

INSTITUTE OF WATER MODELLING I(WM)
House 06, Road 3C, Block H, Sector 15, Uttara Model Town, Dhaka-1230
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Request for Quotation (RFQ)

Selection of Local Consulting Firm against Performing for Detail Design of office building of BIWTA premises at Dinajpur District.

Procuring Authority	:	Institute of Water Modelling (IWM)
Name of Consulting Service	:	Detail Design of office building of BIWTA premises at Dinajpur District.
Source of Found	:	Own
RFQ Closing/Submission Date & Time	:	25/11/2021; 3.30 pm
RFQ Submission Address	:	INSTITUTE OF WATER MODELLING (IWM) House 06, Road 3C, Block H, Sector 15, Uttara Model Town, Dhaka-1230
Method of Procurement	:	QCBS
Brief Description of Assignment	:	<p>The required services include, but not limited to:</p> <p>Layout planning, Landscaping of the area</p> <ul style="list-style-type: none"> ○ Prepare Layout and Landscaping for the whole area with required elements i.e., gardens, sitting arrangement, walkway, parking shade, office building cum dormitory etc. ○ Provide necessary details <p>Three Dimensional views and Animation</p> <ul style="list-style-type: none"> ○ 3D views of the proposed structure ○ Animation of the structures with surroundings <p>Architectural layout, planning and design</p> <ul style="list-style-type: none"> ○ Floor Plan, Furniture layout ○ Elevation ○ Section ○ Preparation of Pouroshova Sheet. ○ Prepare detail working drawings ○ Provide all details and sections as required <p>Structural analysis and design</p> <ul style="list-style-type: none"> ○ Analysis of sub-soil investigations report. ○ Analysis and Design of super structure. ○ Adequacy check of the super structure for lateral load (Wind & Earthquake) as per code ACI/BNBC (as applicable). ○ Analysis & Design of Foundation. ○ Preparation of detailed working drawings for Foundation. ○ Preparation of detailed working drawings of super Structure. ○ Preparation of Pouroshova Sheet.

	<p>Electrical load assessment and design</p> <ul style="list-style-type: none"> ○ Fixture & Conduit Layout ○ Circuit Analysis ○ Electrical Drawing with Electrical Load Calculation ○ Substation Specification with Substation Room Design. ○ Earthing, Lightening & Arrester Design. ○ Riser Analysis and Low Voltage System Analysis <p>Plumbing design</p> <ul style="list-style-type: none"> ○ Pipe network Design for Fire & Regular requirement. ○ Water tank and Septic tank design ○ Fire Fixture Unit. <p>Finished material</p> <ul style="list-style-type: none"> ○ Specification of Building and Finishing Materials <p>Cost estimate</p> <ul style="list-style-type: none"> ○ Prepare the detailed cost estimate with the latest schedule of rates or current market value <p>Tender Document preparation</p> <ul style="list-style-type: none"> ○ Prepare the tender documents as per requirement
Eligibility of Consultant	<p>: Interested Firm must be a well experienced, technically sound having good experience in Architectural/Engineering Consultancy.</p> <ol style="list-style-type: none"> 1) The Firm should have an experience of minimum 12 years in Architecture, Design Consultancy. 2) The Firm should have completed architectural design consultancy work of at least five building projects during last ten years. Documentary evidences and photographs, duly attested, should be attached in support of the above claim. 3) The average annual turnover and net worth of the company during past 3 years should be minimum Taka 01 (one) crore.
Document to be Submitted	<p>: </p> <ul style="list-style-type: none"> ○ Technical and Financial proposal should be submitted in two separate envelopes. ○ Technical proposal: Clearly demonstrating through understanding of this assignment and demonstrated previous experience in similar works. ○ The Proposal should also include a proposed work plan. ○ Technical proposal should include Curriculum Vitae of proposed experts to be engaged. ○ Company profile should contain brief description of the company, certificates of registration, VAT and TIN registration certificate. ○ Financial Proposal: The financial proposal should include a detailed breakdown of costs including remuneration by experts and out-of-pocket expenses.

Other Details	:	Interested firms(s) will be required to submit the RFQ in closed format mentioning name and address of the applicants, RFQ no. & date and be addressed to the issuing Authority in 2 (two) Copies; 01 (one) marked as "ORIGINAL" and other 1(1) as "COPY" in separate envelope in the form of book binding, both the "ORIGINAL" and "COPY" shall have to cover within a single envelope to the address below before the RFQ closing date & time. The procuring entity reserves the right to accept or reject at any stage any or all RFQ's without assigning any reason.
Time for performing the study & Reporting	:	1 Month from the date of signing the contract.
Address and contact of official inviting RFQ	:	INSTITUTE OF WATER MODELLING (IWM) House 06, Road 3C, Block H, Sector 15, Uttara Model Town, Dhaka-1230

R. Alam

Rubayat Alam
Director

Coast Port and Estuary Division,
Institute of Water Modelling (IWM)

Detail design for office building at BIWTA premises

Background

BIWTA will construct one office building cum dormitory in Dinajpur area. The objective is to provide an efficient building with latest provisions related to safety, security and functionality, and optimum utilization of resources.

Scope of Works

- Layout planning, Landscaping of the area
 - Prepare Layout and Landscaping for the whole area with required elements i.e., gardens, sitting arrangement, walkway, parking shade, office building cum dormitory etc.
 - Provide necessary details
- Three Dimensional views and Animation
 - 3D views of the proposed structure
 - Animation of the structures with surroundings
- Architectural layout, planning and design
 - Floor Plan
 - Furniture layout
 - Elevation
 - Section
 - Preparation of Pouroshova Sheet.
 - Prepare detail working drawings
 - Provide all details and sections as required
- Structural analysis and design
 - Analysis of sub-soil investigations report.
 - Analysis and Design of super structure.
 - Adequacy check of the super structure for lateral load (Wind & Earthquake) as per code ACI/BNBC (as applicable).
 - Analysis & Design of Foundation.
 - Preparation of detailed working drawings for Foundation.
 - Preparation of detailed working drawings of super Structure.
 - Preparation of Pouroshova Sheet.

- Electrical load assessment and design
 - Fixture & Conduit Layout
 - Circuit Analysis
 - Electrical Drawing with Electrical Load Calculation
 - Substation Specification with Substation Room Design.
 - Earthing, Lightening & Arrester Design.
 - Riser Analysis and Low Voltage System Analysis

- Plumbing design
 - Pipe network Design for Fire & Regular requirement.
 - Water tank and Septic tank design
 - Fire Fixture Unit.

- Finished material
 - Specification of Building and Finishing Materials

- Cost estimate
 - Prepare the detailed cost estimate with the latest schedule of rates or current market value

- Tender Document preparation
 - Prepare the tender documents as per requirement

Expected outputs

Consultant shall provide the following design drawings and construction documents listed below, but not limited to, along with the project programme:

- ✓ 3D views of the proposed structures in different angles, perspective
- ✓ 3D animation of the proposed BIWTA office premises with details
- ✓ Preliminary Structural Design along with the preliminary architectural drawing.
- ✓ Pouroshava and other Authorities approval standard drawings.
- ✓ Presentation drawings with furniture and bathroom layout etc.
- ✓ Floor wise Structural Drawings (if necessary) and working documents.
- ✓ Perspective view of two sides, showing all details of critical components.

- ✓ Four sides Elevation including necessary details and section for all critical components, shading device, veranda, parapet, stair case, water tank etc.
- ✓ DETAILS like:

All detail of bathrooms, kitchen, door, windows, railing, planter, duct, exhaust system, main door design, entry gate with boundary wall design, landscape, parking floor with ramp and approach detail, reception lobby, common facilities, transformer and substation room as per requirement of Palli Biddut/ other specific office, generator room, service areas, conference room (if any) etc.
- ✓ Detail drawings of electrical system and water and sewerage system including drainage provisions etc.
- ✓ Specification of Building and Finishing Materials.
- ✓ Submittal all analysis (i.e., analysis file, calculation reports, EDB or other software file etc.), design drawings shall be transferred to client with proper and standard paper size and booklets or where necessary color prints are obvious.
- ✓ Submittals should include all the soft copies of analysis files, AutoCAD design Drawings, PDF version including all revisions and design reports.

01 (a) Foundation & Column Related Design:

- (a) Layout Plan (Column/ Foundation)
- (b) Footing/ Pile Detail
- (c) Column Detail with reinforcement schedule
- (d) Grade Beam Detail
- (e) Under Ground Water Reservoir
- (f) Retaining Wall & other walls below ground level (if any)

01 (b) Super Structure Related Design:

- (a) Ground & Typical Floor Slab detail showing Reinforcement
- (b) Beam Detail
- (c) Stair detail,
- (d) Design of Sunshade/ False Slab/ Drop Wall /Canopy/ Railing etc.
- (e) Overhead Tank
- (f) Septic Tank
- (g) Roof Top Details
- (h) Provide all Details needed for the column-Beam and other joints, according to design considerations as Special/Intermediate/Ordinary Moment resisting frame or Special/Intermediate/Ordinary Braced frame.

- ✓ Total design load calculation for the project to be done as per the standard and requirement.
- ✓ Estimate of Quantities and materials of the total project as per the approved design drawing.
- ✓ Prepare the Tender documents according to the laws and regulations of GOB as per the approved design drawing.

Consultant's responsibilities:

- ✓ Prepare all related documents to be required for construction and plan approval.
- ✓ Provide all detailed calculation with analysis, provide a comprehensive calculation report.
- ✓ To Conduct necessary meetings with clients for finalizing the design.
- ✓ To Conduct necessary meetings with contractors and project engineers at the consultant's office.
- ✓ Ensure QA and QC of the proposed works.
- ✓ Inspect all the materials and schedule the testing procedure.
- ✓ To explain all the Architectural, structural, electrical and plumbing designs to the project engineers and contractors.
- ✓ Provide the schedule of site visit with the progress of construction work and for any design related delay the consultant should be fined and without hampering the work they should solve the issue asap.
- ✓ The consultant/ architect shall present architectural plan, design, landscaping, animation, cost estimate several times to the chairman of BIWTA and project director for acceptance.
- ✓ The consultant/ architect shall present architectural plan, design, landscaping, animation, cost estimate to the minister of Ministry of Shipping for finalization of the work.

Design Tools and Considerations:

- Architects and Structural engineers comprise the most important core of building safety and sustainability professionals by developing responsible, efficient, effective, safe, and economical designs – it should be incorporate in this design.
- These features should be considered while designing failure patterns, considerations for explosions, progressive collapse, and alternative designs for the reduction of the potential for progressive collapse are other important and current design issues.
- Structural system to be used to have adequate capacity to withstand against lateral loads.
- Structural analysis for design carried out by "EXACT" method that utilizes the latest computer software STAAD PRO/ETABS/SAFE/SAP 2000.
- Structural design to be vetted by BTRC of BUET or any other competent Engineer at the cost of Clients if any discrepancy found it will be addressed by the Consultant.
- Heavy reinforced cement concrete foundation.

- Systematic structural combinations of steel reinforced concrete frame and shear wall core.
- Protection from cyclone winds up to 250 KPH incorporated, wind load calculation follows by ASCE 7-05 or the latest.
- Earthquake protection as per BNBC Code/up to 7.5 Richter scale/ any other Standard reference value.

Reference Codes and Standards

General

- This Section lists the Codes and Standards of various organizations, Agencies, societies, associations and companies will apply to this PROJECT for design purposes.

Requirements

- The Codes and Standards listed below shall be considered an integral Part of these document. Where discrepancy exists between these Specifications and these Codes and Standards, the most stringent application shall govern.
- Discrepancies shall be brought to the attention Of the EMPLOYER REPRESENTATIVE for resolution. The Codes and Standards are understood to mean the current edition, and Amendments and Revisions thereof, except where dates are indicated.

Codes and Standards

- Industry Codes and Standards
 - BNBC Bangladesh National Building Code
 - ACI American Concrete Institute
 - UBC Uniform Building Code
 - IBC International Building Code
 - AISC American Institute of Steel Construction
 - AISI American Iron and Steel Institute
 - ANSI American National Standards Institute
 - ASTM American Society for Testing Materials
 - ASME American Society of Mechanical Engineers
 - ASCE American Society of Civil Engineers
 - AWS American Welding Society

Schedule of Submittals

We would like to propose you the following schedule of submittals for the above-mentioned project:

SI no	Phase	Consultant's responsibilities in Phases
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01.	<p>Phase 01</p> <p>Along with the work order to start the design works</p>	<p>Phase 01</p> <ul style="list-style-type: none"> - Preparation of a programme - Requirement and Site analysis - Study and analysis the FAR/ any other law applicable for the particular project. - Preparation of site map, landscape planning - Preparation of preliminary structural designs in correlation with architectural designs - Preparation of presentation drawings i.e., office room and other features layout, column/foundation layout, frame system, mode shape of the building, foundation requirement according to the subsoil investigation. - Presentation of a three-dimensional view of the proposed building - Preliminary analyses files according to the standard codes.
02.	<p>Phase 02</p> <p>For Pouroshova approval drawing</p>	<p>Phase 02</p> <ul style="list-style-type: none"> - Preparation of a Pouroshova and all other authorities required drawings for approval and fulfill the FAR and other requirement for structural, electrical and plumbing point of view requirements

03.	<p>Phase 03</p> <p>For preparation of construction documents and working drawings</p>	<p>Phase 03</p> <ul style="list-style-type: none"> - Preparation of architectural working and construction documents - Preparation of structural working documents - Preparation of electrical working documents - Preparation of plumbing working documents - Preparation of material specification and cost estimation - Tender documents as required by the client. - All analyses files will be transferred with the soft copy of design drawing
04.	<p>Phase 04</p> <p>After the submission of all the necessary construction and working documents</p>	<p>Phase 04</p> <ul style="list-style-type: none"> - Conduct project meetings with contractors and site engineers - Conduct meetings with project consultants with the site engineers and contractors.

Duration of the assignment

The design project is expected to be carried out in **1 (one) month** from the date of award of the project. Selected consultant shall be required to finish the project within the stipulated time period.