



## **TERMS OF REFERENCE**

**CONSULTING SERVICES FOR THE CONDUCT OF SOIL  
TESTING/EXPLORATION FOR THE SPORTS COMPLEX OF  
UNIVERSITY OF THE PHILIPPINES MINDANAO**  
UP Mindanao Campus  
Mintal Tugbok District, Davao City

Campus Planning and Development Office  
OFFICE OF THE CHANCELLOR  
UNIVERSITY OF THE PHILIPPINES MINDANAO

Prepared by:  
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# **1 PROJECT DESCRIPTION**

## **1.1 TERMS OF REFERENCE**

### **1.1.1 PURPOSE**

Site investigation or Sub-Soil explorations are rendered to obtain the information about subsurface conditions at the proposed Site for construction. Soil exploration consists of determining the profile of the natural soil deposits, taking the soil samples and determining the engineering properties of soils using laboratory tests as well as in-situ testing methods.

Conducting geotechnical investigation or Soil analysis is the standard requirements in the detailed engineering design process to ensure that the structure is safe and economical.

### **1.1.2 OBJECTIVES**

To gather information relative to the distribution and properties of soil, location of the groundwater table level and its variations and surface drainage conditions and predict the lateral earth pressure against retaining walls and abutments. Gathered necessary data to be used in the design preparation of the proposed structures and to have an economical design.

Further, to determine and know about the order of occurrence of soil and rock strata or soil profile and engineering properties of the undelaying soils, establish its compressibility strength and other characteristics as well as the soil bearing capacities.

### **1.1.3 ELIGIBILITY AND QUALIFICATION**

1.1.3.1 All submittals and attendances required for this bidding and enumerated in the Invitation to Bid must be strictly complied with, without exemption to the place, date and time unless otherwise modified with proper notification through Bid Bulletin by the University. The eligibility requirements and qualification process shall be in accordance with the provisions of **Annex “B” and Annex “F” of the 2016 Revised IRR of RA 9184.**

## **1.2 PROJECT SERVICES OF PROVIDER**

### **1.2.1 SCOPE OF SERVICES**

In compliance with all terms and conditions of this Agreement, the Service provider shall provide those services specified in the “Scope of Services” which services may be referred to herein as the “services” or “work” hereunder.

Service provider warrants that they are provider of best-quality of work, services and are experienced. Service provider covenants that it shall follow the highest standards in performing the work and services required.

The Service Provider shall coordinate with the Campus Planning and Development Office (CPDO) of the University during the conduct of Geotechnical and geological investigation along the entire project areas specifically at locations identified by the CPDO technical team.

Service provider shall identify areas with geological problems and difficulties and water bearing stratum causing subsurface discharge which could affect the stability of the project.

### **1.2.2 SERVICE PROVIDER ROLES AND RESPONSIBILITIES**

The Service provider shall conduct the following:

- a. Collection of geological information such as aerial photographs satellite imagery relevant geological study reports, documents and maps for the project area.
- b. Geological mapping of the existing ground formation along the project alignment specifically at the areas identified by the CPDO technical team.

Geotechnical investigation, consisting of, but not limited to the following:

In the proposed project site, deep drilling with Standard Penetration Test (SPT) and rock coring shall be conducted at the locations up to a depth of Fifteen (15) meters minimum for building projects or as determined by the Engineer In-charge. Standard Penetration Test (SPT) shall be made at a minimum interval of 1.0 meter and at every change in soil layer. Boring will be terminated when 3.0 meters of penetration into a stable strata/hard rock is encountered at shallow depth or as determined by the Engineer in-charge. If necessary, upon instruction of the Engineer In-charge, drilling may extend beyond 30.0 meters.

Detailed Soil investigation shall be undertaken along the project areas with the purpose of identifying types of soil. All pits and boreholes shall be properly logged and drawn in plans showing the thickness of each layer, the color, the type and visual description of each layer, depth below the surface, depth of water level (if encountered). The following laboratory tests and analyses shall be made on the samples taken: Unit Weight, Specific Gravity, Natural Moisture Content, Soil Classification, Combined Sieve and Hydrometer, Attenberg Limits, unconfined Compression test, California Bearing Ratio (CBR). Classification of soils shall be made in accordance with AASHTO M145.

### **1.2.3 SERVICE PROVIDER DELIVERABLES**

The Service provider shall provide the following:

- i. Preliminary Report

The Service provider is required to submit within a month after the commencement of services briefly describe the methodology and project (GANTT chart and S-Curve) that meet these terms of reference. The

report shall include the initial findings and actual confirmation of proposed borehole's location showing the coordinates and point references.

ii. Weekly/Interim Report

During the period of contract, the Service provider shall prepare Weekly/interim report to be certified by the designated Materials Engineer Preferably Geotechnical Engineer of the service provider and submit to CPDO technical team every two (2) boreholes that has been completed. The Interim report shall consist and /or discuss, but shall not be limited to the following:

- a. Overall Summary of Accomplishment
- b. Drilling/Boring and Test Pitting progress
- c. Laboratory tests accomplishment
- d. Schedule of work
- e. List of equipment used
- f. Organization chart (*applicable only on the first report*)
- g. Detailed progress chart

iii. Final Report

Upon the completion of the geotechnical services, the service provider shall prepare and submit a final report to the CPDO technical team three (3) bound copies duly signed and sealed by the Geotechnical Engineer of the service provider. All test reports shall also be duly signed by a Geotechnical/Material Engineer. This report shall include but not limited to, the following:

- a. Field investigation and methodology
- b. Borehole drilling/coring
- c. Laboratory testing
- d. Vicinity Maps in Scale (1:50000)
- e. Final Boring logs (BL)
- f. Final Laboratory Test Results
- g. Borehole Location Plan
- h. Soil Profile
- i. Evaluation and recommendation that includes the complete recommended geotechnical engineer relevant to the design parameters: i.e total and effective shearing strength, index properties, computed allowable soil bearing capacity with respect to depth, etc.
- j. Recommendation if called such as type of proposed countermeasure/structure to address geotechnical problems and foundation instability of the building/structure.
- k. Boring logs:
  - i. Job, boreholes number, date, time, boring/drilling foreman and supervisor.
  - ii. Weather conditions
  - iii. Depth of water level
  - iv. Method of penetration and flushing system
  - v. Description of soil strata encountered
  - vi. Depth of soil boundaries
  - vii. Size, type and depth of samples and sample number
  - viii. Type and depth of in-situ test

- ix. Standard Penetration Test Resistance, “N” values
- x. Detailed notes on boring/drilling procedure, casing sizes and resistance of driving.
- xi. Depth of boring, borehole location (Station, Easting, Northing and Elevation)
- xii. Photographs showing the borehole drilling and sampling at each proposed site shall be taken by the service provider.

**Standard Care:** In the performance of the Service provider, shall use that level of care and skill ordinarily exercised by reputable members of SERVICE PROVIDER’s profession currently practicing in the same locality under similar conditions. No other representation, guarantee or warranty, express or implied, is included or intended in this agreement or in any communication (oral or written) report, opinion, document, or instrument of service.

**DURATION OF SERVICE PROVIDER:** The Service provide contract period for understanding the soil exploration shall not be more than Fifty-six (56) calendar days and upon receipt of Notice to Proceed (NTP).

**KEY PERSONNEL RESOURCES REQUIREMENTS AND SCHEDULES:**

The Service Provider shall be composed of qualified staff with experience in the conduct of geological and geotechnical investigation (Soil analysis).

KEY PERSONNEL	Week									
	1	2	3	4	5	6	7	8	9	10
Geotechnical Engineer/Team Leader										
Materials Engineer										

The Service Provider shall deploy the following key personnel with a minimum required qualification:

Position	Job Description	No. of Months	Required Qualifications
Geotechnical Engineer/ Team Leader	Prepares operation plan and supervises all aspects of the project to ensure compliance with the objectives and maintain progress in accordance with the contract time schedule. Provide geotechnical related analysis and reports	2.0	Registered/Licensed Geotechnical Engineer, or equivalents with extensive experience in geotechnical investigations and related areas. Minimum of 7 years of experience in the related field.
Materials Engineer	Oversee the progress of works Supervision of field staff and the methods of works  Assists the Geotechnical Engineer in the collection data and information, in carrying out detailed soil investigations along the road alignment.	1.0	Licensed/Accredited Materials Engineer or equivalent with specialization in material engineering. Must be equipped with dedicated software.  Minimum of (3) years of experience in the related field.

**Communication:** The UNIVERSITY shall provide to the Service provider information and criteria regarding the UNIVERSITY’s requirement for the Project; examine and respond in a timely manner to the Service provider’s submissions and

give notice to the SERVICE PROVIDER whenever the UNIVERSITY observes or otherwise becomes aware of any defect in the Services.

**Access:** The UNIVERSITY will provide access agreements for the service provider to enter the campus and property when necessary.

**Program and Budget:** The UNIVERSITY shall provide full information stating the UNIVERSITY's objectives, schedule, budget with reasonable contingencies and necessary design criteria.

**University Representative:** The UNIVERSITY will assign the CPDO technical team indicated below to represent the UNIVERSITY in coordinating this Project with the SERVICE PROVIDER, with authority to transmit instructions and define policies and decisions.

CPDO	Campus Planning and Development Office Representatives
Chief of CPDO	Cherrylyn D. Cabrera, DM-Hum Res Mgt
Campus Architect	Ar. Ellen Noemi T. Dorado, uap
Construction Engr.	Engr. Christopher G. Mendoza, ce

### 1.2.3 COMPLIANCE WITH LAW

All services rendered hereunder shall be provided in accordance with all ordinances, resolutions, statutes, rules, and regulations of City Government of Davao and Philippine Law or local governmental agency having jurisdiction in effect at the time service is rendered.

### 1.2.4 LICENSE, PERMITS, FEES AND ASSESSMENTS

Service provider shall obtain at its sole cost and expense such licenses, permits and approvals as may be required by law for the performance of the services required by this Agreement.

Service provider shall have the sole obligation to pay for any fees, assessments and taxes, plus applicable penalties, and interest, which may be imposed by law and arise from or are necessary for the Service provider's performance of the services required by this Agreement, and shall indemnify, defend and hold harmless to the University of the Philippines Mindanao against any such fees, assessments, taxes penalties or interest.

### 1.2.5 FAMILIARITY WITH WORK

By executing this Contract, Service provider's warrants that:

- (a) has thoroughly investigated and considered the scope of services to be performed,
- (b) has carefully considered how the services should be performed, and
- (c) fully understands the difficulties and restrictions attending performance of the services under this Agreement. Should the Service provider discover any latent or unknown conditions, which will materially affect the performance of the services hereunder.

### **1.2.6 OWNERSHIP OF INSTRUMENTS OF SERVICE & CARE OF WORK**

Reports, drawings, plans or other documents (or copies) furnished to Service Provider by the UNIVERSITY shall, at UNIVERSITY's written request, be returned upon completion of the Services hereunder; provided, however that service provider may retain one (1) copy of all such documents. Reports, drawings, plans, documents, field notes and work product (or copies thereof) in any form prepared or furnished by the provider under this Agreement are instruments of service. Exclusive ownership, copyright, and title to all instruments of service remain with Service Provider. UNIVERSITY's right of use of instruments of service, if any, is limited to that use on the Project. The instruments of service are not intended or represented to be suitable for reuse by UNIVERSITY or others on extensions of the work or on any other project.

The Service Provider shall adopt reasonable methods during the duration of the Agreement to furnish continuous protection to the work, and the equipment, materials, papers, documents, plans, studies and/or other components thereof to prevent losses or damages, and shall be responsible for all such damages, to persons or property, until acceptance of the work by CPDO, except such losses or damages as may be caused by CPDO own negligence.

## **5.0 CONFIDENTIALITY**

### **5.1 CONFIDENTIAL INFORMATION**

Under this Agreement, "Confidential Information" refers to any and all information of a Party ("Disclosing Party") that has been disclosed to the other Party ("Receiving Party"), which is designated in writing as confidential, proprietary, or secret or under the context of its disclosure ought to reasonably be considered as confidential.

Information includes, but is not limited to, all information concerning a Party's existing business, business systems, business plans and information systems, trade secrets, prices, and pricing information.

### **5.2 USE OF CONFIDENTIAL INFORMATION**

Each Party will comply with all laws and regulations that apply to use, transmission, storage, disclosure, or destruction of Confidential Information. Both Parties agree to hold the other Party's Confidential Information in strict confidence.

**END**