



**Ministry of National Planning, Housing and Infrastructure**  
Republic of Maldives

**TERMS OF REFERENCE**

**SUPERVISION CONSULTANCY FOR HULHUMALE' STP**  
**MALDIVES URBAN DEVELOPMENT AND RESILIENCE PROJECT**

**A. PURPOSE**

The Government of the Republic of Maldives through Ministry of National Planning, Housing and Infrastructure is implementing “Maldives Urban Development and Resilience Project” (MUDRP) financed by the World Bank and intends to apply part of the proceeds for the selection of a Supervision Consultancy firm for the implementation of this project by Ministry of National Planning, Housing and Infrastructure.

**B. BACKGROUND**

The main objective of the project is to enhance urban services and strengthen resilience in selected cities in Maldives. The various components in this project include construction of Sewage Treatment Facility at Hulhumale, Storm water Drainage Improvement and Rain Water Storage, Establishment of Disaster Emergency Operations Center at National Disaster Management Authority (NDMA) and also financing a number of technical and analytical studies to strengthen sustainable urban development. The MUDRP is prepared and will be implemented in accordance with the World Bank’s policies and standards on Social and Environmental Management.

**C. OBJECTIVES OF ASSIGNMENT**

The objective of this assignment is to provide Technical and Engineering input for project activities specifically in the establishment of the Hulhumale’ Sewage Treatment Plant, in accordance with the project documents and as per the donor guidelines in collaboration with the project team and stakeholder agencies to ensure all implementation arrangements of projects are carried out smoothly and on time.

**D. OVERALL RESPONSIBILITY**

The overall responsibilities of the supervision Consultant include, but are not limited to the following:

1. Technical coordination of the project activities related to establishment of the Sewage Treatment Plant (STP) at Hulhumale’.
2. Assist in the Tendering of DBO contractor for the STP
3. Participate in construction oversight activities for the project
4. Monitoring and evaluating works related to STP
5. Training of MWSC Staff on all aspects of the work carried out

6. Act as the representative of MWSC within the specified scope

## E. SCOPE OF WORKS

The Consultant shall undertake full administration of the Contract(s) and supervise the works, assuming the role of the “Engineer” as defined in the FIDIC Conditions of Contract for Plant and Design-Build Contract First Edition (1999 Yellow Book) for Design and Build Contracts and FIDIC Conditions of Contract for Construction (1999 Red Book) for Construction Contracts. This shall include supervision of Contractor's works for compliance with specifications and detailed design, review and approval of Contractor's submittals, tracking actual progress against the required progress, certification of Contractor's payments among the others.

### Scope of work during Pre-tendering and tender process

The Consultant is to assist in the tendering process including but not exclusive to the following tasks under the direction of PMU and MWSC (PMU will take lead during this stage).

1. Review the Feasibility Report and subsequent reports .
2. Assist MWSC/PMU in finalizing the draft bidding document for the DBO of the STP that was developed under Feasibility Study
3. Assist MWSC/PMU in the procurement process to select the DBO Contractor for the STP.
4. Ensure the tendering process follows World Bank and Government guidelines.
5. Provide clarifications of tender documentation including design drawings and specifications as and when required.
6. Ensure that the bids are technically sound and feasible and that the Tenders are technically capable of fulfilling their responsibilities.
7. Ensure that the bids are financially sound and feasible and that costs are equivalent to local market prices.
8. Ensure that the tender schedules are sound and feasible and that the Tender is capable of fulfilling the responsibilities outlined in the contact in the allotted time.
9. Ensure that the tendering is fair and justified.
10. Assist the MWSC/PMU in finalization of contract negotiations with the selected Firm.

### Scope of work during Detailed Designs

1. The Consultant shall review the detail designs provided by the DBO contractor to ensure that it provides the product required, verify that correct engineering practices were used in the design and ensure that the design meet the needs and the standards of the MNPHI.
2. The Consultant will review and approve shop drawings from contractor before commencing work. The Consultant will also check if requisite regulatory approvals are obtained.

### Scope of work during construction phase

1. Supervise the construction of the projects and be responsible for the overall quality of construction.
2. Act as the representative of MWSC on the site and coordinate the project.

3. The Consultant shall monitor day to day work progress of Contractor and keep a log of activities carried out each day. During supervision, if the Consultant finds any defective work, or work that does not conform to contract drawings and specification, the work shall be rectified immediately. The Consultant shall ensure that all requisite approvals and permits to carry out the works are obtained and kept updated by the contractor.
4. Approval of all the materials required for the works shall be checked, compared with specifications given in the proposals and design requirements and approved in a predefined clear process and records must be maintained in proper manner and shared with the Client. Material forms must be signed by the client before sharing them with contractor. Approvals shall be organized in a way not causing any delays to Contractors works.
5. Prepare and submit monthly progress reports to MNPFI.
6. Undertake monthly progress meetings with 4 parties (MWSC, PMU, Consultant and Contractor) outlining progress, current spending, schedule update, problems encountered and changes in contract.
7. Arrange meetings as required and solve problems arising during construction in consultation with MWSC.
8. Supply clarification of construction documents, specifications and drawings as and when required.
9. Ensure that construction goes according to the contract document and work schedule.
10. Give written justification to the MNPFI and get approval for any changes in construction, specification or drawings.
11. Inspect the quality control tests carried out by the Contractor and ensure that quality is controlled to the level specified in the Contractors contract document.
12. Ensure the Contractor obliges with the Environment Management Plan specified in their contract document.
13. Carry out the final inspection of the fully completed project with a representative from the respective Client (MNPFI/MWSC) and prepare a Project Completion Report and submit the report within 2 to 4 weeks after the final inspection to the MNPFI.
14. Check and approve/verify as-built drawings and submit to the Client.
15. Consultant will organize and direct execution of the works, by defining compliance with programmers and relations between stakeholders (MWSC/PMU, Contractors, Suppliers and third parties). Coordination will be ensured mainly by holding regular site meetings and general monthly meetings, with managers of the Contractors and Manufacturers, MWSC/PMU.
16. The Consultant shall keep daily records of weather, Contractor's staff on site, equipment available on site, material available on site and material brought to site.
17. The Consultant will supervise the Contractors who should carry out field surveys such as topographic, hydro-geological and geological surveys. The Consultant will prepare technical reports on all measurements made by the Contractor and will submit them to the MWSC/PMU.
18. Identifying Special Studies: in case the Consultant during progress of work come to the conclusion that special studies would be required to assist the Project Management Unit (PMU) in specific problems unforeseeable before conclusion of consulting contract, the Consultant will inform t MWSC/PMU immediately and early enough to allow the PMU to arrange for such expertise.
19. A Quality Control and Quality Assurance Plan will be developed by the Consultant to ensure that the structures are built and equipment installed in conformity with the Contractual Specifications, approved drawings, standards, good engineering practice and State-of-the-Art.
20. A safety and security management plan should be prepared by the contractor and approved by the Consultant. The Consultant shall ensure that the plan is established and maintained by the

contractor. Any safety and security incident that occurs at the site shall be reported to the MNPHI.

21. A Plan for Project Cost Control will be developed on the basis of the field survey control and quantity survey required for determination of actual quantities of work accomplished by the Contractor(s) and Supplier(s) under direct guidance of MWSC/PMU. The Consultant shall approve or reject the quantities of materials delivered, equipment erected, and works performed by the Contractor(s) and Manufacturer(s). The Consultant shall ascertain the work measurements and payment claims by the Contractor and certify these to the MWSC and PMU as being correct and within the terms of contract.
22. Plan for Project Progress Control: using the same basic data as those established for project cost control, a progress chart will be maintained and updated in the Consultant office. The work progress will be followed by the Consultant especially during the weekly works meetings on sites. A monthly report of weekly meetings will be established by the Consultant.
23. The Consultant shall be the MWSC/PMU's representative on site and shall perform all duties delegated by the MWSC/PMU in writing in accordance with FIDIC.

### **Works commissioning**

The Consultant shall implement Works commissioning including:

- a. Supervising the acceptance tests and preparing the **Taking over Certificate**.
- b. Preparing and verifying the **Completion Report** which will be based on the record maintained during work supervision phases. It shall include the environmental completion report which will be submitted to MWSC/PMU for compliance with initial recommendations.
- c. **Implement Shop Inspection of Electromechanical Equipment:** the Consultant shall check the manufacturing of equipment and will attend to tests of main items for acceptance as and when necessary. These tests concern mechanical tests and chemical analyses, routing tests and standard tests, dimensional checks and Non-destructive tests.
- d. **Review the 'As-Built Drawings'.** The Consultant will review and approve the 'As-Built Drawings' prepared by the Contractor during construction of works.
- e. **Review Operation and Maintenance Manual:** The Consultant shall review the operation and maintenance manual that will be prepared by the Contractor.

### **Outputs for construction phase:**

1. Contractors are properly supervised and coordinated as per MWSC/PMU instructions.
2. Quality Control and Quality Assurance Plans are issued.
3. Various authorizations and instructions to the Contractor(s) being issued regularly.
4. Plan for Project Cost Control update delivered monthly as per MWSC/PMU instructions.
5. Plan for Project Progress Control update delivered monthly as per MWSC instructions and copied to the PMU.
6. Works are temporarily commissioned, 'As Built Drawings' delivered and Operation & Maintenance Manuals issued.
7. Weekly, monthly, and final report.

## **Capacity Building and Performance Control over Defect Liability Period**

### ***Capacity Building***

The Consultant shall provide on-the job training to the counterpart staff of MWSC on all aspects of the work carried out. Selected counterpart staff from MWSC will be attached to the Consultant's team for on-the-job-training in construction supervision. During construction stage the Contractor will provide on-the-job training to the selected counterpart staff from the beginning of construction works. The Consultant shall work with contractor to formulate a training curriculum and obtain approval from the client. The records of trainees should be kept and reported to the PMU.

After commissioning, the Consultant shall organize a formal two weeks training for the operation and maintenance of the works rehabilitated or newly installed, followed by two weeks of practical exercises on sites before handing over the remaining training of MWSC team to the Operating Firm.

### ***Defect Liability of Contractors***

The Consultant shall carry out quarterly inspections during the one year defects liability period and instruct the contractors accordingly with regard to outstanding works and defects. After this period and satisfactory inspections, the Performance Certificate will be issued. Also, the consultant is required to undertake quarterly inspections to formulate a proper baseline for the performance of the system.

## **F. PROJECT TEAM**

The following staff shall be employed in team as detailed below;

#	Post	Total No
1	Project Manager (Team leader)	<ul style="list-style-type: none"><li>• Masters Degree in Project Management or Environmental Management/Science</li><li>• 5 years' experience in the field of Project Management or equivalent position</li><li>• 7 years' experience in managing civil works project including water supply, sewerage facilities, waste management, energy etc. projects</li></ul>
2	Sewerage/Water engineer	<ul style="list-style-type: none"><li>• Bachelor's Degree in Environmental Engineering</li><li>• Masters in water engineering</li><li>• 5 years' experience in Design Works.</li><li>• Experience in designing water supply and sewerage works systems, etc. In addition should be able to monitor and check of materials and equipment as per approval or acceptable</li></ul>

3	Electro-Mechanical Engineer	<ul style="list-style-type: none"> <li>• Bachelor's Degree in Electrical/Mechanical Engineering</li> <li>• Experience in designing of electrical / mechanical components</li> <li>• Experience in designing electrical / mechanical components in resorts, buildings, and water supply and sewerage</li> </ul>
4	Site Engineer	<ul style="list-style-type: none"> <li>• Bachelor's Degree in Civil Engineering</li> <li>• 5 years' experience in Design Works.</li> <li>• Experience in designing water supply and sewerage works systems, etc. In addition should be able to monitor and check of materials and equipment as per approval or acceptable</li> </ul>
5	Chemical Engineer	<ul style="list-style-type: none"> <li>• Bachelor's Degree in Chemical Engineering</li> <li>• 5 years' experience in Design Works/Process Engineering related to wastewater treatment plant.</li> <li>• Experience in designing water supply and sewerage works systems, etc. In addition, should be able to monitor and check of materials and equipment as per approval or acceptable</li> </ul>

## G. EQUIPMENT, LOGISTICS AND FACILITIES

The Consultant shall ensure that experts are adequately supported and equipped. In particular the Consultant shall ensure that there is sufficient administrative, computing and secretarial provision to enable experts to concentrate on their primary responsibilities. The Consultant shall meet the full costs for the supply of the teams including all travels, remuneration, insurance, emergency medical aid, facilities and all else necessary for the competent operation of their teams.'

## H. TECHNOLOGY TRANSFER

The Consultant shall consider the technology transfer as an important aspect of this project. The Consultant shall provide the opportunity to the staff of the MWSC to be involved in the working team of Consultants during the work supervision stage of the project for their capacity development wherever possible.

## I. DURATION OF THE ASSIGNMENT

The period of total engagement will be **36** months upon the signing of the contract agreement with the selected Consultant for the Consultancy for Works Supervision.

## J. REPORTING OBLIGATIONS

The Supervision Consultant shall report directly to the focal point appointed for the MUDRP at MWSC.