

Republic of the Philippines DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS **BENGUET 1st DISTRICT ENGINEERING OFFICE** Wangal, La Trinidad, Benguet, Cordillera Administrative Region



**PHILIPPINE BIDDING DOCUMENTS** 

# Procurement of CONSULTING SERVICES

Government of the Republic of the Philippines

Geotechnical Investigation for Various Proposed 2025 Projects within the jurisdiction of DPWH Benguet First District Engineering Office

> Fifth Edition August 2016

# Preface

These Philippine Bidding Documents (PBDs) for the procurement of Consulting Services through Competitive Bidding have been prepared by the Government of the Philippines (GoP) for use by all branches, agencies, departments, bureaus, offices, or instrumentalities of the Government, including government-owned and/or -controlled corporations (GOCCs), government financial institutions (GFIs), state universities and colleges (SUCs), local government units (LGUs), and autonomous regional government. The procedures and practices presented in this document have been developed through broad experience, and are for mandatory use in projects that are financed in whole or in part by the GoP or the World Bank or any foreign government/foreign or international financing institution in accordance with the provisions of the 2016 Revised Implementing Rules and Regulations (IRR) of Republic Act 9184 (R.A. 9184).

The Bidding Documents shall clearly and adequately define, among others: (a) the objectives, scope, and expected outputs and/or results of the proposed contract; (b) the minimum eligibility requirements of bidders, such as track record to be determined by the Head of the Procuring Entity; (c) the expected contract duration, delivery schedule and/or time frame; and (d) the obligations, duties, and/or functions of the winning bidder.

In order to simplify the preparation of the Bidding Documents for each procurement, the PBDs groups the provisions that are intended to be used unchanged in Section II. Eligibility Documents of Part I; and Error! Reference source not found. (ITB) and Error! Reference source not found. (GCC) of Part II. Data and provisions specific to each procurement and contract should be included in Section III. Eligibility Data Sheet (EDS) of Part I, Error! Reference source not found. (BDS), and Error! Reference source not found. (SCC) of Part II. The forms to be used are provided in the attachments.

Care should be taken to check the relevance of the provisions of the Bidding Documents against the requirements of the specific Consulting Services to be procured. The following general directions should be observed when using the documents:

- (a) All the documents listed in the Table of Contents are normally required for the procurement of Consulting Services. However, they should be adapted as necessary to the circumstances of the particular Project.
- (b) These PBDs are divided into Part I and Part II, which shall be both made available from the time the Request for Expression of Interest is first advertised/posted until the deadline for the submission and receipt of bids
- (c) Specific details, such as the "name of the Procuring Entity" and "address for proposal submission," should be furnished in the EDS, BDS, and SCC. The final documents should contain neither blank spaces nor options.
- (d) This Preface and the footnotes or notes in italics included in the Request for Expression of Interest, EDS, BDS, SCC, Terms of Reference, and Appendices are not part of the text of the final document, although they contain instructions that the Procuring Entity should strictly follow. The Bidding Documents should contain no footnotes except Error! Reference source not found. of Part II since these provide important guidance to Bidders.

- (e) The criteria for evaluation and the various methods of evaluation in the ITB should be carefully reviewed. Only those that are selected to be used for the procurement in question should be retained and expanded, as required in the BDS. The criteria that are not applicable should be deleted from the BDS.
- (f) The cover should be modified as required to identify the Bidding Documents as to the names of the Project, Contract, and Procuring Entity, in addition to date of issue.
- (g) If modifications must be made to bidding procedures, they can be presented in the BDS. Modifications for specific Project or Contract should be provided in the SCC as amendments to the Conditions of Contract. For easy completion, whenever reference has to be made to specific clauses in the EDS, BDS, or SCC these terms shall be printed in bold type face on Section II. Eligibility Documents, Section I. Instructions to Bidders, and Section III. General Conditions of Contract, respectively.

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# Section I. Request for Expression of Interest

### **Notes on Request for Expression of Interest**

The Request for Expression of Interest provides information that enables potential Bidders to decide whether to participate in the procurement at hand. The Request for Expression of Interest shall be:

- (a) Posted continuously in the Philippine Government Electronic Procurement System (PhilGEPS) website and the website of the Procuring Entity concerned, if available, and the website prescribed by the foreign government/foreign or international financing institution, if applicable, seven (7) calendar days starting on the date of advertisement; and
- (b) Posted at any conspicuous place reserved for this purpose in the premises of the Procuring Entity concerned for seven (7) calendar days, as certified by the head of the Bids and Awards Committee (BAC) Secretariat of the Procuring Entity concerned.
- (c) Advertised at least once in a newspaper of general nationwide circulation which has been regularly published for at least two (2) years before the date of issue of the advertisement, subject to Sections 21.2.1(c) of the IRR of R.A. 9184<sup>1</sup>;

Apart from the essential items listed in the Bidding Documents, the Request for Expression of Interest should also indicate the following:

- (a) The date of availability of the Bidding Documents, the place where it may be secured and the deadline for submission of the Expression of Interest (EOI) together with the application for eligibility;
- (b) The set of criteria and rating system for short listing of prospective bidders to be used for the particular contract to be Bid, which shall consider the following, among others:
  - (i) Applicable experience of the consultant and members in case of joint ventures, considering both the overall experiences of the firms or, in the case of new firms, the individual experiences of the principal and key staff, including the times when employed by other consultants;

<sup>&</sup>lt;sup>1</sup> Two years after effectivity of the 2016 Revised IRR of RA 9184 on **28 October 2016**, advertisement in a newspaper of general nationwide circulation shall no longer be required. However, a Procuring Entity that cannot post its opportunities in the PhilGEPS for justifiable reasons shall continue to publish its advertisements in a newspaper of general nationwide circulation.

- (ii) Qualification of personnel who may be assigned to the job vis-à-vis extent and complexity of the undertaking; and
  - (iii) Current workload relative to capacity;
- (c) The number of consultants to be short listed and the procedure to be used in the evaluation of Bids of short listed consultants, *i.e.*, QBE or QCBE; and if QCBE, the weights to be allocated for Technical and Financial Proposals; and
- (d) The contract duration.

In the case of WB funded projects, the Request for Expression of Interest shall be sent to all who have expressed an interest in undertaking the services as a result of any General Procurement Notice issued. In addition, it shall also be sent to all heads of associations of consultants within the area where the project will be undertaken.



Republic of the Philippines DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS **BENGUET FIRST DISTRICT ENGINEERING OFFICE** CORDILLERA ADMINISTRATIVE REGION Wangal, La Trinidad, Benguet

### **REQUEST FOR EXPRESSION OF INTEREST FOR**

#### Geotechnical Investigation for Various Proposed 2025 Projects within the jurisdiction of DPWH Benguet First District Engineering Office

1. The **Benguet First District Engineering Office**, through the GAA 2024 intends to apply the sum of **Php 4,848,056.16** being the Approved Budget for the Contract (ABC) to payments under the contract for **Geotechnical Investigation for Various Proposed 2025 Projects within the jurisdiction of DPWH Benguet First District Engineering Office**, **24CSPE0001**. Bids received in excess of the ABC shall be automatically rejected at bid opening.

2. The **Benguet First District Engineering Office** now calls for the submission of eligibility documents for **Geotechnical Investigation for Various Proposed 2025 Projects within the jurisdiction of DPWH Benguet First District Engineering Office.** Eligibility documents of interested consultants must be duly received by the BAC Secretariat on or before June 18, 2024 at 9:00 A.M. at Benguet First District Engineering Office, Wangal, La Trinidad, Benguet. Applications for eligibility will be evaluated based on a non-discretionary "pass/fail" criterion.

3. Interested bidders may obtain further information from **Benguet First District Engineering Office** and inspect the Bidding Documents at the address given below during **8:00 AM. to 5:00 P.M**.

4. A complete set of Bidding Documents may be acquired by interested Bidders on **June 21 to July 10, 2024** from the address and website/s below and upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB, in the amount of **Php 5,000.00.** It may also be downloaded free of charge from the website of the Philippine Government Electronic Procurement System (PhilGEPS) and the website of the Procuring Entity, provided that Bidders shall pay the applicable fee for the Bidding Documents not later than the submission of their bids.

5. The BAC shall draw up the short list of consultants from those who have submitted Expression of Interest, including the eligibility documents, and have been determined as eligible in accordance with the provisions of Republic Act 9184 (RA 9184), otherwise known as the "Government Procurement Reform Act", and its Implementing Rules and Regulations (IRR). The short list shall consist of **Five (5)** prospective bidders who will be entitled to submit bids. The criteria and rating system for short listing are:

Experience of the Firm	-	60 pts
Availability of Required Personnel of the firm	-	10 pts
Workload	-	30 pts
		100 pts

#### \*Eligible Bidders must obtain the passing score of eighty (80) points to qualify in the shortlist

6. Bidding will be conducted through open competitive bidding procedures using nondiscretionary "pass/fail" criterion as specified in the IRR of RA 9184. Bidding is restricted to Filipino citizens/sole proprietorships, cooperatives, and partnerships or organizations with at least sixty percent (60%) interest or outstanding capital stock belonging to citizens of the Philippines.

7. The Procuring Entity shall evaluate bids using the **Quality-Cost Based Evaluation/Selection (QCBE/QCBS)** procedure. The criteria and rating system for the evaluation of bids shall be provided in the Instructions to Bidders.

		Weights		
Type of Consulting Services	Passing Technical Score	Quality (Technical Proposal)	Cost (Financial Proposal)	Total
Soil / Geotechnical Investigation	80 points	65%	35%	100%

8. The contract shall be completed within **Ninety (90) Calendar Days.** 

9. The **Benguet First District Engineering Office** reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Section 41 of RA 9184 and its IRR, without thereby incurring any liability to the affected bidder or bidders.

10. For further information, please refer to:

#### **EDGARDO G. ENRIQUEZ** DPWH-Benguet First District Engineering Office Wangal, La Trinidad, Benguet <u>benguetfirstdeo@gmail.com</u> 074-422 6162

June 6, 2024

(SGD) EDGARDO G. ENRIQUEZ BAC Chairman

# Section II. Eligibility Documents

# Notes on the Eligibility Documents

This Section provides the information necessary for prospective bidders to prepare responsive Eligibility Documents in accordance with the requirement of the Procuring Entity.

The provisions contained in this Section are to be used unchanged. Additional information or requirements specific to each procurement shall be specified in the EDS.

#### 1. Eligibility Criteria

- 1.1. The following persons/entities shall be allowed to participate in the bidding for Consulting Services:
  - (a) Duly licensed Filipino citizens/sole proprietorships;
  - (b) Partnerships duly organized under the laws of the Philippines and of which at least sixty percent (60%) of the interest belongs to citizens of the Philippines;
  - (c) Corporations duly organized under the laws of the Philippines and of which at least sixty percent (60%) of the outstanding capital stock belongs to citizens of the Philippines;
  - (d) Cooperatives duly organized under the laws of the Philippines; or
  - (e) Persons/entities forming themselves into a joint venture, *i.e.*, a group of two (2) or more persons/entities that intend to be jointly and severally responsible or liable for a particular contract: Provided, however, That Filipino ownership or interest thereof shall be at least sixty percent (60%). For this purpose, Filipino ownership or interest shall be based on the contributions of each of the members of the joint venture as specified in their JVA.
- 1.2. When the types and fields of Consulting Services involve the practice of professions regulated by law, those who will actually perform the services shall be Filipino citizens and registered professionals authorized by the appropriate regulatory body to practice those professions and allied professions specified in the **EDS**.
- 1.3. If the Request for Expression of Interest allows participation of foreign consultants, prospective foreign bidders may be eligible subject to the conditions stated in the <u>EDS</u>.
- 1.4. Government owned or –controlled corporations (GOCCs) may be eligible to participate only if they can establish that they (a) are legally and financially autonomous, (b) operate under commercial law, and (c) are not attached agencies of the Procuring Entity.

#### 2. Eligibility Requirements

- 2.1. The following eligibility requirements, together with the Eligibility Documents Submission Form, shall be submitted on or before the date of the eligibility check specified in the Request for Expression of Interest and Clause 5 for purposes of determining eligibility of prospective bidders:
  - (a) Class "A" Documents –

Legal Documents

(i) PhilGEPS Certificate of Registration and Membership in accordance with Section 8.5.2 of the IRR, except for foreign bidders participating in the procurement by a Philippine Foreign Service Office or Post, which shall submit their eligibility documents under Section 24.1 of the IRR, provided, that the winning Consultant shall register with PhilGEPS in accordance with Section 37.1.4 of the IRR;

#### Technical Documents

- (ii) Statement of the prospective bidder of all its ongoing and completed government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid, within the relevant period provided in the <u>EDS</u>. The statement shall include, for each contract, the following:
  - (ii.1) the name and location of the contract;
  - (ii.2) date of award of the contract;
  - (ii.3) type and brief description of consulting services;
  - (ii.4) consultant's role (whether main consultant, subconsultant, or partner in a JV)
  - (ii.5) amount of contract;
  - (ii.6) contract duration; and
  - (ii.7) certificate of satisfactory completion or equivalent document specified in the <u>EDS</u> issued by the client, in the case of a completed contract;
- (iii) Statement of the consultant specifying its nationality and confirming that those who will actually perform the service are registered professionals authorized by the appropriate regulatory body to practice those professions and allied professions in accordance with Clause 1.2, including their respective curriculum vitae.
- (b) Class "B" Document –

If applicable, the Joint Venture Agreement (JVA) in case the joint venture is already in existence, or duly notarized statements from all the potential joint venture partners in accordance with Section 24.1(b) of the IRR of RA 9184.

2.2. The eligibility requirements or statements, the bids, and all other documents to be submitted to the BAC must be in English. If the eligibility requirements or statements, the bids, and all other documents submitted to the BAC are in foreign language other than English, it must be accompanied by a translation

of the documents in English. The documents shall be translated by the relevant foreign government agency, the foreign government agency authorized to translate documents, or a registered translator in the foreign bidder's country; and shall be authenticated by the appropriate Philippine foreign service establishment/post or the equivalent office having jurisdiction over the foreign bidder's affairs in the Philippines. The English translation shall govern, for purposes of interpretation of the bid.

2.3. Prospective bidders may obtain a full range of expertise by associating with individual consultant(s) and/or other consultants or entities through a JV or subcontracting arrangements, as appropriate. However, subconsultants may only participate in the bid of one short listed consultant. Foreign Consultants shall seek the participation of Filipino Consultants by entering into a JV with, or subcontracting part of the project to, Filipino Consultants.

#### **3.** Format and Signing of Eligibility Documents

- 3.1. Prospective bidders shall submit their eligibility documents through their duly authorized representative on or before the deadline specified in Clause 5.
- 3.2. Prospective bidders shall prepare an original and copies of the eligibility documents. In the event of any discrepancy between the original and the copies, the original shall prevail.
- 3.3. The Eligibility Documents Submission Form shall be signed by the duly authorized representative/s of the Bidder. Failure to do so shall be a ground for the rejection of the eligibility documents.
- 3.4. Any interlineations, erasures, or overwriting shall be valid only if they are signed or initialed by the duly authorized representative/s of the prospective bidder.

#### 4. Sealing and Marking of Eligibility Documents

- 4.1. Prospective bidders shall enclose their original eligibility documents described in Clause 2.1, in a sealed envelope marked "ORIGINAL ELIGIBILITY DOCUMENTS". Each copy thereof shall be similarly sealed duly marking the envelopes as "COPY NO. \_\_\_\_\_ ELIGIBILITY DOCUMENTS". These envelopes containing the original and the copies shall then be enclosed in one single envelope.
- 4.2. The original and the number of copies of the eligibility documents as indicated in the **EDS** shall be typed or written in ink and shall be signed by the prospective bidder or its duly authorized representative/s.
- 4.3. All envelopes shall:
  - (c) contain the name of the contract to be bid in capital letters;
  - (d) bear the name and address of the prospective bidder in capital letters;

- (e) be addressed to the Procuring Entity's BAC specified in the **<u>EDS</u>**;
- (f) bear the specific identification of this Project indicated in the **EDS**; and
- (g) bear a warning "DO NOT OPEN BEFORE..." the date and time for the opening of eligibility documents, in accordance with Clause 5.
- 4.4 Eligibility documents that are not properly sealed and marked, as required in the bidding documents, shall not be rejected, but the bidder or its duly authorized representative shall acknowledge such condition of the documents as submitted. The BAC shall assume no responsibility for the misplacement of the contents of the improperly sealed or marked eligibility documents, or for its premature opening.

#### 5. Deadline for Submission of Eligibility Documents

Eligibility documents must be received by the Procuring Entity's BAC at the address and on or before the date and time indicated in the Request for Expression of Interest and the **EDS**.

#### 6. Late Submission of Eligibility Documents

Any eligibility documents submitted after the deadline for submission and receipt prescribed in Clause 0 shall be declared "Late" and shall not be accepted by the Procuring Entity. The BAC shall record in the minutes of submission and opening of eligibility documents, the Bidder's name, its representative and the time the eligibility documents were submitted late.

#### 7. Modification and Withdrawal of Eligibility Documents

- 7.1. The prospective bidder may modify its eligibility documents after it has been submitted; provided that the modification is received by the Procuring Entity prior to the deadline specified in Clause 5. The prospective bidder shall not be allowed to retrieve its original eligibility documents, but shall be allowed to submit another set equally sealed, properly identified, linked to its original bid marked as "ELIGIBILITY MODIFICATION" and stamped "received" by the BAC. Modifications received after the applicable deadline shall not be considered and shall be returned to the prospective bidder unopened.
- 7.2. A prospective bidder may, through a letter of withdrawal, withdraw its eligibility documents after it has been submitted, for valid and justifiable reason; provided that the letter of withdrawal is received by the Procuring Entity prior to the deadline prescribed for submission and receipt of eligibility documents.
- 7.3. Eligibility documents requested to be withdrawn in accordance with this Clause shall be returned unopened to the prospective bidder concerned. A prospective bidder that withdraws its eligibility documents shall not be permitted to submit another set, directly or indirectly, for the same project. A prospective bidder that acquired the eligibility documents may also express its intention not to participate in the bidding through a letter which should reach

and be stamped by the BAC before the deadline for submission and receipt of eligibility documents.

#### 8. Opening and Preliminary Examination of Eligibility Documents

8.1. The BAC will open the envelopes containing the eligibility documents in the presence of the prospective bidders' representatives who choose to attend, at the time, on the date, and at the place specified in the <u>EDS</u>. The prospective bidders' representatives who are present shall sign a register evidencing their attendance.

In case the submitted eligibility envelopes cannot be opened as scheduled due to justifiable reasons, the BAC shall take custody of the said envelopes and reschedule the opening on the next working day or at the soonest possible time through the issuance of a Notice of Postponement to be posted in the PhilGEPS website and the website of the Procuring Entity concerned.

- 8.2. Letters of withdrawal shall be read out and recorded during the opening of eligibility documents and the envelope containing the corresponding withdrawn eligibility documents shall be returned unopened to the withdrawing prospective bidder.
- 8.3. The eligibility documents envelopes and modifications, if any, shall be opened one at a time, and the following read out and recorded:
  - (h) the name of the prospective bidder;
  - (i) whether there is a modification or substitution; and
  - (j) the presence or absence of each document comprising the eligibility documents vis-à-vis a checklist of the required documents.
- 8.4. The eligibility of each prospective bidder shall be determined by examining each bidder's eligibility requirements or statements against a checklist of requirements, using non-discretionary "pass/fail" criterion, as stated in the Request for Expression of Interest, and shall be determined as either "eligible" If a prospective bidder submits the specific eligibility or "ineligible." document required, he shall be rated "passed" for that particular requirement. In this regard, failure to submit a requirement, or an incomplete or patently insufficient submission, shall be considered "failed" for the particular eligibility requirement concerned. If a prospective bidder is rated "passed" for all the eligibility requirements, he shall be considered eligible to participate in the bidding, and the BAC shall mark the set of eligibility documents of the prospective bidder concerned as "eligible." If a prospective bidder is rated "failed" in any of the eligibility requirements, he shall be considered ineligible to participate in the bidding, and the BAC shall mark the set of eligibility documents of the prospective bidder concerned as "ineligible." In either case, the BAC chairperson or his duly designated authority shall countersign the markings.

#### 9. Short Listing of Consultants

- 9.1. Only prospective bidders whose submitted contracts are similar in nature and complexity to the contract to be bid as provided in the **EDS** shall be considered for short listing.
- 9.2. The BAC shall draw up the short list of prospective bidders from those declared eligible using the detailed set of criteria and rating system to be used specified in the **EDS**.
- 9.3. Short listed consultants shall be invited to participate in the bidding for this project through a Notice of Eligibility and Short Listing issued by the BAC.

#### **10.** Protest Mechanism

Decision of the Procuring Entity at any stage of the procurement process may be questioned in accordance with Section 55 of the IRR of RA 9184.

# Section III. Eligibility Data Sheet

# Notes on the Eligibility Data Sheet

This Section is intended to assist the Procuring Entity in providing the specific information and requirements in relation to corresponding clauses in the Eligibility Documents, and has to be prepared for each specific procurement.

The Procuring Entity should specify in this Section the information and requirements specific to the circumstances of the Procuring Entity, the processing of the eligibility, and the rules that will apply in the determination and evaluation of eligibility.

In preparing this Section, the following aspects should be checked:

- (a) Information that specifies and complements provisions of the Eligibility Documents must be incorporated.
- (b) Amendments and/or supplements, if any, to provisions of the Eligibility Documents as necessitated by the circumstances of the specific procurement, must also be incorporated.

# **Eligibility Data Sheet**

Eligibility Documents		
1.2	Soil Boring, Standard Penetration Test (SPT), Rock Coring, Geo- resistivity Reading, Sample Handling, Geotechnical InvestigationThe procurement and employment of Corporation(s) as consultant(s) for this project is NOT ALLOWED.	
1.3	No further instructions.	
2.1(a)(ii)	The statement of all ongoing and completed government and private contracts shall include all such contracts prior to the deadline for the submission and receipt of eligibility documents.	
2.1(a)(ii.7)	Certificate of Satisfactory Completion of the Service Rendered	
4.2	Each prospective bidder shall submit one (1) original and one (1) copy of its eligibility documents (optional).	
4.3 (e)	<b>THE CHAIRMAN</b> Bids and Awards Committee (BAC) DPWH-Benguet First District Engineering Office Wangal, La Trinidad, Benguet	
4.3 (f)	24CSPE0001: Geotechnical Investigation for Various Proposed 2025 Projects within the jurisdiction of DPWH Benguet First District Engineering Office	
	*Please coordinate with Planning and Design Section for specific locations of boreholes	
5	The address for submission of eligibility documents is <b>Procurement Unit</b> Office, Benguet First District Engineering Office, Wangal, La Trinidad, Benguet	
	The deadline for submission of eligibility documents is on June 18, 2024 at 09:00 A.M.	
8.1	The place of opening of eligibility documents is at Procurement Unit Office, DPWH-Benguet First District Engineering Office, Wangal, La Trinidad, Benguet	
	The date and time of opening of eligibility documents is on June 18, 2024 at 09:00 A.M.	
9.1	No further instructions.	

9.2	Criteria and rating System for Short Listing				
	Experience of the Firm	-	60 pts		
	Availability of Required Personnel of the firm	-	10 pts		
	Workload	-	30 pts		
			100 pts		

[Date]

[Name and address of the Procuring Entity]

Ladies/Gentlemen:

In connection with your Request for Expression of Interest dated *[insert date]* for *[Title of Project]*, *[Name of Consultant]* hereby expresses interest in participating in the eligibility and short listing for said Project and submits the attached eligibility documents in compliance with the Eligibility Documents therefor.

In line with this submission, we certify that:

- a) [*Name of Consultant*] is not blacklisted or barred from bidding by the GoP or any of its agencies, offices, corporations, LGUs, or autonomous regional government, including foreign government/foreign or international financing institution; and
- b) Each of the documents submitted herewith is an authentic copy of the original, complete, and all statements and information provided therein are true and correct.

We acknowledge and accept the Procuring Entity's right to inspect and audit all records relating to our submission irrespective of whether we are declared eligible and short listed or not.

We further acknowledge that failure to sign this Eligibility Document Submission Form shall be a ground for our disqualification.

Yours sincerely,

Signature Name and Title of Authorized Signatory Name of Consultant Address





Republic of the Philippines Department of Public Works and Highways BENGUET 1<sup>ST</sup> DISTRICT ENGINEERING OFFICE

# TERMS OF REFERENCE (TOR)

### CONSULTANCY SERVICES FOR THE GEOTECHNICAL INVESTIGATION

# GEOTECHNICAL INVESTIGATION FOR VARIOUS PROPOSED 2025 PROJECTS WITHIN THE JURISDICTION OF DPWH BENGUET 1<sup>ST</sup> DISTRICT ENGINEERING OFFICE

CONSULTANCY SERVICES FOR THE GEOTECHNICAL INVESTIGATION

#### GEOTECHNICAL INVESTIGATION FOR VARIOUS PROPOSED 2025 PROJECTS WITHIN THE JURISDICTION OF DPWH BENGUET 1<sup>ST</sup> DISTRICT ENGINEERING OFFICE

#### I. INTRODUCTION

#### A. BACKGROUND

The Department of Public Works and Highways will be implementing various construction of Infrastructure projects for 2025. In line with the Department's quality policy to provide quality and safe public infrastructure, geotechnical investigation is required to provide important data necessary in the design of proposed structures. This process of determining the subsurface conditions is essential to ensure the integrity of proposed structures.

#### **B. OBJECTIVE**

- 1. To obtain information of the subsurface soil conditions and other relevant data necessary for the design of infrastructures, specifically slope protection and flood mitigation structures.
- 2. To determine the geotechnical parameters such as engineering properties of the soil and other characteristics necessary for analysis and design.
- 3. To identify geotechnical concerns and foundation considerations required in the detailed engineering design of infrastructure projects to generate safe and economical foundation design.
- To determine the arrangement of the soil strata and engineering properties of the underlying soils, particularly strength and deformation characteristics, as well as the soil bearing capacities.

#### C. PROJECT SCOPE

The proposed infrastructure projects are subject for preliminary and/or detailed engineering design and the results of the geotechnical investigation are the basic data required for the design of a safe and economical foundation of the proposed structures. Before the start of the project, the Planning and Design Section will provide the consultant the list of proposed projects which are the subject of subsurface soil exploration work including Geotechnical Report. The list will also include the number of boreholes per project site. The scope of this consultancy is the following:

	Title of Consultancy Services	Number of Boreholes
1.	GEOTECHNICAL INVESTIGATION FOR VARIOUS	
	PROPOSED 2025 PROJECTS WITHIN THE	69
	JURISDICTION OF DPWH BENGUET 1 <sup>ST</sup>	
	DISTRICT ENGINEERING OFFICE	
	OVERALL TOTAL =	69

#### **II. SCOPE OF SERVICES**

#### A. GENERAL

- 1. Refer to DPWH Department Order No. 75, series of 2024 for the Guidelines for the Conduct of Geotechnical Investigation for all DPWH Infrastructure.
- 2. The Consultant shall coordinate with the DPWH-BFDEO Geotechnical Investigation Team (GI Team) composed of personnels from the Quality Assurance Section (QAS) and Planning & Design Section (PDS), particularly the Highway Design Unit and Bridge and other Public Works Design Unit, immediately after the receipt of Notice to Proceed (NTP) to identify: (1) the locations of the proposed structures and (2) any notable and significant geological features on site that may affect the design.
  - a. The Consultant should be able to identify areas with geological problems and difficulties through mapping of active faults, foundation problems such as settlement and/or subsidence affecting the stability of proposed structure.
- The Consultant shall coordinate with the DPWH-BFDEO GI Team to report the daily and weekly activities and accomplishments of the Consultant's report during the conduct of the geotechnical investigations, for monitoring purposes. During the conduct of the geotechnical investigations, photos shall be taken and geotagged accordingly.
- The Consultant shall provide all labor, properly calibrated instruments and testing equipment materials, supplies, vehicles, etc., necessary to satisfactorily perform the investigation works.

5. Upon completion of the subsurface exploration work activities, the Consultant shall submit their duly-signed final report containing geotechnical/ geological reports reflecting results of all required tests to DPWH-BFDEO GI Team. In addition, the Geotechnical Consulting Firm shall prepare a Geotechnical plan in accordance with DO No. 75, s. 2024 and other latest Department Issuance/s for the preparation of Detailed Engineering Design (DED) Plans. The consultant shall be responsible for the veracity and reliability of the report and Geotechnical plan presented.

#### **B. THE SERVICES**

The DPWH-BFDEO Geotechnical Investigation Team (GI Team) shall monitor/ supervise/ formulate/ review/ approve all relevant works related to geotechnical investigation being conducted by the Consultant. The GI Team shall prepare a GI plan and methodology report after conduct of coordination meeting and joint field validation with the Consultant. No soil exploration and laboratory testing shall commence prior to the approval of the GI plan and methodology. The following shall be included in the GI plan and methodology:

- Preliminary information, which includes data (Geology, Topography, Vegetation, Right-of-Way, Accessibility, Land Use, Existing Structures and Utilities, etc.) from nearby existing project/s, if applicable and available
- b. Proposed Borehole Quantity and Location Plan
- c. Type of Geotechnical Investigation Equipment
- d. Proposed In-situ and/or Laboratory Test Program
- e. Approved Copy of Engineering Geological and Geohazard Assessment (EGGA) Report, if available

The Consultant shall conduct the **geotechnical investigations** according to prescribed depth and number of boreholes in accordance with the DPWH Design Guidelines, Criteria and Standards (DPWH-DGCS), Volume 2C – Geological and Geotechnical Investigation, DPWH Bureau of Research and Standards (DPWH-BRS), Geotechnical Subsurface Exploration Manual and all applicable provisions of existing Laws, Codes or Department Orders, in order to minimize changes and delays in the preparation of final plans. The geotechnical investigations shall consist of, but not limited to, the following:

- 1. Borehole (BH) Locations shall be provided by the Project Engineer or the representative of the DPWH-BFDEO Geotechnical Investigation Team.
- 2. Standard Penetration Test (SPT)
  - a. It shall be made at the proposed structure location with the prescribed spacing with a minimum depth, see attached Approved Budget of the Contract (ABC).

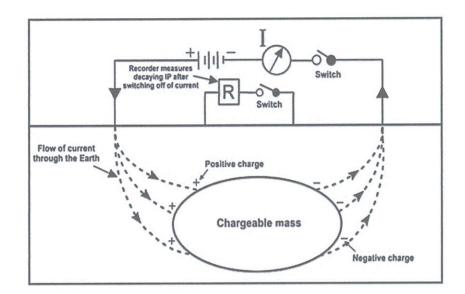
- b. It shall be made at a maximum interval of 1.50 m and at every change of soil layer.
- c. It shall be made with proper measurement of all drilling tools, samplers and casings in all phases to ensure maximum quality and recovery of the sample. The equipment shall follow the minimum technical specifications established by the Bureau of Research and Standards (per DO No. 100, s. 2018)
- 3. Rock Coring
  - a. It shall be conducted if the number of blows of the SPT reaches refusal. Refusal shall be considered if it reaches the following conditions (whenever comes first).
    - i. The rate of advance of the sampler (SPT) is less than one (1) inch (25 mm) for 50 blows
    - ii. If the sampler does not penetrate at all after ten (10) blows, stop the penetration test to avoid damage of the sampler.
  - b. Coring shall be undertaken until a continuous three (3) meters bedrock is reached. For shallower depths, payment shall be adjusted correspondingly. The proposal to extend the depth of Boreholes beyond the specified depth of boring must be officially notified by the Consultant to the DPWH-BFDEO for approval or as officially instructed by the Implementing Office.
- 4. Geo-resistivity Reading

The use of geo-resistivity technology infers the indicative soil/rock profile below the surface prior to foundation design. The configuration used in the survey is a frequency domain under the induced polarization method. In frequency domain, the resistivity of a rock measured with a high frequency is always lower than that measured with a lower frequency because due to dispersion, the magnitude of current increases with increase of frequency.

An alternating current is injected into the ground with variable frequencies. Voltage phase-shifts are measured to evaluate impedance spectrum at different injection frequencies, which is commonly referred to as spectral induced polarization. Spectral induced polarization (SIP) methods measure the polarization relaxation over many frequencies (typically over the range of 0.1–1000 Hz). The voltage decay (in the time domain) and spectral response (in the frequency domain) are caused by the polarization of ions in the electrical double layer at the mineral–fluid interface, by accumulation of electrical charges at pore space constrictions (e.g., pore throats), and by conduction in the pore fluid and

along the fluid-grain boundaries. The gathered data must be summarized, containing the following colors to represent the resistivity of soil/rock:

- Blue Low Resistivity (water, soft mud, soil)
- Yellow Middle Resistivity (soft rock)
- Red High Resistivity (hard rock)



- 5. Sample Handling
  - a. All samples must be clearly, accurately and permanently labeled to show all pertinent information which may be necessary in identifying the sample.
  - b. All samples should be collected from the borehole sampling sites on a daily basis and transported to the field project office or a suitable alternate location.
  - c. Samples should not be left unattended in vehicles.
  - d. Samples intended for laboratory testing should not be held at the site in excess of one week.
- 6. The review and approval of the geotechnical investigation reports by the DPWH-BFDEO do not relieve the Consultant/s from the responsibility of determining the sufficiency and appropriateness of the geotechnical investigation works including the laboratory tests and evaluation of results.
- 7. Preparation and Submission of Reports (Report Outputs and Deliverables):
  - a. Monthly Progress Report (MPR)

During the period of the contract, the Consultant shall prepare Monthly Progress Report (MPR) in a form to be approved by the DPWH qualified representative and submit them to DPWH-BFDEO Planning & Design Section. The MPR shall consist and/or discuss, but shall not be limited to the following:

- i. Overall summary of accomplishment
- ii. Drilling/Boring and Test Pitting progress
- iii. Laboratory tests accomplishment
- iv. Schedule of work
- v. List of equipment used
- vi. Organizational chart
- vii. Detailed progress of charts
- b. Partial Reports on Investigation Results

The Consultant is required to submit partial reports consisting of completed results of boring in the form of a final boring log and soil profile for immediate use in the preliminary design work.

c. Draft and Final Reports

Upon completion of the geotechnical services, the Consultant shall prepare and submit the electronic copies and the draft reports together with draft plans to the DPWH-BFDEO for review. The Consultant shall prepare the final report in three (3) bound copies.

The draft and final report shall include, but not limited to the following:

- i. Field Investigation and Methodology
- ii. Borehole Drilling/Auger Boring/Test Pitting and Sampling
- iii. Laboratory Testing
- iv. Regional Geology (with Satellite Imagery)
- v. Vicinity Maps in Scale of 1:50,000
- vi. Final Boring Logs (BL) and Test Pits Logs
- vii. Final Laboratory Test Results (FLTR)
- viii. Borehole Location Plan showing the Geographic Coordinates in Scale of 1:250
- ix. Soil Profile showing Boring Logs along the Proposed Structure
- x. Recommendations (The type of Proposed Countermeasures to Address Geotechnical Problems and Foundation Type).
- d. Other Data to be Submitted
  - Boring Logs The Consultant shall utilize the standard format for Final Borehole Log and Test Pit/ Auger Hole Drilling provided in DO No. 75, s. 2024 (see attached template/ format).

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ii. Photographs (Geotagged, With Geographic Coordinates)

Photographs showing the borehole drilling and sampling at each proposed site shall be taken by the Consultant and form part of the report. The photographs to be taken shall depict the following:

- Equipment Used
- Rock Coring Operation
- Water Level Measurements
- Performance of SPT Sampling
- All Cores and SPT Sample Placed in Core Boxes
- Date Photographs were Taken
- Location or Station
- iii. Work Schedule

A **schedule of work** noted and approved by the head of DPWH-BFDEO and Geotechnical Investigation Team (GI Team) shall be submitted by the Consultant **before commencing the subsurface exploration**. The subsurface exploration works including laboratory tests shall be completed within the time frame upon receipt of the Notice to Proceed.

#### III. IMPLEMENTATION

#### A. KEY EXPERTS' QUALIFICATION AND REQUIREMENTS

The following experts/professionals and their member shall be required to carry out the consulting services for the project and should have appropriate educational degree, relevant training and adequate years of experience in the conduct of sub-surface soil exploration.

Position/	No. of	Detailed Tasks /	Required
Key Staff	Staff	Responsibilities	Qualifications
Geotechnical Engineer (Team Leader)	1.00	<ul> <li>Overall guidance, direction, supervision and coordination of members of the team</li> <li>Collection and evaluation of geological information on the project sites</li> <li>Study and determination of items and method of</li> </ul>	<ul> <li>Must be a holder of a Master's Degree in Geotechnical Engineering;</li> <li>Must have at least 5-year experience on soil, sub surface</li> </ul>

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	<ul> <li>soil investigation and laboratory test</li> <li>Perform necessary subsoil investigations on representative areas of the site with samples to be taken at suitable intervals</li> <li>Investigate the physical properties of materials to facilitate the design of structures</li> </ul>	and geotechnical survey and study of roads, bridges and related structures.

The consultant shall provide technical and administrative support staff as may require.

### **B. DURATION OF CONSULTANCY SERVICES**

The Consultant's contract period for undertaking the geotechnical investigation shall be **Ninety (90) Calendar Days** and the Consultant shall commence work immediately upon receipt of Notice to Proceed (NTP).

# C. ASSISTANCE TO BE PROVIDED BY THE CLIENT

In connection with the tasks of the Consultant that require inputs and assistance, the DPWH shall ensure that the Consultant has access to all relevant information necessary to the performance of the above services. The Consultant is expected to provide office space and equipment and all other resources necessary for completing the services.

Prepared by:

PASCUA OTDA Planning and Design Section Approved by: ANI C. CAYME, CESE **District Engineer** 

Recommending Approval:

EDGARDO G. ENRIQUEZ Assistant District Engineer