Annex A. TOR

TERMS OF REFERENCE

PROJECT DESCRIPTION

1.1 Background and Rationale:

Landslide is one of the most severe geohazards threatening the interests of human. To prevent great losses of life and property, early hazard appraisal and assessment techniques needed to be implemented. Large landslides developed in rock/soil Mountains often have complex failure mechanism. The distributed safety along the sliding surface is as important as global safety in thoroughly understanding the failure behaviors of the slope. Hence, a convenient and practical approach to evaluate the stability of a slope should be developed which allows for the distributed safety along the sliding surface.

Rocscience Software is the leading geotechnical software in developing 2D and 3D modelling that can analyze virtually on any slopes, no matter what challenges of the slope stabilization are. It was designed to be used for all types of soil and rock slopes which is well-matched to the site condition of our ongoing project sites such as the requirements of seepage analysis, sensitivity analysis, rigid body analysis etc

1.2 Specific Objectives

The specific objectives of the project are the following:

1.2.1 To provide training for KSU project staffs in the operations of the Rocscience Software;

1.2.2 To give some recommendations to the analysis and designs made using Rocscience; and

1.2.3 Capacitate and provide advance knowledge to the project team on the design of engineering intervention for slopes.

SCOPE OF THE SERVICE

1. Train 7 participants (project staff of Project 1) for the operations of identified products of Rocscience software with the specific topics reflected in no.2.2;

2. The specific topics under the corresponding software products of Rocscience software are as follows:

Software	Topics
SLIDE 2.0	2D modeling Integration with CAD drawings
	Seepage analysis
	LEM on unreinforced soils
	Calculation of FOS and locating critical slip failure
	Strength Models - Hoek-brown Criterion - Generalized Hoek-brown - Mohr-Coulumb Criterion - Undrained shear strength

3. Provide recommendations to the analysis and designs made by KSU.
    A total of 20 consultation hours shall be provided by the consultant for the design and analysis made by KSU (exclusive only for a total of 7 sites)

COMMINICATIONS

All communications about this project shall be addressed to the President of the Kalinga State University. During the bidding process, copies of the communication should be provided to the BAC Chairperson and the Head of the BAC Secretariat. A copy of technical queries should also be forwarded to Engr. Rhonjhon Garming.

1.1 President:	DR. EDUARDO T. BAGTANG
1.2 BAC Chairperson	DR. ROMUALDO WACAS
1.3 BAC Secretariat	RONALD B. DALUPING
1.4 Project Leader	ENGR. RHONJHON R. GARMING

ELIGIBILITY REQUIREMENTS

1. Basic
   1.1 The eligibility requirements for this training scheme shall comply with the applicable provisions of Sections 23-24 of IRR of RA 9184.
2. Specialized
   The consultant/firm shall meet the following minimum qualifications:

   a. Preferably at least 5 years' experience in Geotechnical Engineering.
   b. Proficient in Rocscience software.
   c. At least Master's Degree in Geotechnical Engineering.

APPROVED BUDGET COST

The total approved budget cost for the Consultancy & Training Services is **TWO HUNDRED NINETY THOUSAND PESOS (Php 290,000.00)** for a period 2 Months with a total of 20 consultation hours and 5 training days.

TIME FRAME

The Consultancy firm is required to complete the Project within an indicative period as shown below, to start upon the consultant's receipt and signing of Notice to Proceed. The time frame to be followed for the project is as follows:

Design Schedule:

ACTIVITY	MONTH											
	1	2	3	4	5	6	7	8	9	10	11	12
Bidding	→											
Consultancy & Training Services		→										

I hereby certify to deliver all the Requirements and comply with all the above Terms of Reference.

_____   _____
Name of Company/Bidder   Signature Over Printed Name
        Date   of Representative