ANNEXURE A (DETAILED SPECIFICATIONS)

THE PROVISION OF GEO-TECHNICAL SERVICE FOR THE PROPOSED CENTRE OF EXCELLENCE AT THE AGRICULTURAL RESEARCH CENTRE ROODEPLAAT, PRETORIA

RFQ Number:	**VIM01REQ006344**
Compulsory Site Briefing	**11 March 2026 at 11:00**
Closing Date:	**18 March 2026 at 11:00**

Company Name	
Representative Name	
Signature	
Date	

Contents

1. Overview

The Agricultural Research Council (ARC) is proposing to develop farm portions of the ARC campus in Pretoria for future facilities. To develop a township establishment application with the local authorities is required. In order to progress the township establishment process, geotechnical investigations of the farm portions are required. This proposal, therefore, addresses the methodology and scope of the required investigation in line with local regulatory authorities/bodies such as the NHBRC and the local municipality.

1.1. Locality of the Works and Background

The proposed farm boundary is shown in Figure 2-1 below for further reference. Note that this site boundary covers an area of ~ 220 ha, which will need to be investigated in line with local guidelines.

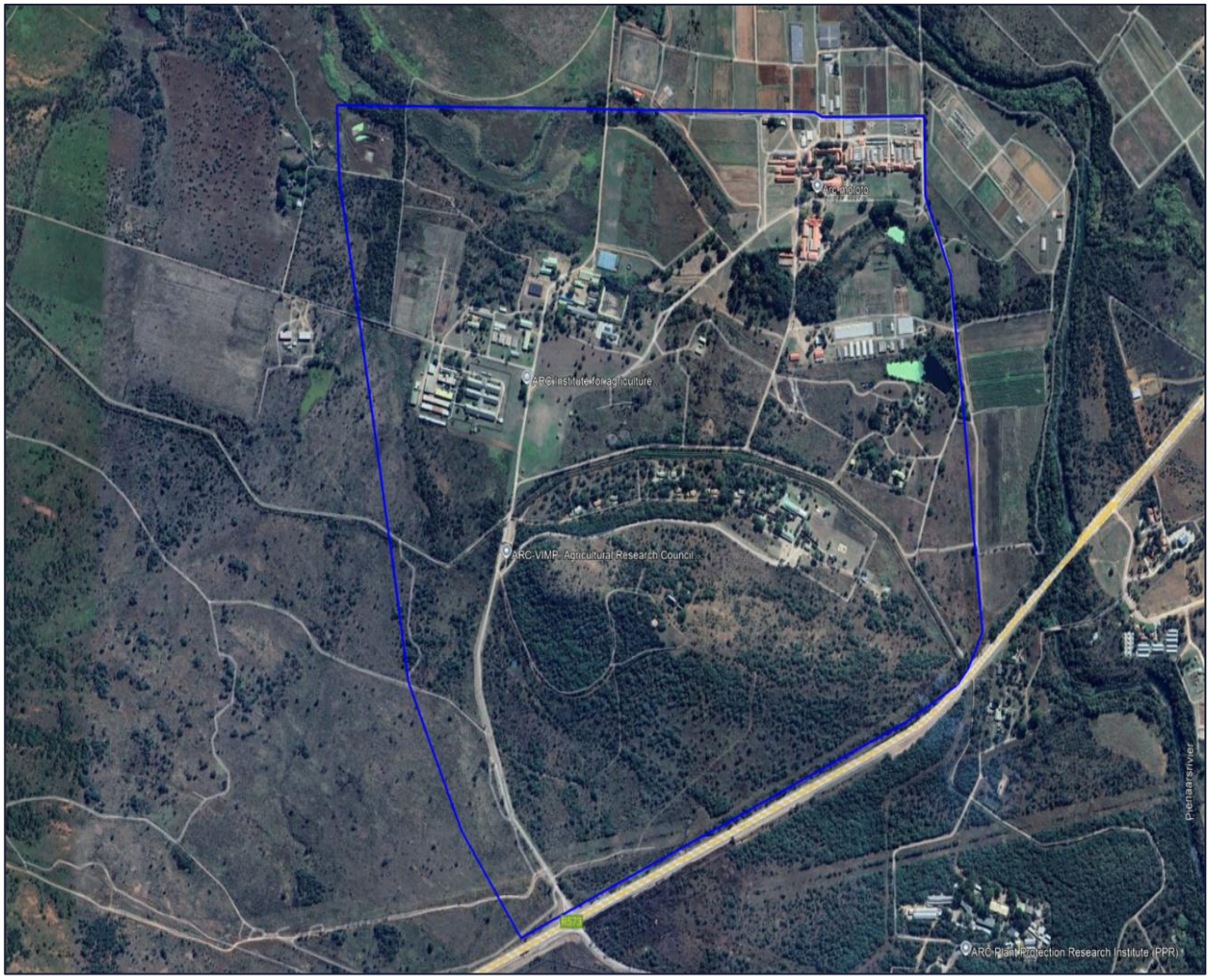

Figure 1-1: Site Locality Map

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2. Geotechnical Investigation

2.1. Background and Terms of Reference

In order to provide the required input to the township establishment application, a geotechnical investigation will be required within the demarcated site boundary. ARC, therefore, requests quotations from prospective Contractors to undertake the required investigation.

The Contractor's appointment will include:

- The appointment and management of sub-contractors (plant hire, laboratory, surveys, etc);
- Mechanical excavation of test pits;
- Soil/rock sampling (undisturbed and disturbed samples);
- Dynamic Probe Superheavy (DPSH) testing;
- Laboratory testing; and
- Reporting.

2.2. Reference Documents

The following reference documents shall apply:

- Site Investigation Code of Practice, 1st Edition, South African Institute of Civil Engineering – Geotechnical Division, January 2010.
- Standard Specifications for Subsurface Investigations, SANRAL, 2010.
- The Safety of Persons Working in Small Diameter Shafts and Test Pits for Geotechnical Engineering Purposes – Codes of Practice, 2007.
- Brink, A. B., and Bruin, R. M. H. (1990). Guidelines for Soil and Rock Logging in South Africa. 2nd Impression 2002. SAICE, SAIEG, and AEGSA: South Africa.
- GFSH-2 (2002). Geotechnical Site Investigations for Housing Developments.

3. Objective

The objective of this document is to set out the scope and quantum of geotechnical works required to be undertaken by the Contractor for the proposed development. The Contractor will be required to supply the necessary equipment, labour, and materials to successfully execute the scope of work and deliver all data and reports in accordance with the specifications.

3.1. Submission Details

3.1.1. Compulsory requirement

The bidder must submit the following relevant documentation as listed below. Bids will be disqualified if not all the documentation below is provided.

- Valid Proof of Public Liability Insurance for at least R1 million or higher.
- Valid Proof of Professional Indemnity Insurance of at least R1 million or higher
- Bidders must attend the compulsory site briefing and sign the register.

3.1.2. Evaluation criteria

Offers will be evaluated on price and technical capabilities. ARC reserves the right to award the contract to whichever Contractor can produce the quality of work expected and within the time for completion.

4. Pricing Data

The following must be considered by the Contractor when pricing the BoQ (this will be used to get pricing for each area, but the company will still be appointed on a total, all-inclusive bid based on **Section 8**).

- Measurement and payment shall be in accordance with the relevant provisions of the Standard Specifications for Subsurface Investigations (2010) issued by SANRAL as amended in the Scope of Works.
- For the Pricing Schedule, the following words shall have the meanings assigned to them:
    - Unit: The unit of measurement for each item of work as defined in the Standard Specifications for Subsurface Investigations (2010) issued by SANRAL
    - Quantity: The number of units of work for each item.
    - Rate: The payment per unit of work.
    - Amount: The product of the quantity and the rate tendered for an item.
    - Lump Sum: An amount tendered for an item, the extent of which is described in the Pricing Schedule, the Scope of Work, or elsewhere, but of which the quantity of work is not measured in units.
    - Provisional Sum: Means a sum (if any) which is specified in the contract as a provisional sum, for the execution of any part of the works or the supply of plant, materials, or services under Section 2 (Provisional sums).
- It will be assumed that prices included in the bills of quantities are based on Acts, Ordinances, Regulations, By-laws, International Standards, and National Standards that were published 28 days before the closing date for tenders. (Refer to www.sabs.co.za for information standards).
- The prices and rates in the Pricing Schedule are fully inclusive prices for the work described under the items. Such prices and rates cover all costs and expenses that may be required in and for the execution of the work described in accordance with the provisions of the Scope of Work, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the Contract Data, as well as overhead charges and profit.

- Where the Scope of Work requires detailed drawings and designs or other information to be provided, all costs associated therewith are deemed to have been provided for and included in the unit rates and sum amount tendered for such items.
- An item against which no price is entered will be considered to be covered by the other prices or rates in the Pricing Schedule.
- The short descriptions of the items of payment given in the Pricing Schedule are only for the purposes of identifying the items. More details regarding the extent of the work entailed under each item appear in the Scope of Work.
- The item numbers appearing in the Pricing Schedule refer to the corresponding item numbers in the Standard Specifications for Subsurface Investigations (2010) issued by SANRAL.

Item no.	Description	Unit	Quantity	Rate	Amount
3	**ESTABLISHMENT AND PROVISION OF RIGS AND EQUIPMENT**				
3.5	Establishment of other plant and equipment				
3.5.2	Tractor-Loader-Backhoe (TLB JCB 3CX or similar)	Lump Sum	1		
3.5.9	DPSH	Lump Sum	1		
TOTAL CARRIED FORWARD TO SUMMARY					
6	**ACCESS**				
6,1	Access tracks				
6.1.2	Tractor-Loader-Backhoe (TLB JCB 3CX or similar)	day	2		
6.2	Reinstatement of access tracks	Lump Sum	1		
TOTAL CARRIED FORWARD TO SUMMARY					
16	**DISTURBED SAMPLING**				
16.1	Samples (Large - 120 kg)	no.	50		
16.2	Samples (Small - 5 kg)	no.	50		
TOTAL CARRIED FORWARD TO SUMMARY					
17	**UNDISTURBED SAMPLING**				
17.1	Block sampling	no.	8		
TOTAL CARRIED FORWARD TO SUMMARY					
24	**DYNAMIC PROBING**				
24.1	DPSH setup at each position	no.	74		
24.2	DPSH (3 m deep)	m	222		
TOTAL CARRIED FORWARD TO SUMMARY					
36	**MACHINE AND HAND TRENCHING**				
36.1	Hand excavation				
36.1.1	Up to 1.5m depth	h	24		
36.2	Machine excavation (test pits)				
36.2.1	Tractor-Loader-Backhoe (TLB CAT 3CX or similar)	day	10		
TOTAL CARRIED FORWARD TO SUMMARY					
37	**STANDING TIME**				
37,1	Standing time				
37.1.2	Tractor-Loader-Backhoe (TLB JCB 3CX or similar)	h	8		
TOTAL CARRIED FORWARD TO SUMMARY					
B43	**LABORATORY TESTING**				
B43.1	Foundation indicator tests (incl grading, hydrometer, Atterberg Limits)	no.	50		
B43.2	Shearbox tests	no.	4		
B43.3	Collapse potential tests	no.	8		
B43.4	pH and conductivity	no.	20		
B43.5	Mod/CBR	no.	20		
B43.6	Triaxial tests (CU)	no.	4		
B43.7	Oedometer tests	No.	8		
TOTAL CARRIED FORWARD TO SUMMARY					

5. Site Access

The Client will provide access to the site for the duration of the project. Within the site itself, the Contractor must, insofar as practicable, utilise existing roads and on-site paths to access positions, unless otherwise instructed by ARC. If the Contractor creates any access tracks, these will need to be reinstated to a condition approved by the Client.

6. Scope of Work

6.1.1. Test Pitting

The investigation shall follow the GFSH-2 suggestion methods, that is,

- Desktop study report review;
- Excavation and profiling of machine and manually excavated (where needed) test pits;
- Dynamic Probe Superheavy (DPSH) testing; and
- Soil sampling for laboratory tests.

The number of test data shall be determined per the extract of the GFSH-2 guideline; ***Figure 1 (1b)****: Minimum frequency of exploratory holes in near-surface soil investigation;* ***Table 4****: Minimum Quantities of Laboratory Testing for Different Sizes of Study Areas*, reproduced in Figure **Error! No text of specified style in document.**-2 and Figure **Error! No text of specified style in document.**-3 below.

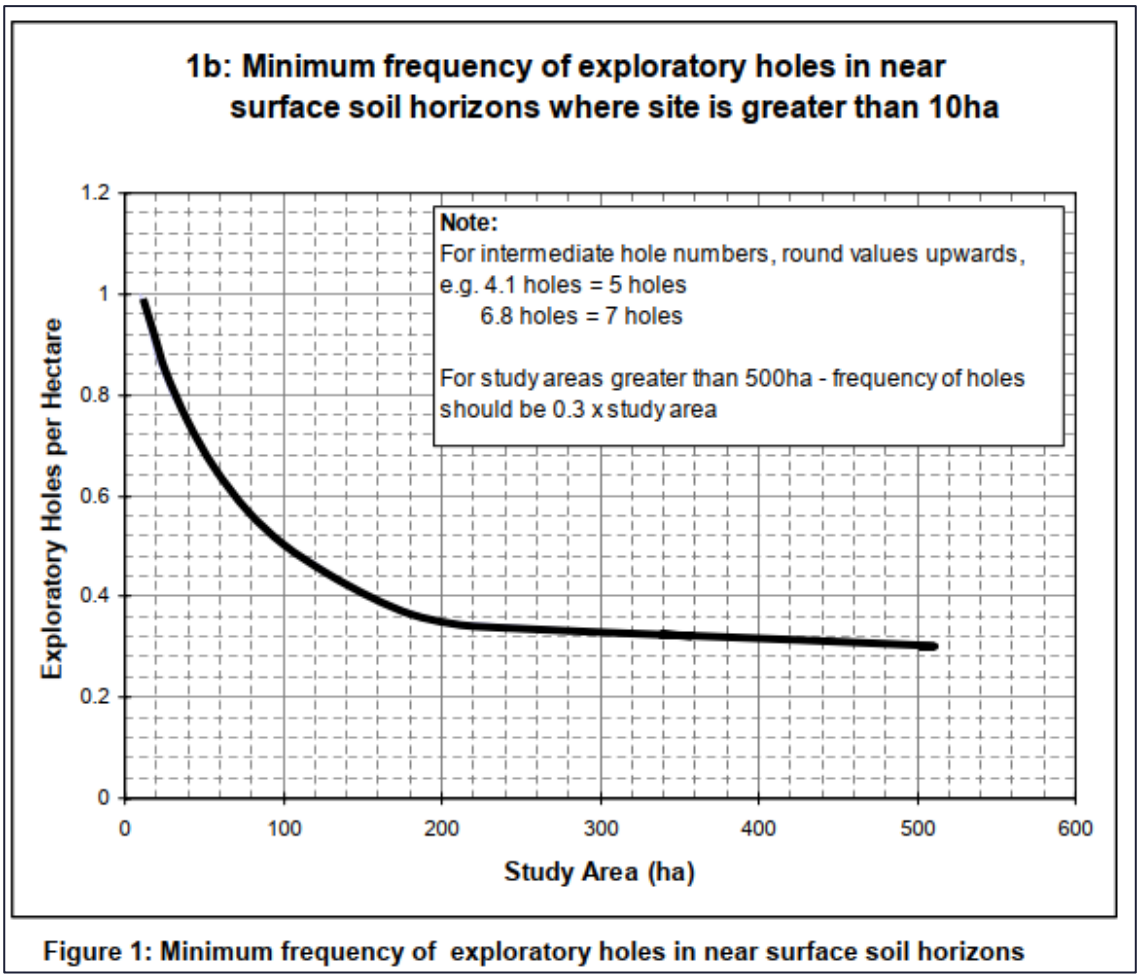

Figure Error! No text of specified style in document.**-2: Frequency of holes**

Table 4: Minimum Quantities of Laboratory Testing for Different Sizes of Study Areas

Study Area (ha)	Foundation Indicator / MC	Consolidometer/ Swell	Chemistry
<5	3	2	2
5 to 10	4	3	2
11 to 20	6	4	3
21 to 50	10	5	5
51 to 100	15	6	10
101 to 200	20	10	10
201 to 500	50	20	10

Figure Error! No text of specified style in document.**-3: Recommended minimum testing quantities**

In summary, this results in about 74. test pits, 50 no. foundation indicators, 20 CBR test, and 10 chemical tests. The engineer will advise supplementary tests in situ and other laboratory tests.

6.1.2. Dynamic Probe Superheavy (DPSH) Tests

DPSH tests will also be conducted adjacent to the test pits to determine material consistency with depth. The Contractor is to supply the DPSH rig and carry out testing adjacent to each test pit to a depth of 3 m below ground or to an earlier refusal.

6.1.3. Laboratory Testing

Disturbed and undisturbed samples will be collected within the trial pits, and the material will be taken to a SANAS-accredited laboratory for testing. Laboratory testing, where relevant, will include the following:

- Foundation indicators (grading/particle size distribution, hydrometer analysis, and Atterberg Limits)
- Moisture content.
- California Bearing Ratio (CBR) and Modified AASTHO (Mod) compaction.
- Shearbox and triaxial tests.
- Collapse potential and oedometers tests.
- pH and conductivity.

6.1.4. Health and Safety

The successful Contractor would have borne the costs of maintaining HSE requirements throughout the contract. The Contractor shall develop a Health and Safety Plan according to Section 40 of the SANRAL (2010) Standard Specification for Subsurface Site Investigations and project specifications (if any).

6.1.5. Provisional Project Schedule

The schedule below is based on the anticipated on-site scope of work. Prospective bidders should aim to submit optimised programmes, as the work should still be delivered by the middle of 2026.

WEEK NO.	1	2	3	4	5	6	7	8	9
Phase									
Planning and contractor appointment, site establishment									
Fieldwork									
Laboratory Testing									
Geotechnical Report									

Please note that the aforementioned programmes are indicative, and the progression of each activity depends on the completion of the preceding activity. Programme delays may result from circumstances beyond control and shall be communicated timeously.

7. SECTION A: EVALUATION

The following documents need to be provided for evaluation:

1. **Company Profile must be provided**
2. **CVs of the people who will be allocated to the project. (Curriculum Vitae of all members of the Professional Team)**
3. **Reference letters (3) of similar work and cost completed.**
4. **Provide a high-level rollout Project Plan.**

Evaluation Criteria

Criteria	***Score***	***Weight***
1. Company Experience		
The bidder must demonstrate that they can render the required service. *Proof of experience in similar projects must be provided, including at least three (3) reference letters for similar work.* • *5 relevant Reference Letters – 5 points* • *4- relevant Reference Letters – 4 points* • *3 relevant Reference Letters – 3 points* • *2 relevant Reference Letters – 2 points* • *1 relevant Reference Letter – 1 Point* • *No Reference Letter – 0 point*		***45***
2. Qualifications and experiences.		
Qualifications *Provide CVs of key staff who will be allocated to this project to enable evaluation of their qualifications and years of experience.* *Lead Consultant to provide evidence of formal education BEng/BSc) in Civil Engineering, Engineering Geology, Geotechnical Engineering, or Geological Science, specialized postgraduate training, as well as practical experience in field investigations and data interpretation.* *Registration as a Professional Engineer (PE) or Professional Engineering Technologist (PrEng / PrTechEng) with bodies such as the Engineering Council of South Africa (ECSA) is essential for signing off on projects.* *Proficiency in geotechnical software (e.g., PLAXIS, GEO5, gINT, Slope/W) for modelling*		***40***

and analysis. ***Experience and Skills*** • ***Field Investigation:*** *Experience in supervising site investigations, including borehole drilling, trial pitting, and in-situ testing (e.g., SPT, CPT, plate load tests).* • ***Soil/Rock Logging:*** *Ability to log soil and rock samples according to current standards (e.g., SAICE/SAIEG guidelines).* • ***Project Experience:*** *5–15+ years of experience in geotechnical design, lateral support, slope stability, and foundation design for infrastructure projects.* *Knowledge of local standards and codes, such as SANS 10400, SANS 10161, and NHBRC requirements for housing developments.* • *Lead Engineer with 10 or more years' experience – 5 points* • *Lead Engineer with 8-9 years' experience – 4 points* • *Lead Engineer with 6-7 years' experience – 3 points* • *Lead Engineer with 3-5 or more years' experience – 2 points* • *Lead Engineer with 1-2 years' experience – 1 point* • *Leader Engineer with less than 1 year experience – 0 point*		
3. Project Plan / Methodology		
Provide a high-level project plan. • *Detail Project Plan with value-added services – 5 points* • *Detail Project Plan – 4 points* • *High-level Project Plan - 3 points* • *Project Plan with limited information – 2 points* • *Project plan with no information – 1 point* • *No Project plan – 0 Point*		**15**

TOTAL		**100%**
Only bidders who score a minimum of 60% on the technical evaluation will be considered for further evaluation		

8. SECTION B: PRICE

Fixed price based on the scope of work and site visit, and aligned to the completed BoQ as per **Section 4.**

Geotechnical Consultancy Services	R
15% Contingency	R
VAT at 15%	R
Total	R