent ability in reading, writing and communicating in English	5	2	1
Planning Engineer, Quantity Surveyor & AutoCAD Operator Civil Engineer	Minimum B.A. in civil engineering. Excellent experience in designing construction projects (concrete and steel structure). Excellent skills in reporting, AutoCAD, shop drawings & planning. Experience in preparing Gantt chart for large/medium scale project using Primavera or MS Project. Excellent ability in reading, writing and communicating in English.	7	3	1

16 DELIVERABLES

The Consultancy Entity will submit a comprehensive report for entire project within the required frame as per the Call-Off Contract of the site visit; the report will include all the documents mentioned above together with the recommendations and conclusions. The provided documents will be reviewed and subject to endorsement by MOLA. The deliverables will be presented as below;

i. Proposed Scope of Work (SOW), including implementation schedule and general site plan;
ii. Detailed Bill of Quantity (BOQ) General, Civil, Architectural, Mechanical, Electrical, Plumbing Works, Furniture, Machinery & Equipment, Signage, Landscaping, Infra-structure … etc. including cost estimate for all phases;
iii. Drawings for General, Civil, Mechanical, Electrical, Plumbing Works; Landscaping; Infra-structure … etc.
iv. Technical requirements / specifications.

The drawings/design, assessment reports, SOW, BOQ to be submitted in hard copies (5) and soft copy (1 electronic). All documents must be submitted in both PDF & its original format (i.e. AutoCAD, excel, word … etc.).

17 OUTPUTS, DELIVERABLES, AND SCHEDULE OF PAYMENTS

17.1 Project Implementation Schedule

The following table represents the maximum time required for completion of the project:

#	Output	Due Date	Payment
1	**Phase I**: Draft Conceptual Design (Preliminary Design)	Three (3) calendar weeks following contract effective date	20%
2	**Phase I**: Final Conceptual Design (Preliminary Design)	Two (2) calendar weeks following the approval of the Draft Conceptual Design (Preliminary Design)	20%
3	**Phase II**: Draft Detailed Designs and Portions	Three (3) calendar weeks following the approval of the Final Conceptual Design (Preliminary Design)	20%
4	**Phase II**: Final Detailed Designs and Portions	Two (2) calendar weeks following the approval of the Draft Detailed Designs and Portions	40%

MOLA shall effect payments after acceptance and upon achievement of the corresponding milestones duly from all aspects.

All deliverables shall be issued in draft. The consultant will receive comments on the drafts from MOLA as soon as possible to issue the final version based on all the comments received. The consultant shall share drafts with MOLA for their comments, discussion and approval.
All final deliverables shall be delivered in both hard and soft copies as per MOLA directives.

18 CONSULTANTS ACCOUNTABILITY & RESPONSIBILITY

The consultant has the overall responsibility for providing technical design services including provision of the professional experiences and qualifications representing multi-engineering disciplines in relation to the scope of this assignment with a professional practice of engineering, and then production of a complete set of the final design files and documents in compliance with the MOLA's requirements and procedures. The consultant thereafter assumes sole responsibility for the technical adequacy, competence, and structural soundness of the design and technical specifications.

When the final version of the design files and related documents are approved and endorsed by MOLA, the ultimate responsibility and potential professional liability for the final design deliverables are the key task to be considered by the consultant. Indeed, the obligations of the consultant "in responsible charge" continue after the design submittal and endure throughout the life of the construction of works. Hence, the consultant will be committed to provide prolonged design review / design modification services for all essential deficiencies, structural challenges and possible changes which might arise during the upcoming construction phase.

From above mentioned, the consultant shall carry the full responsibility lonely at any stage for the design regardless the endorsement from MOLA. Also, the consultant must submit all

required efforts upon request to do any required modifications of any type for the design during any stage inclusive the construction stage with the fastest time without any additional fees.

19 BIDDING SUPPORT SERVICES (IF REQUESTED BY MOLA)

In this task, the Consultant shall conduct the following but without being limited to:

- Attend the pre-bid meeting and site visit upon request from MOLA;
- Answer the requests for clarifications and inquiries during bidding stage upon request from MOLA.
- Any other support requested by MOLA.

20 CRITERIA FOR THE AWARD OF CONTRACT AND EVALUATION OF PROPOSALS

Proposals will be evaluated on the following basis:

1. MOLA conducts preliminary examination of Proposals through examining the completeness of proposals in respect to minimum documentary requirements. MOLA may reject any Proposal at this stage.
2. Compliance with Terms and Conditions of the RFP including required submissions. MOLA will examine the substantial responsiveness of Proposal to the Request for Proposal (RFP). A substantially responsive Proposal is one which conforms to all the terms and conditions of the RFP without material deviation. A Proposal determined as not substantially responsive will be rejected by the Purchaser and may not subsequently be made responsive by the Proposer by correction of the non-conformity.
   Total Combined Score=

   (TP Rating) x (Wight of TP (70%)) + (FP Rating) x (Weight of FP (30%))

3. Minimum achieved technical scoring of 70% in the Technical Evaluation. Proposals achieving below 70% shall no longer be considered for Financial Evaluation. The Technical Rating of Proposals shall be determined in accordance with the following equation:

   Rating the Technical Proposal (TP):
   TP Rating = (Total Score Obtained by the Offer / Max. Obtainable Score for TP) x 100

4. Financially Submitted Proposal. The Financial Rating of Proposals shall be determined in accordance with the following equation:

Rating the Financial Proposal (FP):

FP Rating= (Lowest Priced Officer/Price of the Offer Being Reviewed) x 100

5. The Total Combined and Final Rating of the Proposal. The rating shall be determined in accordance with the following equation:

MOLA will award RFP to the most responsive Proposal with highest achieved combined score.

21 SELECTION CRITERIA/TECHNICAL SCORING SHEETS

Summary of Technical Proposal Evaluation Forms		Score Weight	Points Obtainable	Consultancy Entity				
				A	B	C	D	E
1.	Expertise of Consultancy Entity / Organization submitting Proposal	20%	200					
2.	Proposed Work Plan and Approach	50%	500					
3.	Personnel	30%	300					
	Total		**1000**					

Evaluation forms for technical proposals will be as follows. The obtainable number of points specified for each evaluation criterion indicates the relative significance or weight of the item in the overall evaluation process. The technical proposal evaluation forms are as the following:

- ✓ Form **1:** Expertise of Consultancy Entity / Organization Submitting Proposal
- ✓ Form **2:** Proposed Work Plan and Approach
- ✓ Form **3:** Personnel

Form 1		Points obtainable	Consultancy Entity				
			A	B	C	D	E
Expertise of Consultancy Entity / Organization Submitting Proposal							
1.1	Entity classification (Grade 1 Class A) from Jordanian Government Tenders Department	20					
1.2	Consultancy Entity's profile and general organizational capability which is likely to affect implementation (i.e. loose consortium, holding Consultancy Entity or one firm, size of the Entity / organization, strength of project management support in terms of the given resources, subcontracting … etc.)	50					
1.3	Specific Experience in the relevant field (Previous and Similar projects (references during the last 7 years)	100					
1.4	Demonstrated experience globally and in the Middle East for medium/large scale projects	25					
1.5	Relevance of: Work for MOLA and/or other governmental entities and/or other private sector entities	5					
	Total Form 1	**200**					

Form 2		Points Obtainable	Consultancy Entity				
			A	B	C	D	E
Proposed Work Plan and Approach							
2.1	Methodology Statement & Understanding of Scope and project description	250					
2.2	Project Activity (Work) Schedule	150					
2.3	Composition of the Team and Task(s) of each member and Staff Activity (work) Schedule	100					
	Total Part 2	**500**					

Form 3		Points Obtainable	Consultancy Entity				
			A	B	C	D	E
Personnel							
3.1	**Project Manager / Civil Engineer**	**50**					
a.	General Qualifications	25					
b.	Professional Experience in the area of specialization	15					
c.	Suitability to the Project	5					
d.	Language and Computer Skills	5					
3.2	**Electrical Engineer**	**50**					
a.	General Qualifications	25					
b.	Professional Experience in the area of specialization	15					
c.	Suitability to the Project	5					
d.	Language and Computer Skills	5					
3.3	**Mechanical Engineer**	**50**					
a.	General Qualifications	25					
b.	Professional Experience in the area of specialization	15					
c.	Suitability to the Project	5					
d.	Language and Computer Skills	5					
3.4	**Structural Engineer / Civil Engineer**	**50**					
a.	General Qualifications	25					
b.	Professional Experience in the area of specialization	15					
c.	Suitability to the Project	5					
d.	Language and Computer Skills	5					
3.5	**Planning Engineer, Quantity Surveyor & AutoCAD Operator / Civil Engineer**	**50**					
a.	General Qualifications	25					
b.	Professional Experience in the area of specialization	15					
c.	Suitability to the Project	5					
d.	Language and Computer Skills	5					
3.6	**Land Surveyor**	**50**					
a.	General Qualifications	25					
b.	Professional Experience in the area of specialization	15					
c.	Suitability to the Project	5					
d.	Language and Computer Skills	5					
	Total Part 3	**300**					

22 SCORING SCALE

The hereunder scoring scale system will be applied throughout the technical evaluation process:

Evaluated Criteria	Supporting Evidences	Scoring Scale System
Excellent	Requirements submitted and supported by excellent evidence of ability to support and exceed contract requirements	91% - 100%
Good	Requirements submitted and supported by good evidence of ability to support and exceed contract requirements	90% - 81%
Satisfactory	Requirements submitted and supported by satisfactory evidence of ability to support contract requirements	80% - 70%
Poor	Requirements submitted and supported by marginally acceptable or weak evidence of ability to support contract requirement (Clarification may be required)	69% - 60%
Very poor	Requirements submitted but not supported by evidence to demonstrate ability to comply with contract requirements	59% - 50%
No submission	Information has not been submitted or is unacceptable	0%

23 PROPOSAL EVALUATION CRITERIA

Criteria	Description
Years in Existence	When the Entity was established and number of years in operation (minimum 10 years).
Entity Registration	Provide proof of Consultant's registration in Jordan (attach copy of registration certificate). The Consultancy Entities must be registered and licensed in accordance with the Jordanian Laws.
Entity Classification	Provide proof of Consultant's valid classification in Jordan issued from Jordanian Government Tenders Department as **(Grade 1 Class A)** in buildings specialty. Provide proof of valid classification certificate from Jordanian Engineers Association (if available). Notes: **1. The Consultant must have a valid classification from the Jordanian Government Tenders Department, while not having such classification shall lead to disqualification regardless all other requirements;** 2. The Consultancy Entities can participate in this bid either individually or through a joint venture (JV). In case the Consultancy Entity is a JV, then a JV agreement shall be attached with the proposal duly with showing the leader party, portions, roles, responsibilities of each party in the JV with submitting a power of attorney for the authorized person; 3. The technical and financial requirements of the bid in case of JV will be considered collectively for the parties of the JV.

Criteria	Description
Profile of the Consultancy Entity	Number of employees, Number of permanent employees, assets, premises, Organizational structure, Registration with Institutions, Regional and Global representation, etc. CVs for minimum 2 key staff members permanently employed by Consultancy Entity. Number of permanent employees.
Financial Status	Average cumulative annual turnover of 750,000 JOD for the last three years.
General Experience	Minimum 7 years' experience of similar or larger size projects.
Relevant Experience	Particular experience in buildings and steel structure projects.
Experience in Jordan / Region	Details of contracts completed/ongoing in different countries in the world including the countries in the Region (Middle East) and especially in Jordan.
Clients' Evaluation (if available)	At least two Certificates of satisfactory completion of similar projects of comparable size during the last 5 years (if available). (Assessed by relevance and volume of contracts).

Notes:

During negotiations the selected consultant by MOLA must be prepared to furnish the detailed cost break-up and other clarifications to the proposal submitted by him, as may be required to adjudge the reasonableness of his price proposal. After achieving this stage successfully, the award will be made to him.

MOLA shall have the right to cancel the tender without giving the reasons and without any financial and/or legal obligations of any type.

24 ANNEX I

All land registration documents are attached with this TOR as Annex III.