



Ministry of Finance and Treasury
Republic of Maldives

PROJECT MANAGEMENT CONSULTANT

TERMS OF REFERENCES

ADB Grant P36111-MLD - Kulhudhuffushi Harbor Expansion Project

A. Background and Objectives

1. The Government of Maldives has applied for a grant from the Asian Development Bank (ADB) for the Kulhudhuffushi Harbor Expansion Project (the project) and intends to apply a portion of proceeds to engage a consulting firm (the consultant) to support the Ministry of Housing and Infrastructure (the Employer) in the project implementation.
2. The indicative components of the harbor works and the related facilities are as follows:
 - a) Dredging and reclamation works
 - b) Breakwaters, revetments and quay-wall structures including harbor separation walls and finger piers
 - c) Pavement
 - d) Harbor navigational beacons and quay lighting
 - e) Ice Plant
 - f) Buildings – Administration/Retail/Terminal
 - g) Market – Fish/ Fruits and Vegetable
3. Upon engagement, the selected consultant will be given access to the project preparatory technical assistance reports and outputs.

B. Scope of Service

4. The main requirement of the consultant is to assist the employer in (i) the overall project management, (ii) detailed engineering design of the project, (iii) procurement of civil work contract, (iv) construction supervision and contract administration, and (v) project compliance and monitoring. The consultant's tasks are grouped into 6 components which includes, but not limited to, the following activities:

Component 1: Overall Project Management

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| Task 01 | Provide project management services throughout detailed design, procurement, construction, and commissioning stages and post-defect liability period. |
| Task 02 | Prepare project schedule and corresponding projected cash flow in conjunction with the Employer and provide ADB a realistic schedule for design, approvals, tendering, construction and commissioning, The consultant is to maintain and update the project schedule throughout the project. |
| Task 03 | Formulate and maintain a project performance management system in the format acceptable by the Employer and ADB, which consists of (1) preparing in the initial stage a project performance management system, in accordance with the ADB's project design and monitoring framework (DMF) to monitor (i) the progress of the overall project implementation, and (ii) the development impact of the project; and (2) collecting/updating the project performance indicator benchmarks, this includes updating the baseline data in the DMF. |



- Task 04 Develop a project management plan in sufficient detail to enable the project to be monitored as per the Employer's requirements, and to support the Employer to prepare quarterly progress report to evaluate the scope, implementation arrangement, progress, and achievement of the project objectives.

Component 2: Detail Design Engineering and Cost Estimates

- Task 05 Review the preliminary design prepared during the project preparatory stage, validate/improve in accordance with best international standards and recommended practices. This includes carrying out value engineering - evaluating and proposing cost effective alternatives as deemed necessary. The detailed design should be prepared by considering the inputs from public consultation in Kulhudhuffushi.
- Task 06 Review the existing surveys, identify and carryout additional detail surveys and undertake full detail design namely:
- Carry out detail design for all improvement works – including preparation of detailed design drawings in sufficient details for accurate determination of quantities and cost and to facilitate construction.
 - Compile existing data and carry out limited hydrographic/oceanographic surveys as required to enable numerical modeling of the harbor and coastal structures to ensure sufficient safeguards against overtopping, harbor stalling and safe entry. Data collection may be required within the time available in the overall program.
 - Geotechnical site investigation to verify soil conditions for dredging and coastal structures
- Task 07 Prepare estimated quantities and cost of all proposed works and equipment with best possible accuracy.

Component 3: Procurement Support

- Task 08 Review the indicative contract packages, prepared during the project preparatory stage, and, if warranted, recommend better alternatives to in order to optimize contract administration, construction coordination, and competitive pricing.
- Task 09 Based on the type of bidding procedures and contracts, as advised by the Employer, prepare bidding documents for all works and equipment packages. The bidding documents shall be prepared in accordance with ADB's latest applicable Standard Bidding Documents (SBD) available in the ADB website.
- Task 10 Provide all necessary assistance for the procurement of contracts, including but not limited to, advertising the invitation to bid, bid clarifications, addenda, pre-bid meetings, bid openings, bid evaluation and reports, contract negotiations, and draft contract documents.

Component 4: Construction Supervision and Contract Administration

- Task 11 Approve contractor's work program, method statements, material sources, safety plan and environmental management plan.
- Task 12 Review and check working drawings, the setting out of the works, and provide instructions to the contractor.



- Task 13 Review the quality control programs of the contractors.
- Task 14 Inspect materials and works to ensure compliance with the contract specifications and give notice to the contractor in the event that such materials and works fail to comply with the specifications.
- Task 15 Accept or reject any part or parts of the completed works.
- Task 16 Make measurements and keeping measurement records.
- Task 17 Maintain records, correspondence, and diaries.
- Task 18 Certify work volume and interim certificates for progress payments.
- Task 19 Assist the Employer's representative with the maintenance of consolidated project accounts, and with preparation of financial statements and withdrawal applications for submission to ADB.
- Task 20 Certify completion of part or all of the works.
- Task 21 Periodically check the remaining quantities for completion, and undertake regular monitoring of each contract through an earned value management framework
- Task 22 Provide assessments to the Employer in relation to Contractor's variation claims, extensions of time claims, and other technical and contractual matters that may arise.
- Task 23 Negotiate with each contractor and recommend the Employer the rates for any unscheduled items of work that may arise.
- Task 24 Advise the Employer's representative on all matters relating to the execution of the works; and assist the representative with processing the contractor's possible claims.
- Task 25 Prepare, at the completion of the contracts, a consolidated project completion report in a format provided by ADB.
- Task 26 Check and certify as-built drawings for the works prepared by the contractors.
- Task 27 Inspect the works at appropriate intervals during the defects liability period and certify the defects liability certificate for issuance by the Employer's representative.
- Task 28 Provide the Employer with complete records, and inception, monthly, and completion reports.
- Task 29 Assist the Employer to provide on-site training where required for the Employer's field staff on quality assurance and contract administration.

Component 5: Social Safeguard

- Task 30 During the detailed design stage, conduct consultation with local communities in Kulhudhuffushi for input to the harbor design where appropriate.
- Task 31 Support the Employer in matters relating to land acquisition and resettlement, if impact is identified during project implementation period. Tasks include preparing Resettlement



Plan, monitoring the implementation of the resettlement plan and providing expert advice in all matters relating to acquisition and resettlement.

- Task 32 Design, prepare and conduct HIV/AIDS, anti-trafficking and child labor awareness campaign at the project influence areas, monitor the status of contractor's compliance with HIV/AIDS, and Core Labor Standards.
- Task 33 Implement gender-specific project features and ensure Contractor is in compliance with equal payment for equal work for men and women.
- Task 34 Ensure compliance with social impact mitigation requirements of civil works contracts, and provide information to ADB on those processes in the semi-annual safeguard report.

Component 6: Environmental Assessment and Monitoring

- Task 35 Review the Environmental Impact Assessment (EIA) report and carry out additional studies and public consultations if recommended or required by the EIA. If there are substantial changes in the project design or discovery of new environmental impacts update the EIA report and disclose it on the ADB website. Review the general engineering design and in discussion with the engineering team identify needs if any for design modification to enhance environment safeguard and/or mitigate climate risks. Update the Environmental Management Plan (EMP) and provide more specific details based on site visits, the revised design and new information acquired, if any. Review the bidding documents and ensure the inclusion of the EMP, related mitigation costs and all necessary provisions for compliance to environment safeguard requirements. The environment management plan will be updated as part of the updated EIA.
- Task 36 Monitor the project's compliance to environment safeguards as given in the EIA report and implementation of the EMP by the contractor and ensure compliance with the environmental safeguard requirements of civil works contracts. Provide necessary training and technical advices including on-site advisory to the contractors as found necessary. Review and confirm that the EMP implementation records are maintained by the contractor. Prepare monthly and semi-annual environmental monitoring reports based on these records and on-site spot checks carried out and submit to the Employer. The semi-annual reports which will also cover social safeguard issues with inputs from the Social Development Specialist will be for submission for ADB for disclosure on the ADB website.

C. Implementation Arrangement

5. The consulting services will be implemented by a firm of international consultants. An association or direct engagement of suitable national consultants is highly recommended to compliment consultant's local knowledge and experience. It is anticipated that the following international and local staff will be required:

International Staff

No.	Position	Qty	Number of person-month	Total person-month
1	Resident Engineer/Team Leader	1	8.5	8.5
2	Harbor/Coastal Engineer	1	3	3



	TOTAL			11.5
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National Staff

No.	Position	Qty	Number of person-month	Total person-month
1	Deputy Resident Engineer	1	15.0	15.0
2	Procurement Specialist	1	1.5	1.5
3	Environmental Specialist	1	8.0	8.0
4	Social Development Specialist	1	3.0	3.0
5	Architect	1	2.0	2.0
6	Civil/Structural Engineer	1	2.0	2.0
7	Mechanical Electrical and Plumbing (MEP) Engineer	1	2.0	2.0
8	Quantity Surveyor	1	1.5	1.5
	TOTAL			35

Note:

- (i) The estimated person-months are indicative of actual requirements and will be paid on actual time-basis. To provide a common basis for financial proposals, the Consultants shall propose the staff person-months indicated above.
- (ii) Other support staff (such as CAD operators, administrative support, etc.) necessary to complete the assignment shall be included in the consultant's financial proposal under Out-Of-Pocket expense items.
- (iii) Other expense items (such as communication, report production, local support staff, stationary, in-country transport, including vehicle rental and fuel, and etc.) necessary to complete the assignment shall also be included in the consultant's financial proposal under Out-Of-Pocket expense items. The Consultant will bear at its own expense any of essential out-of-pocket expense items that are not priced in the financial proposal.

6. The indicative key tasks and the preferred qualifications of the key experts are given below:

- a. **Resident Engineer /Team Leader (international).** The expert will be responsible for overall coordination, personal management and delivery of the services. The candidate shall have a master degree or equivalent in civil engineering or related field, with at least 15 years of experience in infrastructure design, project management and implementation of maritime projects. The candidate should be familiar with contract administration using FIDIC forms. Experience in developing countries, particularly in small island countries is preferred. As a team leader, the candidate should have the experience as a team leader of at least 3 harbor projects. Experience in working for projects by ADB or any other international donor agencies is preferred. This is a full-time position based on the island of Kulhudhuffushi during the construction phase.
- b. **Harbor/Coastal Engineer (international).** The expert will contribute in the detailed design of the harbor infrastructure and the related facilities. The candidate shall possess a degree or equivalent in civil engineering or related field, and possess at least 10 years of experience in design (including numerical modelling for harbor projects) and implementation of harbor and coastal works projects. The candidate should be familiar with climate change impact on maritime infrastructure. Experience in developing countries, particularly in small island countries is preferred.
- c. **Deputy Resident Engineer (national).** The expert will support the Resident Engineer in the overall coordination and delivery of the services. The candidate shall possess a degree or equivalent in civil engineering or related field, and possess at least 10 years of experience in design, project management, and implementation of coastal infrastructure development projects. Familiarity with contract administration using the FIDIC forms of contract required. Experience in working for



projects by ADB or any other international donor agencies is preferred. This is a full-time position based on the island of Kulhudhuffushi during the construction phase.

- d. **Procurement Specialist (national).** The expert is responsible for the activities under Component 3. The candidate shall possess a degree or equivalent in civil engineering or related field, with at least 10 years of experience in procurement of goods, works and services and contract management. Experience in working for projects by ADB or any other international donor agencies is preferred.
- e. **Environment Specialist (national).** The expert is responsible for activities related to environmental safeguard during project implementation. The candidate shall possess a degree or equivalent in environmental science or equivalent, and possess at least 10 years of experience in environmental impact studies. Familiarity with coral island environments is required. The candidate must be registered as an EIA consultant with Maldives EPA. Familiarity with ADB and Maldives EPA policy on environmental safeguard and project compliance monitoring and reporting is preferred.
- f. **Social Development Specialist (national).** The expert is responsible for activities related to social safeguard during project implementation. The candidate shall possess a degree or equivalent in social sciences or related field. The candidate should have at least 5 years of experience in designing, implementing or monitoring social components of developmental projects, preferably with experience in transport sector. Familiarity with ADB policy on social safeguard and project compliance monitoring and reporting is preferred.
- g. **Architect (national).** The expert is responsible with the design of the building work as part of the harbor facilities. The candidate shall possess a degree or equivalent in architecture or related field, and be licensed for practice in Maldives. The candidate should have at least 5 years of experience in design of buildings in Maldives.
- h. **Mechanical, Electrical and Plumbing (MEP) Engineer (national).** The expert is responsible with MEP design for the harbor facilities. The candidate shall possess a degree or equivalent in MEP/building services engineering or related field, with a minimum of 5 years of experience in the design of MEP engineering for buildings.
- i. **Quantity Surveyor (national).** The expert is responsible for preparing the Bill of Quantity and cost estimates for the civil work contract. The candidate shall possess a degree or equivalent in civil engineering or related field, with at least 5 years of experience in procurement of goods, works and services and contract management. Experience in maritime project is preferred.

D. Reports, Deliverables and Time Schedule

7. The consulting services will be implemented over 26 calendar months from the commencement date with an anticipated design and tender period of 8 months and an implementation period of 18 months.

8. The Consultant shall prepare and submit the following reports in the English language (5 copies for the Employer and 2 copies for ADB). The final report shall be prepared in hardcopy and in CD-ROM.

Report	Description/Technical Accomplishment	Timeline
Inception Report	Recommendations for preliminary design and procurement packages, and staff mobilization schedule.	Within 1 month of commencement of services
Standard Bidding Documents	Standard bidding documents for preliminary review (excluding BOQ, specification, and design drawings).	Within 2 months of commencement of services



Final Bidding Documents	For all works and equipment packages – incorporating Employer/ADB's comments on SBD and including BOQ, specification, and design.	Within 4 months of commencement of services
Design Completion Report	Design criteria and approach, survey reports, and progress of design for all contract package including results of the models tests validating design	Within 4 months of commencement of services
Monthly Progress Report	Brief details of the work carried out during the previous month (all components), the problems encountered or anticipated, together with the steps taken or recommendations for their correction, and financial and physical progress to date.	Every month by the 10 th of the subsequent month
Safeguards Report	Progress and status of project compliance to the grant covenants, national policies and EMP for the project. Description of monitoring activities undertaken with pictures. Environmental quality test results.	Semi-annually

E. Data, Local Services, Personnel, and Facilities to be provided by the Employer

9. The Employer will provide the consultant with office space in Malè, furniture, supplies and internet connection during the design and procurement phase. The civil work contractor will provide the consultant with office space and utility services, furniture, internet connection and reasonable office supplies at the contractor's office in Kulhudhuffushi during the implementation phase.

F. Cost Estimates

10. The cost estimates for this consulting service is \$880.000 inclusive of tax.