

Terms of References

Component-1: Hiring of Engineering Consulting Firms for Engineering Design, Supervision & Quality Assurance (EDS&QA) for Expansion of Existing facilities for Rescue Stations at Jamshoro, Sukkur & Maripur.

Component-2: Hiring of Engineering Consulting Firms for Supervision & Quality Assurance (S&QA) for expansion of Humanitarian Response Facility (HRF) at: Maripur, Karachi

Brief Introduction:

The Provincial Disaster Management Authority (PDMA) Sindh, Govt. of Sindh, has received credit from World Bank for "Sindh Resilience Project" for four years tenure. The SRP aims that the PDMA Sindh, DDMA's, line depts. and the communities be resilient and strengthened to manage natural and human-induced hazards and disasters proactively in all phases of disaster that includes but not limited to; Pre-disaster (*Mitigation, Preparedness*), during the disaster (*Rescue, Response, Relief*) and Post-disaster (*Recovery, Rehabilitation and Re-construction*).

Component-1: Hiring of Engineering Consulting Firms for Engineering Design, Supervision & Quality Assurance (EDS&QA) for Expansion of Existing facilities for Rescue Stations at Jamshoro, Sukkur & Maripur.

Project description: Three major components of the Project are:

A -Engineering Design and Supervision, Q/A of Construction of Rescue Stations at Jamshoro, Sukkur & Maripur.

Under this component the firm will prepare the detailed engineering design, architectural drawings (structural and working including elevation) for expansion of the existing facilities for Rescue Stations at Jamshoro, Sukkur & Maripur in consultation with the technical team of SRP-PDMA, prepare bidding documents & provide technical assistance in bidding process for hiring the services of contractor for expansion of the existing facilities.

B – Supervision & Quality Assurance of works.

Under this component the consulting firm will supervise the contractor for all construction related works for the expansion of the existing facilities and will assure at each stage that the work is being done accordingly to the design and meeting all required standards including quality control.

C– Monitoring & Implementation of ESMP

Under this component the firm will monitor and ensured the implementation/compliance of Environmental & Social Management Plan

Component-2: Hiring of Engineering Consulting Firms for Supervision & Quality Assurance (S&QA) for expansion of Humanitarian Response Facility (HRF) at: Maripur, Karachi

Project description: Two major components of the Project are:

A – Supervision & Quality Assurance of works.

Under this component the consulting firm will supervise the contractor for expansion of the existing facilities and will assure at each stage that the work is being done accordingly to the design and meeting all required standards including quality control.

B– Monitoring & Implementation of ESMP

Under this component the firm will monitor and ensured the implementation/compliance of Environmental & Social Management Plan

Objectives:

The project management unit of SRP-PDMA requires the professional services of qualified Engineering Consultancy Firm, designing, supervision and Quality Assurance (EDS&QA) for construction of Rescue Stations at Jamshoro, Sukkur & Maripur and supervision and Quality Assurance (ES&QA) for expansion of Humanitarian Response Facility (HRF) at Maripur, Karachi. It should be noted that given the high visibility of this project, PMU expects highly dedicated firms, having vast experience, knowledge, skill, environment to carry out this assignment.

Part A: Following are the specific responsibilities to meet the objectives:

1. To conduct technical assessment of the existing sites.
2. Provision of all type of logistical support for the technical assessments, design, drawing, supervision, monitoring and coordination for the execution of the project to the concerned staff.
3. Estimated costs of the development/construction and rehabilitation works will be made on schedule rates/non schedule rates, The Firm will be responsible for the submission of market rates after conducting a complete and comprehensive survey of the market for rate analysis of the expansion materials for the non schedule items.
4. To submit a report of project sites where technical assessment is conducted to PMU with the recommendation on the planning and development building.
5. To devise a plan of expansion works based on the output and in consultation with PMU, which must include all components of Rescue Stations building construction.
6. Provision of technical feasibility report of the sites where the development/new construction is proposed. The technical feasibility may include soil bearing capacity tests reports wherever required based on design need, water quality test reports wherever the source of water is available, proposed design option for construction of Rescue Stations at Jamshoro, Sukkur & Maripur .
7. The tests report (Soil/Water) shall be coordinated, received, reported, and processed for the design and payment of bills by the consultant.
8. To ensure implementation of Environment and Social Management Plan (ESMP)forms/checklists filled by the Field Engineers, coordinating and submitting the hard and soft copies of the data (ESMP reports) to PMU SRP-PDMA on monthly basis, through Technical Officer/Deputy Director-Technical PDMA . Any other tasks required for smooth implementation of ESMP guidelines.
9. To develop Master plans of expansion of the existing facilities.
10. Apply cost-effective principles in the planning, design & expansion of the existing facilities for HRF & Rescue Stations
11. Composing high quality of engineering designs, specification, bidding documents complying World Bank Procurement Regulations, construction works, to ensure that all works are carried out as per the industry standards incorporating ESMP guidelines acceptable to PMU SRP-PDMA.
12. The building design should be innovative, locally apt, employing best quality, well sustained available materials, adherence to seismic conditions of particular region/area, vulnerability to natural disasters (Flood, Earthquake etc).
13. The accessories i.e. ramps with handrails, pathways, planters, etc. may be incorporated in the design and specification.

14. The soft version of all the documents related to this project may be provided to PMU SRP-PDMA on demand.
15. Supporting PMU SRP-PDMA in procurement of civil, MEP etc. as co-opted technical adviser.
16. Provide assistance to the Client in procurement of works contracts as a co-opted technical advisor.
17. The collection of stage wise construction data on prescribed format of M&E tools and updating the geo-tagged pictures on the already devised Application of MIS dashboard if desired by SRP-PDMA.
18. The collection and sharing of geo tagged pictures before and after interventions of site.
19. To provide completion certificate at completion of Rescue Stations to the contractor and the authorities.
20. The consultants/engineers shall also be hired with the consent of the PMU, those who will failed to perform with PMU SRP PDMA will be advice for termination of their contracts.
21. The collection and sharing of geo tagged pictures of materials cement, steel, and paint as if required.
22. To change, alternate, re-design the building if required during the construction/supervision phase and the variation orders will also be carried out by the firm.
23. Construction supervision and rehabilitation works execution round the working hours, of all the works till completion of the project. The firm will ensure that the quality of work is properly maintained and construction material used by the civil contractors is according to the agreed specifications and follows agreed schedule of implementation.
24. Verification & certification of all the bills submitted by contractor to PMU SRP-PDMA through established payment mechanism and follow up for the payment of bills to the contractors.
25. Strong regular coordination with the technical team of SRP-PDMA for assuring the quality of the works going on the site.
26. Submission of Quarterly progress report to PMU SRP-PDMA, before, during and after interventions, also participating in progress review meetings.
27. Active participation in the review meetings (weekly/fortnightly/monthly/quarterly or as PMU SRP-PDMA schedules) called for progress updates and issues sharing.
28. Regular reporting of progress-at-site.
29. The consultants will be issuing the recommendation letter for the release of retention money based on their site visit after the successful completion of the defects liability period of all packages.

Part B: Geographical Coverage

1. Jamshoro
2. Sukkur
3. Maripur

Part C: Scope of Work:

The work includes Engineering design, supervision and quality assurance & procurement support for construction of 3 Nos. Rescue Stations. The consultancy services will be time based with strict compliances for completion and reporting.

Part D: Services for Construction Supervision (Resident Supervision)

- (i) The Consultant shall perform duties of The "Engineer" as per Client's agreement with the contractor(s) to supervise (detailed supervision) construction with the best professional and consulting standards to ensure that the building is constructed and missing facilities are provided satisfactorily.
- (ii) The Consultant is expected to assign field personnel of professional caliber and in sufficient Number as deemed necessary by him in consultation with the Client.
- (iii) In carrying out the assignment, the Consultant shall undertake the following works:
 - a) Issue instructions to the contractor (s) and provide engineering supervision to the execution of works.
 - b) Ensure quality control through laboratory tests and other non-destructive tests at the expense of the contractor.
 - c) Make measurements of the work done as basis for running payments to the contractor. Detailed measurements of the works shall however be recorded jointly with the Contractor and get the same verified by the Engineer or his assignee as duplicate record and shall be attached with the Contractor's bills as a backup document

- d) Prepare and issue variation orders with approval of Client as per site requirement
- e) The Consultant shall check systematically the progress of work according to the construction schedule of the agreement and shall submit monthly progress report in the prescribed form to Client pointing out the deficiencies and suggest remedial measures.
- f) Review and approve "As Built" drawings prepared by the Contractor.
- g) g). The Consultant shall certify the contractor's running payments clearly indicating that the quality of work executed is according to the specifications, design, drawings, technically sanctioned estimate and contract agreement and make recommendations for payment to the contractor along with test reports. The Consultant shall further be responsible for quality and quantity of works.
- h) h) The Consultant shall supervise the contractor in all matters concerning safety and care of the work and advise the Client on any problem arising in the construction work during its execution, also preparation of revised PC-1 if needed due to Variation Order.
- i) i). The Consultant shall certify that the construction material brought at sites by the contractor(s) is in accordance with the specifications and is tested as per standard practices. The reports in respect of receipt and test of materials shall be submitted to client on weekly basis in the prescribed forms.
- j) The Consultant shall carry out detailed final inspection of the work and shall recommend to the client for issuance of completion certificate stating that the work has been completed as per design, drawings, standard specifications and contract agreement.
- k) One month prior to the expiry of completion period, the consultant shall carry out a detailed final inspection of the work and submit a report to the client pointing out the defects in the work, if any.
- l) Consultant shall be responsible for getting all such defects rectified from the concerned contractor(s) and final payment of the contractor(s) shall be verified only after satisfactory removal of the defects.
- m) The Client shall be at liberty to increase or decrease the quantum of work without assigning any reason.
- n) Client's authorized representative may regularly visit the sites for checking resident supervision of the consultant and the quality of work executed by the contractor and issue necessary instructions to the consultant or contractor(s) for proper execution of the work at site.
- o) The firm will provide guidance and support for the implementation of ESMP prepared for the project and ensure compliances. The firm will be expected to be cognizant of the safeguards guidelines as agreed with the World Bank in the project agreements and apply them at all stages of the construction and rehabilitation work. In lieu of the same, the firm will ensure the requirements of ESMP are reflected in the bidding documents of the contractors, specified in General Conditions, Particular Conditions, and in the Works section as Specifications. Accordingly the Contractor will provide necessary budget for human and physical resources required to implement the Contractor-ESMP (C-ESMP), which will be a part of the legal agreement between the Contractor and the PDMA.

Part E: Reporting Requirements/ Schedule of Activities

The consultant shall be required to complete the assignment as per following schedule:

Stage-I: Submission of Technical assessment forms/ reports and Master plan/ Design Proposal for Warehouse HRF building along with Technical Survey Report (with soil test) for three sites within thirty (30) days of the effectiveness of contract.

Stage-II: Preparation of detailed structural and architectural designs duly supported by associated drawing within thirty (30) days after approval of the **Stage-I** documents.

Stage-III: Preparation of technical specification, drawings conditions of contract with relevant bidding data including packaging of the works activities in Procurement Plan to include 3 Nos. Rescue Stations within fifteen (15) days after approval of the **Stage-II** documents.

Stage-IV: Submission of Signed hard copies and soft copies of Monthly Progress Reports (designed by PMU) along with photographs by 05th of every month as per details of format delineated in Section (**Services for Construction Supervision (Resident Supervision) at project sites**). Quarterly progress report in narrative form containing all site photographs shall also be submitted.

Consultant will provide quality assurance certificates and quality management plan against site and will furnish sufficient evidences i.e., Measurement Book/IPC, Completion Certificate etc. and certify that quality is maintained at every site.

Part F: STAFFING AND RESPONSIBILITIES

The Consultants are expected to establish an office. The timing for the establishment of the office and the number of staff would be planned according to the work load and the prioritized activities on which the team is working at a given time.

Team – Design phase (two months)

Sr.#	Position	Nos.
1.	Principal Architect/ Design Team Leader	1
2.	Structural Engineer	1
3.	Procurement/ Contract Specialist	1
4.	Electrical Engineer	1
5.	Quantity Surveyor	3
6.	CAD operator	1
7.	Computer Operator	1
8.	Support staff	1

Office & Team – Supervision Phase (Eighteen Months)

Sr.#	Position	Nos.
1.	Resident Engineer	1
2.	Procurement/ Contract Specialist	1
3.	Site Engineer	3
4.	Quantity surveyor	3
5.	Support staff	3

JOB DESCRIPTION AND QUALIFICATIONS OF STAFF

A) Resident Engineer.

He shall have overall management responsibility for organizing the consultant's team, and providing support to the project management; formulation and implementation of the work plan, supervision of the consultants' core team; and coordination of Consultants activities with relevant government departments/agencies. The Team Leader will possess a Bachelor's degree in Civil Engineering with 15-year experience including implementation of multi sectorial projects. A minimum of 10 years of experience will be required in the management of similar consultancy services with demonstrated ability to work with government officials, technical field staff. In addition, the Team Leader would be

required to have familiarity with the construction practices, and knowledge of project management information systems and knowledge and implementation of environmental & social safeguards.

Responsibilities of the Resident Engineer will be but not limited to the following:

- Reports to the Client.
- Assumes overall responsibility for management and supervision of the team.
- Undertakes responsibility for satisfactory completion of project as per design, specifications as per agreed cost and time frame.
- Work as per Client's agreement for the assigned engineering and supervision activities with the best professional and consulting standards to ensure that the assignment is completed satisfactorily.
- Keeps the Client informed of technical issues and the progress of all works both by direct contacts and through discussions or correspondence.
- Supervise the scoping, surveying, and designing tasks as well as provide technical assistance for the purpose as, where and when required.
- Verify the design process carried out by the supply & service companies to ensure adherence to design in accordance with the prescribed standards, specifications, and parameters.
- Carry out proper and continuous monitoring, supervision for implementation at site of work of the designing plans and maintain liaison with all the staff/other stakeholders.
- Assist in reviewing and modifying the designs for cost effectiveness and technical suitability.
- Perform other duties as required for the successful completion of Project
- Attends, at Project level, all meetings as required and keep a record of all such meetings.
- Assists Clients in preparation of annual work plan and budget.
- Assists the Client in any project issue which the Employer may require.
- Assists in preparation of project completion report (PCR).
- Assists the Client in preparing the response to Audit queries.
- Assists the Client in preparing response to financiers or other authority's queries, observations, requirements etc.

B) Principal Architect:

The Principal Architect would be responsible to oversee and supervise preparation of architectural design and drawings of building. He/ She should possess Bachelor Degree in Architecture with 15 years professional experience in architectural design of buildings.

C) Structural Engineer

The Structure Engineer would be responsible for structural designing of building. He/ She should possess Master Degree in Structural Engineering with 15 years professional experience in design of buildings structures.

D) Procurement/ Contract Specialist:

The Procurement/ Contract Specialist will be responsible for preparation of technical specification, Conditions of Contract with relevant bidding data and Bidding Documents. He/ She should possess Master Degree in Civil Engineering with 15 years of professional experience.

E) Electrical Engineer

The Electrical Engineer would be responsible for electrical designing of buildings. He/She should possess Bachelor Degree in Electrical/Electronic Engineering with 10 years professional experience in design of buildings.

F) Quantity Surveyor

The Quantity Surveyor would be responsible for estimation of buildings. He/ She should possess DAE Civil Technology with 10 years professional experience in estimation of buildings.

G) Site Engineer:

He should possess DAE Civil Technology and should have at least 5 years of field experience of similar nature of works.

- Assist the Resident Engineer and other relevant staff in planning and supervision of construction activities.
- Support all rehabilitation and construction activities undertaken by Consultant at the project site with improved coordination and timely technical inputs in order to effectively meet completion targets.
- Supervise / oversee implementation activities such as design reviews, procurement of project materials, and construction work.
- Undertake extensive site visits to assess the quality of construction activities and progress through contractors.
- Supervise contractors and provide advice and support to help overcome any shortcomings in the construction quality and management procedures.
- Assist the Resident Engineer in timely submission of monthly progress reports on all rehabilitation & construction activities undertaken in the project site.
- Verify the payments processed by Firm on achievement of milestones as agreed in the contracts and ensure timely release of payments to the contractors.
- Conduct regular field visits on project location, guide and supervise process of scheduled implementation.

Part G: Coordination

The Consulting Firm will report to the Project Director SRP-PDMA through Project Coordinator SRP-PDMA and will coordinate with technical officers of PMU SRP in dispensing services. It will also liaise with various departments of GoS for matters directly related to discharge of responsibilities under contract.

Part H: Indicative Payment Schedule

Deliverable No.	Deliverable	Amount (% of contract amount)
Lumpsum Part		
1	Submission and approval of the Masterplan/Design Proposal	10%
2	Submission and approval of detailed structural and architectural designs duly supported by associated drawing for the expansion of the existing facilities	10%
3	Submission and approval of technical specification, drawings, conditions of the contract with relevant bidding data including packaging of the works activities in Procurement Plan to include rescue stations/buildings at Jamshoro, Sukkur & Maripur.	25%
4	Submission and approval of time sheet and reimbursable expenditure along with soft copies of monthly progress reports (MPR) along with the photographs by 5 th of every month.	25%
5	Submission and approval of final completion and quality assurance report.	30%

Part I: Duration of Assignment

18 months after the award of the contract

Part J: Selection Method

Consultants will be selected in accordance with the **Consultant's Qualification Based Selection (CQS)** method as stipulated in World Bank Procurement Regulations (July 2016) revised November 2017 & August 2018