

**TERMS OF REFERENCE
FOR PROVISION OF CONSULTING & DETAILED ENGINEERING SERVICES FOR THE
STRUCTURAL ASSESSMENT & GEOTECHNICAL INVESTIGATION ANALYSIS OF
UNHCR OFFICE IN HERAT AFGHANISTAN**

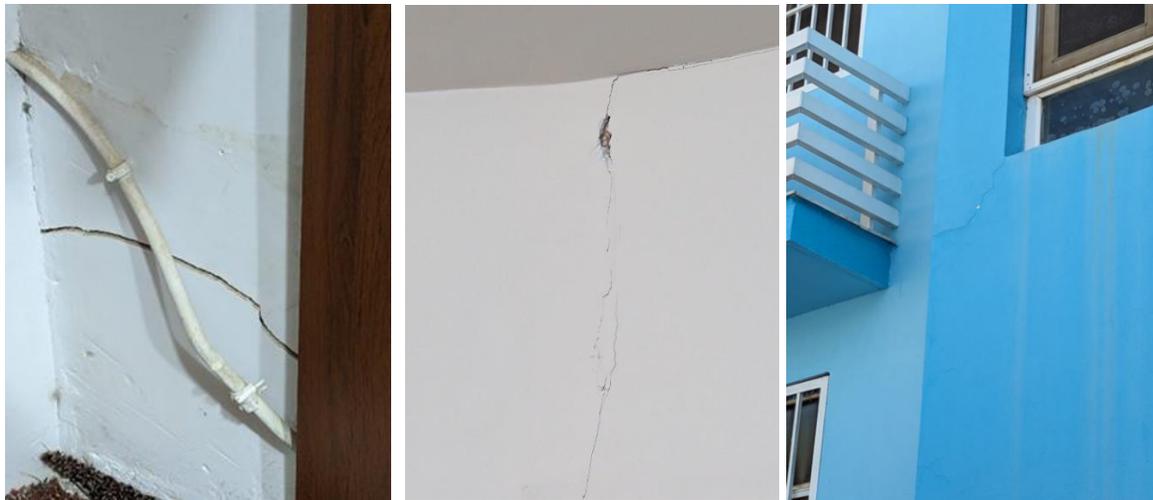
A. BACKGROUND

On 7 October 2023 at around 11:00 local time, a 6.3 magnitude earthquake struck 40km west of Herat City in Herat Province, western Afghanistan. More than 1,300 people were reportedly killed and 1,700 injured. Over 12,000 people (1,730 families) have been impacted in five districts (Zindajan, Injil, Gulran, Injil and Khosan) in Herat Province, with twelve villages reported to have been destroyed.

On 11 October, another powerful earthquake of 6.3 magnitude – the same strength as the first earthquake on 7 October - hit Herat province at 05:11 local time, followed by two aftershocks of magnitude 5 and 4.1. In addition, several structures have equally been structurally affected.

On 15 October 2023, at 0806 hrs, another 6.4 magnitude earthquake hit Herat, with the epicenter close to the Herat City 30 km to the north and was followed by five aftershocks with a 5.6 magnitude on the Richer scale at 0828 hrs, 4.3 magnitude at 1008hrs, 3.8 magnitudes at 1040hrs, 3.1 magnitudes at 1145hrs and 3.5 magnitude at 1235hrs respectively. The earthquake was also felt in the neighboring Badghis and Farah provinces. Casualties and damages to the houses/buildings in Herat City, Zinda Jan, Rabat Sangi were reported.

Following these series of earthquake activities, structural cracks appeared on the UNHCR field office Herat Main Office Block. The office is located in Park roundabout, end of Majidi Street, Herat,



As a result of the emerging cracks, UNHCR seeks provision of engineering consulting services to analyze the structural suitability of the building.

B. SCOPE OF ENGINEERING SERVICES

The provision of engineering services foreseen in the context of this consultancy comprises

1. Performing a comprehensive performance evaluation of the building, in accordance with the Afghanistan Seismic Code for the recent year. This evaluation should encompass an assessment of the structural members of the building namely, [Beams, Columns, Slab, load bearing Walls].

2. Identify, detect and document any weaknesses or deficiencies in the building's design or construction that could impact its functionality, safety, or compliance with the Afghanistan Seismic Code as well as any specific guidelines for special structures.
3. Generate an exhaustive report summarizing the outcomes of the performance analysis. The report should encompass all assessment findings, recommendations, and necessary action plans. It should also evaluate the building's adherence to local seismic codes.
4. Provide recommendations for corrective measures to rectify identified issues and enhance the building's overall performance and efficiency, aligning with local codes and regulations.
5. Provide ongoing support and consultation services as required to address any additional concerns or issues related to the building's performance.
6. The engineering company is expected to provide laboratory structural analysis reports to back up their final recommendations.
7. The company should advise if occupying or using the building in its current state would not adversely affect the safety and health of its occupants or other users and is otherwise suitable to be used or not.

The Engineering Company (Consulting Company) is expected to offer a highly skilled and experienced team of experts for successful accomplishment of the mentioned service, and appoint a Project Manager for overall coordination, who shall serve as UNHCR's primary contact.

All tests must be in accordance to the relevant sectorial regulations.

A. TERMS OF REFERENCE AND TECHNICAL STEPS

1. Desk Study: Review of available documents such as architectural drawings, structural drawings, geotechnical reports, and other relevant documents.
 - a) All required/available technical documents drawings/test results etc. shall be obtained from the house owner by the consulting engineering company
 - b) If the static project of the building is not available, a building survey should be done, and the static and architectural plans of the building should be prepared accordingly.
2. Site Inspection: Visit the building site and conduct a visual inspection to identify any structural issues.
3. Non-Destructive Testing: Conduct non-destructive testing to assess the structural integrity of the building, including Schmitt test, X-ray images from the columns of the building, and ground-penetrating radar(if required).
 - a) If there are no previous accurate and certified records regarding the reinforcement detailing concrete quality of the building Core drilling shall be applied. Note: Restoration of a defoliated part after drilling is under the awarded company responsibility
 - b) Ultrasound testing may be applied in some special cases unless other testing methods are not applicable.
4. Soil Investigation: If there are no previous accurate and certified records parameters such as the bearing capacity of the soil, the structure of the soil, the water level, and the underground water conditions should be examined by conducting drilling and taking samples at the points indicated in the building site plan
5. Geotechnical Analysis: If there are no previous accurate and certified records geotechnical analyses examine the properties of the soil where the building is located. These analyses help determine the bearing capacity of the soil, the behavior of the soil, the displacement characteristics of the soil, and the erosion risk of the soil.
6. For the Foundation of the building, if required:
 - a) Sampling by Excavation Method (excavation is made in the area where the foundation is located, and a sample is taken from the foundation).
 - b) Sampling by Floor Opening Method (the floor beneath the building is opened, and a sample is taken from the foundation)

7. Seismic Hazard Analysis: Conduct a seismic hazard analysis in accordance with the Afghani Seismic Code to evaluate the building's vulnerability to earthquakes. Accordingly:
 - a) The soil class of the building site needs to be determined.
 - b) The seismic design parameters, such as the design spectral acceleration values, need to be determined.
8. Seismic Risk Assessment: Assess the building's seismic risk in accordance with the local Seismic Code (insert year) to identify any potential hazards or risks.
9. Structural Analysis: Conduct a detailed structural analysis and simulation of the building to evaluate its performance under seismic loads and other external forces. (Sap2000, E-tabs or other similar finite element programs may be acceptable for analysis run).
10. Determine the performance level: The performance level of the building needs to be determined. The performance levels are categorized as Operational, Immediate Occupancy, Life Safety, and Collapse Prevention
 - a) Ground liquefaction of the building should be controlled, assessed, and included in the report
 - b) Detailed explanation of performance levels according to TBDY 2018 (TEBC2018):

Operational
"This performance level corresponds to a state in which no or very negligible damage has occurred, and the building is still operational.
Immediate Occupancy:
Corresponds to a state in which some damage may have occurred, but after cosmetic repairs, the structure can be occupied and functional
Collapse Prevention
Is a point in the response just prior to the onset of collapse.
Life Safety
Term Used to define a performance state with a "comfortable" margin below the collapsed state.
<ul style="list-style-type: none"> • <i>Note: In ASCE¹ 41, the margin is set at about three-quarters of the displacement corresponding to the collapse performance state</i> • <i>Note: In ASCE 7, the margin is set at about two-thirds of the displacement corresponding to the collapse performance state</i>

11. Based on the outcome of performance level analysis if strengthening required report should include recommendations regarding the strengthening methodology.

Strengthening is required if:

 - c) Insufficient capacity (deformation or strength)
 - d) Increased seismicity
 - e) Changes in target performance
 - f) Cost estimation for any enhancement works to be conducted at the premises.
12. Works schedule
 - a) The UNHCR baseline duration for carrying out the task and providing a detailed report is 7 days.

B. REPORTING:

Based on the competitive bidding process, any awarded companies shall be requested to prepare a comprehensive report detailing the findings of the performance analysis, including all assessment results, recommendations, and any necessary action plans. The report should also include an assessment of the building's compliance with the

¹ ASCE: American society of Civil Engineers

local Seismic Code and other applicable codes and standards. **The reports shall be issued and shared in in English (you may insert other desired languages).**

"If a building is required to undergo through an inspection, certain performance investigation items are necessary. The following table summarizes some required service items. Potential bidders can add any line and/or item depending on the technical work planned to be carried out **on a USD basis.**

Site Inspection
Examination of the current Static Project and Geotechnical reports
Soil Survey- Drilling and laboratory testing
Soil Survey- Excavation/ Floor opening or Ultrasound
Core Drilling and Concrete Strength Measurements and laboratory tests
Reinforcement Scanning for load-carrying members like Columns & Beams
Seismic Hazard Analysis and Seismic Risk Assessment
Structural Analysis and Simulation under earthquake effect
Report preparation
University Professor Approval for Performance Analysis Work and Reports

Note: The number of tests conducted at the field and laboratory for the building, its foundation, and ground/soil can be different based on the methodology chosen by experts in the company.

C. CONFIDENTIALITY

1. The winning proposer undertakes that data collected/stored results and reports, or any other documentation is owned by UNHCR and shall never share or transfer any kind of information, data, document, report as well as information and documents such as database to third persons.
2. The service provider shall be responsible alone for any kind of problem arising from violation of the rule. Since the scope of responsibility changes depending on the circumstance occurred, pecuniary and non-pecuniary damages shall be covered accordingly the extent of damage by calculating over progress payment or performance bond of Service provider.
3. The service provider shall be responsible for ensuring the confidentiality of any information or documents gathered in relevance to the work carried out.
4. The service provider staff can only have access to any data or information through UNHCR’s permission.
5. The service provider shall guarantee not to copy any document, report, invoice, written information or computer program which are given or sent to the service provider in any way and not to share the copies or original ones with third parties. Moreover, it agrees that the confidentiality of any kind of information and documents is fundamental.
6. Any kind of information, document and data produced by the service provider under this Specifications shall belong a hundred percent to UNHCR.

C. TECHNICAL PROPOSAL

The minimum requirements will be sought, and the bidders must provide relevant official documentation as regard to their eligibility to meet these requirements in their offers.

Technical and Financial proposals shall be prepared and submitted separately. (In two different envelopes). The proposals shall comprise two sets of documents: Technical Proposal will constitute 60 points & Financial Proposal will constitute 40 points:

The following details shall be provided in the technical proposal concisely presented and structured in the following order to include, but not necessarily be limited to the following information:

1. A brief description of the Consulting firm/company and an outline of recent experience or projects of a similar nature (structural analysis or design). It should also provide references and any information that will support the technical evaluation of the firm/company's substantive reliability and financial and managerial capacity of provide the services.
2. The company or Consultant involved in the project should have the highly qualified architects, engineers who will be engaged in the project, with at least 3 employees' designers / engineers/ with professional competency in the design and structural analysis for civil works. CVs of personnel suggested by the company or Consultant to be assigned to this project should be provided.
3. All experts, architects, and engineers, involved in the project must be licensed/registered experts in their field of expertise, with a minimum of 3 years of experience in profession.
4. The Company or the Consultant should demonstrate sound financial standing which should be demonstrated with complaint certificates and the Bank financial statements.
5. Methodological approach proposed in responding to the services and a detailed Work-plan broken down into activity, timing, and outputs. The methodological approach should describe the way in which the consultant has understood the scope of work and the requirement of services including assumption.

Proposals from the bidders shall be evaluated through a quality and cost-based approach. Any Company or Consulting firm that does not meet the minimum requirements, set forth below, shall be disqualified and shall not be considered for the project.

Stage 1. Description of the company and the company's qualifications – Mandatory PASS / FAIL Requirements

A description of your company with the following documents:

1. Submission of company profile.
2. Submission of a valid license for the required technical works in Afghanistan.
3. A copy of the original identification document (ID), both sides, of the company principle/s (example: CEO, Owner, President, etc) mentioned in the license for construction works. ID/'s in any language other than English must be accompanied by its translation in English.
4. Undertook the mandatory site visit arranged by UNHCR on Monday 20th November 2023, from 14:00 pm to 16:30 pm local time. UNHCR will generate an attendance record to be considered as Annex J.
5. Submission of a GANTT CHART with a clear plan of deadlines.
6. Accepts proposal validity of 90 calendar days from the closing date of this RFP by completing the appropriate (Annex K) and submitting to UNHCR signed & stamped.

Companies which won't submit up to 3 of the above listed documents with their technical proposal will be contacted by UNHCR using the return email address mentioned in the bid and given one more opportunity to submit them within a strict deadline. A Company will be disqualified from further evaluation in case:

- a) The required documents are still not submitted, not submitted in full and/or not submitted within the UNHCR specified deadline, during the second instance.
- b) A company missing in Annex J - UNHCR log of companies that attended the mandatory site visit
- c) A company combines the financial and technical offer in its eTenderBox Submission.
- d) Company won't submit 4 or more of the above listed documents during the first instance.
- e) Company which doesn't submit a Gantt chart in the first instance may be disqualified at UNHCR's sole discretion.

Stage 2. Understanding of the requirements for services, methodology and outputs

Description of the firm and relevant qualifications (15 points)

- Years of experience (accumulated project duration to be converted to years) in providing consultancy services including contract copies, appreciation letters or any other documents showing project successful completion. **(5 points)**.
 - ✓ No experience = 0pt.,
 - ✓ 1-<3 years = 2 pts,
 - ✓ 3-<5 years = 3 pts,
 - ✓ 5-<above = 5 pts.
- Experience for similar projects: **Project list, project completion certificates and contact details of references, incl. UN/NGOs & Govt. (10 points)**.
 - ✓ More than or equal to 5 similar projects with certificates/references = 10 pts. (proportionally distributed in relation to UNHCR proposed 5 max projects) = 2 points distributed per project.

Understanding of UNHCR's requirements (35 points)

- Technical Proposal (Proposed approach to carry out the works / addressing the requirements outlined in the terms of reference). A clear, well-articulated approach from mobilization to demobilization including: **(25 points)**
 - ✓ A description of the how the contractor will carry out non-destructive testing to assess the structural integrity of the building (5 pts)
 - Clear, detailed, and coherent = 5 pts
 - somewhat clear = 3-4 pts
 - not coherent = 1-2 pts
 - Non submission = 0 pt.
 - ✓ A description of the how the contractor will carry out Soil Investigation and geotechnical analysis to assess the suitability of the ground and foundation (5 pts)
 - Clear, detailed, and coherent = 5 pts
 - somewhat clear = 3-4 pts
 - not coherent = 1-2 pts
 - Non submission = 0 pt.
 - ✓ A description of the how the contractor will carry out a detailed structural analysis and simulation of the building to evaluate its performance under seismic loads and other external forces (5 pts)
 - Clear, detailed, and coherent = 5 pts
 - somewhat clear = 3-4 pts
 - not coherent = 1-2 pts
 - Non submission = 0 pt.
 - ✓ A description of the how the contractor will assess the building's seismic risk in accordance with the local Seismic Code (insert year) to identify any potential hazards or risks (5 pts)
 - Clear, detailed, and coherent = 5 pts
 - somewhat clear = 3-4 pts
 - not coherent = 1-2 pts
 - Non submission = 0 pt.
 - ✓ A description of the how the contractor a detailed structural analysis and simulation of the building to evaluate its performance under seismic loads and other external forces (5 pts)
 - Clear, detailed, and coherent = 5 pts
 - somewhat clear = 3-4 pts
 - not coherent = 1-2 pts

- Non submission = 0 pt.
- Submission of quality control and safety plan: **(5 points)**
 - ✓ The quality control plan must specify quality standards, practices, resources, specifications, and the sequence of activities relevant to a particular product, type of quality control measures/tests, service, project, or contract.
 - Clear, detailed, and coherent = 5 pts
 - Somewhat clear and not coherent approach = 1-4 pts
 - non submission = 0 pt.
- Proposed project schedule **(5 points)** The contractors should avoid the difficult weather period in their Gantt charts, a clear mobilization schedule indicates the modality of supplying the materials in advance to the site should be attached along with the work plan.
 - ✓ Detailed work plan using Gantt chart (Baseline for the scoring is UNHCR's estimated duration of seven [7] calendar days) Completion time (proportionally distributed with UNHCR estimated duration as base line) the % distribution for main and sub-tasks to be well elaborated, with clear activities.
 - Completion time (proportionally distributed in relation to UNHCR proposed completion time) = 2 points distributed proportionally
 - % distribution (for main and sub-tasks) = 1 point, not distributed 0 points
 - Work plan indicating Sub-Tasks = 1 Point, not indicating sub-tasks 0 points
 - Work plan done in weekly basis = 1 Points, not done in weekly basis 0 points

Implementation Capacity (10 points)

- List of skilled labour, qualified technical staff (Engineers, Project Manager, administration manager and etc) including their CVs **(5 points)**
 - ✓ Project Engineer to have at least a Engineering, degree with min 3-year experience as a Site Engineer/project manager. (2 points)
 - Adequate Qualification and experience = 2 Points
 - With the required qualification but fewer years of experience than the period indicated = 1 Points
 - Less qualification regardless of experience = 0 Points.
 - ✓ Site Structural Engineer/ Geotechnical analysis to have at least a Engineering, degree with min 3-year experience as a Site Engineer/project manager. (2 points)
 - Adequate Qualification and experience = 2 Points
 - With the required qualification but fewer years of experience than the period indicated = 1 Points
 - Less qualification regardless of experience = 0 Points
 - ✓ Administrative manager/procurement officer with minimum one year experience. (1 point)
 - Adequate experience=1point
 - Less experience = 0 points
 - Documents not provided for the staff = 0 points
- Organization structure or chart (of the firm) **(2 points)**
 - ✓ Availability of Management, Finance & Technical including design Units with Name of the Person in Charge with Qualified Female Staffs = 2 pts.
 - ✓ Availability of Management, Finance & Technical Units with Name of the Person in Charge = 1 pts.
 - ✓ Availability of Management or Finance or Technical Units with (or without) Name of the Person in Charge = 0.5 pt.
 - ✓ Non submission = 0 pt.

- Potential financial capacity to carry the work (**3 points**)
 - ✓ Audited Financial Statements for the last 3 years, audit summary letter and bank for the past 1 year = 3 pts
 - ✓ Partial submission of requested documents= 1-2 pts
 - ✓ Non submission = 0 pt.

Only companies who score more than 42 points will be considered for financial analysis.

Criteria	Required	Points
Preliminary Evaluation	Company Profile and Statutory Documents	PASS or FAIL
1. Description of the firm and relevant qualifications (15 points)	Years of experience	5 points
	Experience for similar projects	10 points
2. Understanding of UNHCR's requirements (35 points)	Proposed approach to carry out the works / addressing the requirements outlined in the BOQ	25 points
	Submission of quality control and safety plan	5 points
	Proposed project schedule – detailed work plan using Gantt chart	5 points
3. Implementation Capacity (10 points)	Financial capacity	3 points
	Organization structure or chart (of the firm)	2 points
	Personnel-qualifications and experience of key site management and technical personnel proposed for the works	5 points
Total:		60 points