

TERMS OF REFERENCE FOR THE APPOINTMENT OF A BUILT ENVIRONMENT PROFESSIONAL AS A LEAD CONSULTANT FOR THE PROVISION OF FULL MULTI-DISCIPLINARY PROFESSIONAL CONSULTANCY AND SPECIALIST SERVICES TO UNDERTAKE 3D LASER SCANNING SERVICES (SCAN TO BIM) AND DETAILED CONDITIONAL ASSESSMENTS FOR PURPOSES OF GENERATING DETAILED AS-BUILT 2D & 3D CAD DRAWINGS AND DETAILED CONDITIONAL ASSESSMENT REPORTS OF THE EXISTING INFRASTRUCTURE.

"Deliverables" means services to be delivered as specified in this bid

"Electrical Engineer" means a Professional Electrical Engineer registered in terms of the Engineering Profession Act 2000 (Act No. 46 of 2000)

"Facility" or "Facilities" means a building or buildings, including Sites and any other permanent fixed structure on or related to a Site;

"Fees and/or tariff of fees" means payment made to a consultant in exchange for advice or services.

"Lead Consultant" means a built environment practice or firm that is professionally registered that shall enter into a contract with the client to provide full multidisciplinary professional services prescribed as by the client. and who has assumed full liability and responsibility for the provision of deliverables pursuant to the Agreement either as a single entity or a lead entity engaging other sub consultants or subcontractors;

"Mechanical Engineer" means a Professional Mechanical Engineer registered in terms of the Engineering Profession Act 2000 (Act No. 46 of 2000).

"Multi-disciplinary Professional Practice" means a practice that provides all the core disciplinary professional services (Architectural, Quantity Surveying, Civil & Structural Engineering, Electrical & Mechanical Engineering), of which each professional division/section in the practice is under the fulltime supervision of a registered professional in that specific profession and, and which is owned and controlled by registered professionals, by at least a percentage determined by the relevant Council in its Code of Professional Conduct.

"Non-Invasive Inspection" means the same as visual Inspection or non-destructive testing and means an evaluation of the physical condition of building Components to determine maintenance and repair requirements by Visual Inspection, document review, and interview methods. This type of inspection does not include specialized metering, destructive testing, or disassembly of building Components;

"Principal" means the proprietor, partner, director or member who bears the risks of practice and takes full responsibility for the potential liabilities of practice.

"Project" means the total development envisaged by the client, including the professional services.

"Project Initiation programme" is the programme devised by the Lead Consultant in consultation with their sub consultants and the client defining all the work necessary to be completed.

"Quantity Surveyor" means a Professional Quantity Surveyor registered in terms of the Quantity Surveying Profession Act 2000 (Act No. 49 of 2000)

"Rates" means the maximum price for the deliverables as set out in the Proponent's

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submitted pricing schedule

“Renewal” means the repair and replacement of building components that are not functioning properly because, for example, they are nearing the end of their Useful lives or are defective;

“Required Action” means a strategy for correcting a Requirement that includes the scope of work to be done and an itemized estimate of its cost (line items)

“Requirement” means a facility need or a deficient condition that should be addressed, including deferred maintenance, code issues, functional requirements, and capital improvements. A Requirement can affect an assembly, piece of equipment, or any other system. It is assigned a category, priority, and system in order for its costs to be categorized appropriately and time frame for action assigned;

“Services” means all the services, work to be provided or performed by the Lead Consultant, under the Agreement, and includes everything that is necessary to be supplied, provided or delivered by the Lead Consultant.

“Site” means the land or grounds associated with a Client’s Facility.

“Specialist” means a built environment professional highly skilled in a specific and restricted field.

“Structural Engineer” means a Professional Structural Engineer registered in terms of the Engineering Profession Act 2000 (Act No. 46 of 2000)

“Sub-consultant” means all professionally registered firms, other than employees of the Lead Consultant, who the Lead consultant appoints to provide built environment professional services for the client.

“Team Leader” means a professional in charge of guiding, monitoring and leading an entire group of people or consultants. They are responsible for clear communication within the team so that all consultants can work together towards achieving the project goals.

A1.3 LOCATION OF PROJECT

The location of the project is the existing Hammanskraal Police College located at Harry Gwala Ave, Hammanskraal West, Pretoria, 0400 (Latitude: -25.40479 Longitude: 28.27506)

A1.4 SCOPE OF SERVICE

SAPS *‘the client’* is soliciting the services of a Lead Consultant who will constitute a multidisciplinary team of professionals and specialists to undertake 3D laser scanning services (Work Package 1) and detailed conditional assessment services (Work Package 2) of the entire infrastructure in the existing Hammanskraal Police College for the purposes of generating 2D & 3D CAD detailed as-built drawings, models and documentation for client utilization in campus planning, renovation planning, space validation and facilities management.

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The appointed Lead consultant will be responsible for the appointment of a rest of the multi-disciplinary consultancy team and specialist service providers who shall mainly consist of the following sub consultants:

A1.4.1. 3D Laser Scanning and BIM Modeling Specialists

3D Laser Scanning of all existing infrastructure within the college and utilizing the 3D point cloud data acquired to prepare 2D CAD as-built drawings and 3D BIM model in Autodesk Revit software 2020 or the latest LOD 300 model to an accuracy level of <10mm.

A1.4.2. Architects

Standard and full Architectural services for the Compilation of As-Built documentation and conducting a comprehensive condition Assessment works for institutional buildings as per the latest Guideline for Scope of Service for such Persons Registered in terms of the Architectural Profession Act, 2000 (Act No 44 of 2000)

A1.4.3. Quantity Surveyors

Standard and full quantity surveying services for the Compilation of As-Built, Bills of quantities documentation and conducting a comprehensive condition Assessment works for institutional buildings as per the latest Guideline for Scope of Service for such Persons Registered in terms of the Quantity Surveying Profession Act, 2000 (Act No. 49 of 2000).

A1.4.4. Civil & Structural Engineers

Engineering Services Standard and full engineering services under each engineering discipline for the compilation of As-Built Engineering Services drawings and conducting a comprehensive condition assessment works for institutional buildings as per the latest Guideline for Scope of Service for such Persons Registered in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000).

A1.4.5. Electrical & Mechanical Engineers

Engineering Services Standard and full engineering services under each engineering discipline for the Compilation of As-Built Engineering Services drawings and conducting a comprehensive condition assessment works for institutional buildings as per the latest Guideline for Scope of Service for such Persons Registered in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000).

NB: Additional specialists required shall be appointed on Lead consultant recommendation and client formal approval. Remuneration of these additional specialists shall be on quotation basis as part of the disbursements.

The Lead Consultant and team upon appointment shall have access to all areas possible at the time of the scans and conditional assessments. The team shall be escorted by SAPS Hammanskraal Academy personnel at all times for security reasons.

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A1.5 SCOPE OF WORKS

The existing Hammanskraal police college consists of the following building typologies: Office buildings, housing facilities, academic facilities, sports and recreational facilities, shooting range, dining facilities, student services facilities, service and storage facilities, security buildings and parking decks.

NB: A Site Sketch Layout for Buildings on Site. All Buildings on Site to be part of Work Package 1 and Work Package 2 Output.

The scope of works / infrastructure scanning, surveys and documentation shall include but not limited to;

- building structures, exterior and foundations
- building interiors and finishes
- site improvements around a building (e.g. sculptures, driveways, footpaths, retaining walls)
- car parks, recreational facilities, fences
- fire detection and other safety systems
- heating, ventilation and air conditioning systems
- electrical power systems, including emergency power generation facilities
- building data and communication facilities
- plumbing and sewerage (above and below ground)
- elevators, escalators and people movers
- enclosed/unenclosed walkways and corridors
- building management and control systems
- access control and surveillance systems
- stage and performance-related facilities
- Built-in artworks and sculptures.
- Topographical surveys

The scope of works is NOT exhaustive and the tenderer is expected to include items that are deemed appropriate.

A1.5.1. Estimated Area of the Site and Buildings

Estimated Building Area: 57 893sqm

Estimated Site Area: 34,8 hectares

(The bidders will be responsible for the accuracy of the total building area, area to include all the buildings on site. The bidders to take note to include all buildings within the Hammanskraal SAPS Academy boundary.)

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A1.5.2. 3D laser Scanning, BIM Modelling and Surveyors Services (Works Package 1)

The 3D laser scanning service is intended to capture all building floor layouts, elevations, structural configurations, services layouts, roof plans, site infrastructure, topographical survey data, exterior and interior existing building conditions. The service provider shall be expected to utilize the 3D point cloud data acquired to prepare 2D CAD as-built drawings (in dwg & pdf formats) and 3D BIM model in Autodesk Revit software 2020 or the latest (**LOD 300 model**) and conditional assessment report in MS Word and/or MS excel for purposes of undertaking refurbishments and/or extensions.

Field laser scanning devices may be hand held, tripod mounted, or on a spatial scanning cart. The 3D point cloud data will be part of the deliverables to SAPS Some incidental areas may not be accessible and will need to be interpolated from the surrounding data and the 2D documentation.

The Consultant who will validate the scan data with the existing building documents should construct the Revit model. The structural grid and components must be validated first. The team will then convert the data to 3D Revit objects by spatial interpretation and discovery from the existing 2D documents. These objects will include walls, doors, ceiling and lighting systems, casework and built-in appliances, plumbing fixtures, interior and exterior storefront systems, exterior facades, curtain wall systems. Wall and door types shall be modeled with the actual existing types.

The existing mechanical and electrical rooms will be scanned and major equipment in these rooms will be identified and modeled by the vendor. Roof level conditions and roof top mounted equipment will also be identified and modeled by the vendor.

The service provider shall be expected to filter spurious points, e.g. digital artefacts, measurement noise etc. The consistency of the point cloud must be ensured. Temporary objects must be removed from the point cloud including people, vehicles, scaffolding etc. The 3D point cloud model has to be divided into sub areas (e.g. different platform elevations or buildings).

*****The service provider will perform quality control reviews throughout the data conversion process and shall resolve any ambiguities between the point cloud data and the actual components on site to an approximate accuracy level of <10mm.**

A1.5.3. Condition Assessment (Work Package 2)

The Lead Consultant and team will be required to conduct a detailed condition assessment and produce detailed conditional assessment report (with quantities and estimates) as part of Work Package 2. The condition assessment is required in order to deduce the extent of wear and tear of the fabric, structure, roof, finishes and services (bulk & intermediary) of the facilities within the college.

The conditional assessment will focus on all the areas inclusive but not limited to (toilets,

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ablutions, urinals, flooring, tiling, plumbing, built-in cupboards, doors, external areas (paving etc.). Internal and external finishes, services (electrical, water, sewer, storm-water & drainage, potable water and fire), supply networks, fire suppression system and piping, sprinklers, smoke detectors, roller shutter doors, HVAC, building fabric (core structure, roofs, facades, cladding, gutters, downpipes, window frames, screeds, finishes, signage, circulation spaces, common use areas etc.) needs to be assessed and its condition documented. Extent of non-compliances of current installations, layouts and common use infrastructure shall be documented as part of the condition assessment.

In addition, the team shall be required to undertake the following Engineering investigations namely:

- **Geotechnical investigations & Topographical Surveys** - geotechnical and topographical survey services to identify potential issues with ongoing management and development of the site.
- **Structural integrity investigations** - a review of assets, including testing of structural members for any sign of deterioration, failure or corrosion. Service includes preparation of a report identifying any recommendations for rectification, review or replacement.
- **Civil Infrastructure investigations** – condition assessment of existing waste water management and storm water management.
- **Electrical/mechanical investigations** - specific investigations of electrical or mechanical service installations in relation to operating performance, failure, upgrading/enhancement, additions etc.

The strategy is to conduct a condition assessment of relevant buildings and areas such that a more accurate scope of work, cost estimate, and nature of refurbishment work can be determined.

In addition, the Lead Consultant shall be required to undertake the following audits as part of the conditional assessment exercise:

- **Building code audits** – review of existing building facilities for compliance with the current building code (including the minimum standards provision of mandatory equitable access to buildings for people with disabilities), identification of areas of non-compliance, and development of strategies and recommendations to either comply with the code or seek exemption.
- **Fire safety audits** – review of existing building facilities for compliance with current legislation pertaining to fire safety, identification of areas of non-compliance, and development of strategies and recommendations to comply.
- **Town planning code audits** – review of existing building facilities for compliance with current legislation pertaining to planning and development, identification of areas of

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noncompliance, and development of strategies and recommendations to either comply or seek exemption.

- **Health and amenity audits** – review of existing building facilities for compliance with current legislation pertaining to health and amenity, identification of areas of non-compliance and development of strategies and recommendations to either comply or seek exemption.
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- **Functionality audits** - review of existing building facilities in terms of their suitability for current or future functions. This includes identification of options for refurbishment, redevelopment, or change in usage.
- **Utilisation audits** – review of existing building facilities to assess the current utilization levels, identification of areas of non-compliance with performance targets, development of strategies/options and recommendations to address over/under utilization.
- **Energy management audit**- review of current energy usage and operational practices, including the development of options for savings based on improved consumption practices and operational, maintenance and systemic changes.
- **Environmental audit** - review of existing building facilities for compliance with current legislation pertaining to environmental protection, identification of areas of non-compliance and development of strategies and recommendations to either comply or seek exemption.
- **Risk management audit** - review of existing building facilities for identification and prioritisation of risk associated with the use of the facilities as well as the facility itself. The review to include the audit of risks to the health and safety of occupants and visitors, the environment and the surrounding community. Recommendations are provided on how to eliminate, mitigate or manage the risks.
- **Water management audit** - review of current water usage and operational practices, including the development of options for savings based on improved consumption practices and operational, maintenance and systemic changes.

Once the extent and details of the current condition of the facilities have been documented, the team will be expected to make recommendations to the client about the extent (detail and scope of work) of the proposed refurbishments, which needs to be undertaken to extend the life of the buildings.

Based on the condition assessment, recommendations of the extent and details of refurbishment work required will need to be presented to the Employer. In making recommendations, the team will need to present at least two (2) recommended options

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for the client to choose from.

The recommendations need to take into consideration suitability to operations, cost effectiveness, life cycle cost benefits, green building principles, energy savings, local materials or installations, local manufacturers and suppliers, aesthetic appeal, user friendliness of services, etc. of those new installations and the applicable building regulations, SANS and Municipal Authority requirements.

A1.5.4. Delivery of Work Packages

The Lead Consultant and their sub consultants upon appointment must apply their minds on how work package 1 & 2 can be delivered. The Client is of the opinion that work package 1 & 2 can be programmed or scheduled for delivery at the same time. However, as part of your proposed work plan or programme or schedule, consultants can submit proposal of implementation that strictly adheres to the prescribed 10-months contract duration.

NB: The scope of service above constitutes an estimate and is supplied solely as a guideline to the bidder. Such information is not guaranteed, represented, or warranted to be accurate, nor is it necessarily comprehensive or exhaustive. Nothing in this bid is intended to relieve the bidder from forming its own opinions and conclusions with respect to the extent of the works.

A compulsory site briefing meeting shall be held to allow the bidder to familiarize themselves with the scope..

A1.6 DELIVERABLES

The following is summary of expected minimum deliverables per work packages:

1.6.1 3D laser Scanning, BIM Modelling and Surveyors Services (Works Package 1)

- 3D Laser Scanning of all existing infrastructure within the college (buildings, services, boundaries, roads and vegetation etc.). The service provider shall be expected to utilize the 3D point cloud data acquired to prepare 2D CAD as-built drawings and 3D BIM model in Autodesk Revit software 2020 or the latest (LOD 300 model). 3D point cloud data in Autodesk Recap format and the 3D AutoCAD model(s) in the current version of AutoCAD (to an accuracy level of <10mm). Colorization to be Grayscale (intensity values), standard.
- Measurement and generation of As-Built (Architectural, Electrical, Mechanical, Civil, Structural and Fire) 2D & 3D CAD drawings and documentation (Plans, Sections, Elevations, Door and Window Schedules, Building Services Drawings and photographs) in dwg & pdf format. 2D CAD drawings in current version of AutoCAD (dwg format and PDF) as well as 3 set of hard copy drawings of the floor plans, elevations, sections, building services drawings, survey maps (to an accuracy level of <10mm).

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1.6.2 Detailed Conditional Assessment (Works Package 2)

- Detailed and quantified Conditional Assessment Reports, Building Audit and Existing Infrastructure Technical Specification and schedules (Architectural, Electrical, Mechanical, Civil, Structural and Fire) for all buildings with quantities (Including but not limited to all building elements, services, Equipment schedules, Door and Window Schedules, Finishes Schedules and Photographs) in (dwg, pdf, MS Word and/or MS excel.
- Technical Documentation (drawings, data sheets, technical specification, schedules etc.) and Bill of Quantities with cost estimates of recommended maintenance and refurbishment options in dwg, pdf, MS Word and/or MS excel formats.
- Topographical Surveys including Benchmarks of all buildings, Site boundary layout, vegetation, landmarks etc
- Geotechnical Surveys
- Engineering Test reports

NB: The above deliverables are not exhaustive, and the successful bidder will be expected to provide technical proposal to outline their detailed schedule of deliverables including scope inclusions and exclusions as per their understanding of project, methodology and priced offer.

A1.7 PROJECT DURATION / PRELIMINARY TARGET DATES

The term of the contract is to be **10 months**. The Lead Consultant upon appointment shall be expected to submit a programme of works indicating tasks to be undertaken within the project duration and cash flow projections per task based on the fees offered.

Estimated milestone dates for delivery of this project are as follows:

MAJOR MILESTONE	DURATION
Procurement & Consultant Appointment	3 Months
Work Package 1	4.5 Months
On site 3D laser Scanning Surveys & Desktop Studies	1 Month
Draft Documentation & BIM Modelling	1 Month
Client Presentation & Approval	0.5 Months
Final Report & Laser Scanning Documentation	2 Months
Work Package 2	5.5 Months
On Site Conditional Assessments and Desktop Studies	2 Months
Draft Technical Documentation & Cost Estimates	1Month
Client Presentation & Approval	0.5 Months
Final Technical Documentation & Bills of Quantities	2 Months

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Consolidated Detailed Reports, Technical Documentation and BoQ.	1.5 Months
Final Client Presentation Handover & Sign off	2 Weeks

****The above dates are high level and indicative but can be used to inform assumptions of the tenderers proposed work plan / programme / schedule AND approach / methodology.**

NB: A program for delivery of the project is required and must be updated at intervals not exceeding 4 weeks.

A1.8 TEAM COMPOSITION

The project team composition and level of responsibility shall be in strict accordance to the prescribed Identification of work (IDoW) categories in the respective board notices. The following seven (7 No.) **Professionals** shall be the minimum team composition that the Lead Consultant shall be expected to provide for the project. **Proof of all professional registrations must be attached and failure to do so shall result in disqualification. Proof must be in the form of Council Certificates or Letter of Good Standing from the respective Councils. Failure to meet the minimum post-registration experience will also lead to disqualification.**

A1.8.1 Professional Construction Project Manager - Registered with SACPCMP (*with a minimum of 3 years' experience post registration*)

A1.8.2 Professional Architect - Registered with SACAP (*with a minimum of 3 years' experience post registration*)

A1.8.3 Professional Quantity Surveyor - Registered with SACQSP (*with a minimum of 3 years' experience post registration*)

A1.8.4 Professional Structural Engineer - Registered with ECSA (*with a minimum of 3 years' experience post registration*)/ Professional Structural Technologist – Registered with ECSA (*with a minimum of 5 years' experience post registration*)

A1.8.5 Professional Civil Engineer - Registered with ECSA (*with a minimum of 3 years' experience post registration*)/ Professional Civil Technologist – Registered with ECSA (*with a minimum of 5 years' experience post registration*)

A1.8.6 Professional Electrical Engineer with built environment experience - Registered with ECSA (*with a minimum of 3 years' experience post registration*)/ Professional Electrical Technologist with built environment experience – Registered with ECSA (*with a minimum of 5 years' experience post registration*)

A1.8.7 Professional Mechanical Engineer- Registered with **ECSA** (*with a minimum of 3 years' experience post registration*) / Professional Mechanical Technologist with built

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environment experience - Registered with ECSA (*with a minimum of 5 years' experience post registration*)

The Lead Consultant shall be expected to provide team members and specialists that are professionally competent i.e. have the relevant training, qualifications, ability, aptitude, experience and, where required by law, the appropriate registration, to undertake the tasks assigned.

The Lead Consultant shall be expected to submit together with their bid all designated Professionals or specialty service providers/sub-service providers to be used for the project.

NB: The Lead Consultant shall be expected to seek client approval prior to making any substitutions or changes to the team members approved on appointment. The Lead Consultant shall formally request substitution of any team professional member. Proposed new team member curriculum vitae and professional qualifications must meet the minimum qualification prescribed for the position should be submitted.

****** All project meetings shall be attended by all disciplines in the multidisciplinary team and representation shall be the professionally registered professional / service provider of each particular discipline as per CVs approved.**

Any deviation from this provision may result in the cancellation of this agreement.

A1.9 COMPULSORY BRIEFING SESSION

****Bidders shall be expected to attend a compulsory site briefing to review the scale of project and get a detailed briefing of the scope to assist them to submit responsive bids. The Bidder is to submit the signed Site Briefing Certificate with their tender documentation. It is compulsory for the Lead Consultants practice to be printed on the Site Briefing Certificate which needs to be signed by an SAPS member during the Site Briefing.**

A1.10 CLIENT REPRESENTATIVE

The Client Representative for the project upon award.
SAPS Construction Project Manager: **Colonel T Tlolane**
SAPS Construction Project Manager: **Lt Colonel Noqobo**
SAPS: Facility Management
Programme & Project Management Unit
Email: TlolaneT@saps.gov.za
Email: Noqobovuyokazi@saps.gov.za

The SAPS reserves the right to replace the mentioned Client Representative or Departmental Project Manager with another member of its staff.

A1.11 INFORMATION REQUIRED FROM THE LEAD CONSULTANT

The following technical proposal documentation shall form part of the **COMPULSORY**

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documentation required in Project Execution Plan prior to commencement of works.

NB: The successful bidder will be expected to provide the detailed technical document to outline their detailed schedule of deliverables including scope inclusions and exclusions as per their understanding of project, methodology and priced offer.

Technical proposal submittals shall consist of three (3) complete copies and one (1) electronic copy (pdf format on a 5MB or less USB drive) of the following:

Section 1: Methodology and Work Plan

- 1.1 Reiteration of the description of work and the description of the project, including additional agreements, e.g. from on-site briefing meeting, clarification emails, etc.
- 1.2 Work Approach and Implementation Strategy
- 1.3 Description or specification of the scan areas: Estimated number of scan positions - If necessary, dimensions (width, length, height)
- 1.4 Scanner capabilities (temperature range, maximum humidity, use in potentially explosive atmospheres)
- 1.5 Description of conditional assessment strategy
- 1.6 Project management Strategy
- 1.7 Key Deliverables
- 1.8 Risk Management

Section 2: Timeframe and schedule

- 2.1 Schedule of execution and Deliverables
- 2.2 Date(s) when scanning and conditional assessment can start in keeping with the duration of the contract
- 2.3 Key Deliverables and Projected Cash flows

Section 3: Proposed Project Team (Including Company Profiles Team CVs and Professional Registrations)

- 3.1 Project management Team
- 3.2 Laser Scanning Team
- 3.3 Conditional assessment Team (Built Environment Professional for each discipline outlined in A1.4)
- 3.4 Topographical and Geotechnical Survey Team
- 3.5 Other Necessary Specialists (If Any)

Section 4: Quality assurance

- 4.1 Calibration records of instruments
- 4.2 Quality control during the project
- 4.3 Information on archiving of raw data and project data
- 4.4 Document Control Strategy
- 4.5 Privacy and nondisclosure

The PEP will form the basis for monitoring the performance of the Lead Consultant and their sub consultants.

NB: The Lead Consultant shall be expected to seek client approval prior to making any substitutions or changes to the team members approved on appointment. The Lead Consultant shall formally request substitution of any team professional member.

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Proposed new team member curriculum vitae and professional qualifications must meet the minimum qualification prescribed for the position should be submitted.

Any deviation from this provision may result in the cancellation of this agreement.

B1 PERCENTAGE BASED FEES (AS INCREASED OR DECREASED)

B1.1 REMUNERATION FOR SERVICES

The Fees shall be percentage based as per the offer by the bidder in the activity schedules. The percentage of the **fees tendered** shall apply to each stage for services provided.

The Lead Consultant shall submit invoices on successful completion and client APPROVAL of each work stage as prescribed in the apportionment schedule herein.

B1.2 PAYMENTS OF FEES

The fees are based on the following parameters;

- a) Scope of services;
- b) Scope of the **project/works**;
- c) **Project** programme;

Interim payments shall be done on a STAGE-by-STAGE basis and only once the full multi-disciplinary team has met the deliverables of the particular task as outlined in the schedule of deliverables.

All fee accounts must be accompanied by an updated original written certification by the Professional Quantity Surveyor, of the amount(s) on which your fees are based and read in conjunction with your Appointment Letter.

B1.3 FEE INCLUSIONS AND EXCLUSIONS

The Lead Consultant must, in the price offer, make provision for, and include all, professional costs for involvement in the provision of all services outline in this terms of reference including attendance to all their sub-consultants.

No professional fees, in excess of what was tendered, will be considered for professional work performed, and time spent, by the Lead Consultant in any matters associated with these items.

B1.4 TIME CHARGES FOR WORK DONE UNDER A PERCENTAGE BASED FEE

Not applicable

B1.5 FEES FOR ALTERNATIVE TENDERS

No fee shall be payable for documentation prepared for alternative tenders involving the mere substitution of material not requiring any measurements or calculation.

TERMS OF REFERENCE FOR THE APPOINTMENT OF A BUILT ENVIRONMENT PROFESSIONAL AS A LEAD CONSULTANT FOR THE PROVISION OF FULL MULTI-DISCIPLINARY PROFESSIONAL CONSULTANCY AND SPECIALIST SERVICES TO UNDERTAKE 3D LASER SCANNING SERVICES (SCAN TO BIM) AND DETAILED CONDITIONAL ASSESSMENTS FOR PURPOSES OF GENERATING DETAILED AS-BUILT 2D & 3D CAD DRAWINGS AND DETAILED CONDITIONAL ASSESSMENT REPORTS OF THE EXISTING INFRASTRUCTURE.

B1.6 CANCELLATION OR ABANDONMENT

Should instructions having been given by the **client** to the **Lead Consultant** to proceed with any scope of **services** set out in clause A1.4 and the whole or part of the **works** is cancelled or abandoned, the Lead Consultant shall be remunerated for these services in accordance with the provisions set out in the relevant clauses in this agreement.

B1.7 EXTENDED INITIAL CONTRACTUAL CONTRACT PERIOD

In the event of the initial **contract** period being exceeded by more than 30 per cent, through no fault of the **professional consultancy team**, the **Lead Consultant** shall be remunerated for all additional work over and above the period exceeding the additional 30%, resulting from the extension of time. The hourly rates according to the then current departmental hourly rate together with related reimbursable shall apply.

NB: This clause supersedes any provisions made in all board notices mentioned in the terms of reference in regard to fees on extended initial contractual contract period.

B1.8 ADDITIONAL SERVICES

The **Lead Consultant** shall be expected to obtain approval for any additional services that are beyond the services prescribed in this agreement. The basis of remuneration of these services shall be negotiated and agreed upon between the Lead Consultant and the client prior to approval and commencement of the works.

B1.9 QUALITY ASSURANCE SYSTEM

No separate payment shall be made for the implementation of a quality management system in line with available and accepted qualitymanagement standards as contemplated in any prevailing legislation which has a bearing on the execution of any of the duties of the Lead Consultant and the project team, including but not limited to the relevant legislation applicable to each of the respective consultant disciplines and its respective Codes of Conduct.

The cost of providing this service shall be deemed included in the fee tendered.

Project Execution Plan (PEP) shall be required to demonstrate how Total Quality Assurance will be executed and managed for the duration of the appointment. It is expected that, a comprehensive Quality Assurance Report shall be updated and submitted every second month to SAPS Departmental Project Manager without fail.

B1.10 PROFESSIONAL INDEMNITY

Each discipline shall be expected to provide professional indemnity insurance to an amount equal to one and a half times the fees offered, and shall, upon appointment, issue to the client a valid certificate to that effect from the underwriting company or broker.

The **Lead Consultant** shall for the duration of the project ensure that the full multidisciplinary professional team maintains their professional status and shall provide proof of all

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professional status from the relevant governing bodies as when called upon by the client.

B1.11 LIMIT OF LIABILITY

The minimum amount of compensation payable by the Lead Consultant to the Client in respect of liability under this agreement or as a result of work executed in terms of this agreement is limited to an amount equal to TWICE the amount of fees payable by the client to the Lead Consultant under agreement, or any amount becoming available under the professional indemnity insurance stated in the schedule (with the Lead Consultant contributing any excess, required in terms of the professional indemnity insurance), whichever is the highest.

B1.12 SET OFF

The Client reserves the right to set off against any amount payable to the Lead Consultant, any sum owed by the Lead Consultant to the Client in respect of this or any other project.

B1.13 PROJECT REPORTS AND DRAWINGS

It is a requirement that the Lead Consultant furnish for all sub consultants/service providers prescribed the following documentation:

- Submit 3 copies of all initial reports in original format.
- Submit all subsequent reports and information in digital format (PDF, excel or word) where possible and were requested to do so by the Client.
- Submit drawings in digital format (DWG/DXF/CXF and PDF).
- Use SAPS logos, frames, addresses and covers on your final reports, drawings, all documentation- although it will be allowed that internal documentation to carry the details of the applicable firms or professionals.
- All reports and drawings must be submitted for approval before payments can be claimed.
- No report, investigation, application or drawing may be submitted to a third party without the prior written approval of the Principal Agent.
- The information related to this project may not be used by your company for any purpose than approved by the Client and may never be sold, exposed or traded with a third party.

C PRICING PREAMBLES

C.1 ACTIVITY SCHEDULES

Work Package 1: Works being specialist in nature, the Activity schedule shall be based on specialist descriptions and rates itemized in detail as pertains undertaking the required scope of works prescribed in these terms of reference and detailed in section D1.1

Work Package 2: Activity schedule shall be based the tasks prescribed under the scope of works and corresponding tariff of fees prescribed by their relevant professional statutory board notices prescribed in these terms of reference and outline in section D 2.2

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The **Lead Consultant** shall make provision for the cost of the additional services that are to be included other than the normal services by adjusting the percentage tendered in column (b) of the activity schedules for each discipline as may be required. The Lead Consultant must make provision for all activities they consider necessary for the execution of the works as set out in the Scope of Works.

NB: Scope of Service shall be limited to the scope of works and final offer. Financial and procurement authority will have to be obtained prior to the continuation of any services exceeding the fees offered and/or scope of work.

Bidders are advised to scrutinize available documentation and allow for in their pricing for additional work required relating to site-specific requirements if ANY.

C2 APPORTIONMENT OF FEES FOR PROFESSIONAL SERVICES

WORK PACKAGE 1		
Project Stages	Description	Percentage Fees Due
Stage 1	PEP Report	5%
Stage 2	3D Laser Scanning Documentation & BIM Modelling	20%
Stage 3	Detailed As Built Drawings & 3D Models	30%
Stage 4	Final As Built Drawings, 3D BIM Models, Point Cloud Data and Schedules.	45%

WORK PACKAGE 2		
Project Stages	Description	Percentage Fees Due
Stage 1	PEP Report	5%
Stage 2	Conditional Assessment Surveys, Cost Estimates & Draft Report	20%
Stage 3	Technical Documentation Development, Data Sheets compilation, Schedules, Sketch Layouts and Cost Estimates	30%
Stage 4	Final Conditional Assessment Report Including BoQ, Detailed Data sheets, specification, Schedules, Drawings and Recommendation	45%

**** Fee Apportionment above to apply for supersedes the fee apportionment prescribed in the board notices.**

C3 DISBURSEMENTS

The cost of typing, printing, duplicating work, forwarding charges, traveling and subsistence, traveling time, traveling cost, hired vehicles, equipment, subsistence allowance, etc., is deemed to be included in the fees offered and no separate payments shall be made in this regard.

Further to the above it is required from the bidder to indicate, in the Schedule in Clause D

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TERMS OF REFERENCE FOR THE APPOINTMENT OF A BUILT ENVIRONMENT PROFESSIONAL AS A LEAD CONSULTANT FOR THE PROVISION OF FULL MULTI-DISCIPLINARY PROFESSIONAL CONSULTANCY AND SPECIALIST SERVICES TO UNDERTAKE 3D LASER SCANNING SERVICES (SCAN TO BIM) AND DETAILED CONDITIONAL ASSESSMENTS FOR PURPOSES OF GENERATING DETAILED AS-BUILT 2D & 3D CAD DRAWINGS AND DETAILED CONDITIONAL ASSESSMENT REPORTS OF THE EXISTING INFRASTRUCTURE.

submitted with this bid, the calculation of disbursements related to the periods mentioned above and included in the bid amount. It should be noted that this schedule will only be used to determine the Client's liability regarding extension of the contract period, which is not attributable to the Professional consultancy team. Information in the schedule must be sufficiently detailed to determine the actual time related included. Payment of fees will, for the duration of the project, be paid as prescribed elsewhere in this document.

Failure to provide this information with the bid **will lead** to disqualification.

The Lead Consultant shall allow for at least **six (6) visits** of the **full team** to the Client at their premises located at, 18 De Havilland Crescent, Acacia Building, Persequor Techno Park, Lynnwood Manor, to make presentations to the client after appointment. In the case where any part or section of the Consultant's work is in question and further presentation is required, the Client will not be held liable for any costs incurred by the Lead Consultant for further presentation(s).

C3.1 Schedule of Disbursements

Quantities provided in the schedule(s) of disbursements below are **provisional and** are subject to change depending on the needs of the project and individual bidder. However, for the purposes of enabling bidders to price on the same basis, provisional quantities were used in this document. Should there be any changes from provisional quantities provided in the schedule(s) of disbursements, it is the responsibility of the bidder to provide such proof.

The rates below must not exceed the Guidelines of reimbursement of expenses set out in respective discipline Board Notices and will be applicable for the duration of the contract inclusive of any extension of the contract period.

*** The documentation and quantities below refer to documents submitted to the client.**

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D1 WORK PACKAGE 1: 3D LASER SCANNING AND SURVEYORS SERVICES (SCAN TO BIM)- PRICING SCHEDULE (Specialist to factor costs for all travelling, subsistence, items, equipment and tasks in the fee price accordingly)

WORK PACKAGE 1					
3D LASER SCANNING AND DOCUMENTATION SERVICES					
VALUE BASED QUOTATION					
A1. FEES					
Item No.	Project Stages & Description	Percentage Fees			Total (Excluding VAT)
A1.1	Stage 1: PEP Report	5%			
A1.2	Stage 2: 3D Laser Scanning Documentation & BIM Modelling	20%			
A.1.3	Stage 3: Detailed As-Built Drawings & 3D Models	30%			
A1.4	Stage 4: Final As-Built Drawings, 3D BIM Models, Point Cloud Data, and Schedules.	45%			
A1.5	Total Specialist Fees For Work Package 1 carried forward to Schedule D3 (A1.1 -A1.4)				R
B1. DISBURSEMENTS					
Item No.	Description	Unit	Qty	Rate	Total (Excluding VAT)
B1.1	2D CAD As-Built Drawing Reproduction (A1)	No.	1000		
B1.2	Topographical Survey	Lump sum		n/a	R150,000.00
B1.3	Geotechnical survey	Lump sum		n/a	R150,000.00
B1.4	Typing & Printing (A4)	No.	300		
B1.5	Duplicating (A4)	No.	1000		
B1.6	Duplicating (A3)	No.	300		
B1.7	Planning Meetings at the Clients Office	No.	6		
B1.8	Design Meetings between Consultants	No.	10		
B1.9	Attending Progress and Technical Meetings on Site	No.	10		
B1.10	Total Specialist Disbursements For Work Package 1 carried forward to Schedule D3 (B1.1 -B1.9)				R

TERMS OF REFERENCE FOR THE APPOINTMENT OF A BUILT ENVIRONMENT PROFESSIONAL AS A LEAD CONSULTANT FOR THE PROVISION OF FULL MULTI-DISCIPLINARY PROFESSIONAL CONSULTANCY AND SPECIALIST SERVICES TO UNDERTAKE 3D LASER SCANNING SERVICES (SCAN TO BIM) AND DETAILED CONDITIONAL ASSESSMENTS FOR PURPOSES OF GENERATING DETAILED AS-BUILT 2D & 3D CAD DRAWINGS AND DETAILED CONDITIONAL ASSESSMENT REPORTS OF THE EXISTING INFRASTRUCTURE.

D2 MULTIDISCIPLINARY PROFESSIONAL SERVICES FEES AND DISBURSEMENTS PRICING SCHEDULE FOR WORK PACKAGE 2 (Factor costs for all travelling, subsistence, items, equipment and tasks in the fee price accordingly) Please note, there is no construction cost for this project.

WORK PACKAGE 2					
On-site Conditional Assessment and Audits Compilation of Conditional Assessment Documentation & Drawings					
A2. MULTIDISCIPLINARY PROFESSIONAL CONSULTANCY SERVICES QUOTATION FOR PERCENTAGE BASED FEES					
Item	Project Stages / Description	Percentage Fee Due (Lumpsum)		Fees as per Estimates (Lump sum)	
A2.1	Stage 1: PEP Report	5%		R	
A2.2	Stage 2: Conditional Assessment Surveys, Audits, Cost Estimates & Draft Report	20%			
A2.3	Stage 3: Technical Documentation Design Development, Data Sheets compilation, Schedules, Sketch Layouts and Cost Estimates	30%			
A2.4	Stage 4: Final Conditional Assessment Report Including BoQ, Detailed Data sheets, specification, Schedules, Drawings and Recommendation	45%			
A2.5	Total multidisciplinary professional team fees for work package 2 carried forward to Schedule D3 (A2.1-A2.4)				
B2. MULTIDISCIPLINARY PROFESSIONAL CONSULTANCY SERVICES DISBURSEMENTS					
Item No.	Description	Unit	Qty	Rate	Total (Excluding VAT)
B2.1	Typing & Printing (A4)	No.	300		
B2.2	Duplication (A4)	No.	600		
B2.3	Drawing Reproduction (A1)	No.	500		
B2.4	Drawing Reproduction (A3)	No.	600		
B2.5	Drawing Duplication (A1)	No.	1000		
B2.6	Drawing Duplication (A3)	No.	1200		
B2.7	Municipal Approvals Submission Fees	Lump sum			70,000.00
B2.8	Planning Meetings at the Clients Office	No.	6		
B2.9	Design Meetings between Consultants	No.	10		
B2.10	Total multidisciplinary professional team disbursements for work package 2 carried forward to Schedule D3 (B2.1-B2.9)				R

TERMS OF REFERENCE FOR THE APPOINTMENT OF A BUILT ENVIRONMENT PROFESSIONAL AS A LEAD CONSULTANT FOR THE PROVISION OF FULL MULTI-DISCIPLINARY PROFESSIONAL CONSULTANCY AND SPECIALIST SERVICES TO UNDERTAKE 3D LASER SCANNING SERVICES (SCAN TO BIM) AND DETAILED CONDITIONAL ASSESSMENTS FOR PURPOSES OF GENERATING DETAILED AS-BUILT 2D & 3D CAD DRAWINGS AND DETAILED CONDITIONAL ASSESSMENT REPORTS OF THE EXISTING INFRASTRUCTURE.

D3 TOTAL PRICING SCHEDULE FOR WORK PACKAGES 1 & 2

Description/ Work Package	Total Price as per pricing schedules D2.1 & D2.2	Financial Offer by Tenderer
Total Fees & Disbursements for Work package 1 (A1.5 + B1.10) Refer to pricing schedule D2.1	R	R
Total Fees & Disbursements for Work package 2 (A2.5 +B2.10) Refer to pricing schedule D2.2	R	R
SUBTOTAL FOR WORK PACKAGES 1 & 2		
ADD 15% VAT		
TOTAL FEES AND DISBURSEMENT OFFER FOR WORK PACKAGES 1 & 2 ** Amount carried to the Form of Offer		

The percentage of the fees tendered shall apply to each stage for services provided.

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TERMS OF REFERENCE FOR THE APPOINTMENT OF A BUILT ENVIRONMENT PROFESSIONAL AS A LEAD CONSULTANT FOR THE PROVISION OF FULL MULTI-DISCIPLINARY PROFESSIONAL CONSULTANCY AND SPECIALIST SERVICES TO UNDERTAKE 3D LASER SCANNING SERVICES (SCAN TO BIM) AND DETAILED CONDITIONAL ASSESSMENTS FOR PURPOSES OF GENERATING DETAILED AS-BUILT 2D & 3D CAD DRAWINGS AND DETAILED CONDITIONAL ASSESSMENT REPORTS OF THE EXISTING INFRASTRUCTURE.

Company Name:

Physical Address:

Postal Address:

Telephone Number: Code _____ Number _____

Facsimile Number: Code _____ Number _____

Thus done and signed at _____ this _____

Day of _____ 20_____.

SIGNATURE OF DULY AUTHORISED PERSON

CAPACITY UNDER WHICH THIS OFFER IS SIGNED

AS WITNESSES:

1. _____

2. _____

PART C:

PROFESSIONAL BOARD NOTICES:

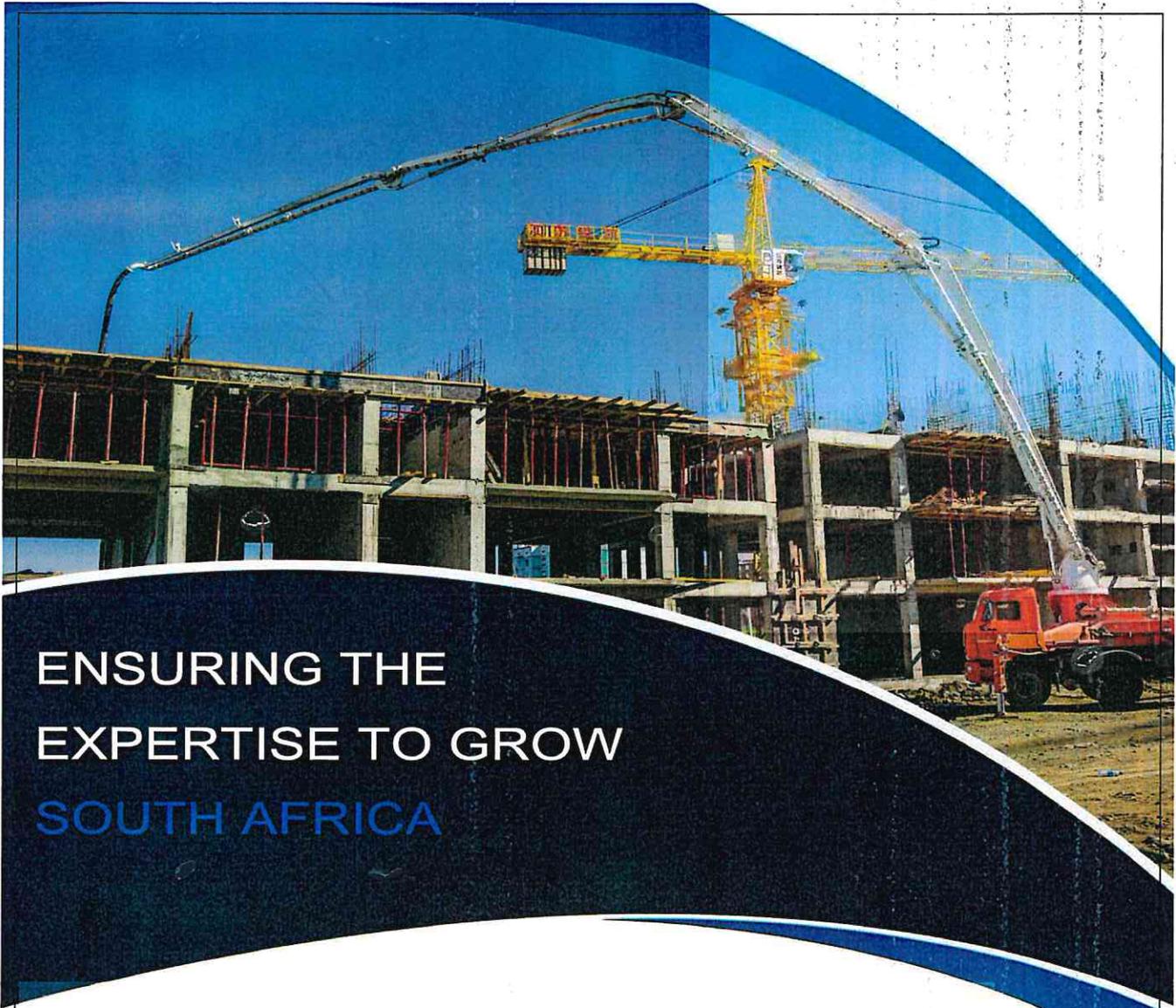
PART C3:

BID 19/1/9/1/155 TB(22)

APPOINTMENT OF A BUILT ENVIRONMENT PROFESSIONAL CONSULTANCY PRACTICE AS A LEAD CONSULTANT FOR THE PROVISION OF FULL MULTI-DISCIPLINARY PROFESSIONAL CONSULTANCY AND SPECIALIST SERVICES TO UNDERTAKE 3D LASER SCANNING SERVICES (SCAN TO BIM) AND DETAILED CONDITIONAL ASSESSMENT FOR THE PURPOSE OF GENERATING DETAILED AS-BUILT 2D & 3D CAD DRAWINGS AND DETAILED CONDITIONAL ASSESSMENT REPORTS OF THE EXISTING INFRASTRUCTURE FOR HAMMANSKRAAL POLICE ACADEMY: GAUTENG PROVINCE

NAME of BIDDER: _____

BOARD NOTICE 22 OF 2021



ENSURING THE
EXPERTISE TO GROW
SOUTH AFRICA

Guideline Professional Fees

**(Scope of Services and Tariff of Fees for Persons Registered
in terms of the Engineering Profession Act, 46 of 2000)**

ENGINEERING COUNCIL OF SOUTH AFRICA
Tel: 011 607 9500 | Fax: 011 622 9295
Email: engineering@ecsa.co.za | Website: www.ecsa.co.za



Document No.:	Revision No.:	Effective Date:	
Guideline Professional Fees <i>(Scope of Services and Tariff of Fees for Persons Registered in terms of the Engineering Profession Act, 46 of 2000)</i>			
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ENGINEERING COUNCIL OF SOUTH AFRICA

Guideline Professional Fees

(Scope of Services and Tariff of Fees for Persons Registered in terms of the Engineering Profession Act, 46 of 2000)

The Engineering Council of South Africa has, under Section 34(2) of the Engineering Profession Act, 2000 (Act No. 46 of 2000) determined the guideline scope of services and tariff of fees in the Schedule.

Any amount mentioned in or fee calculated in terms of this Schedule is exclusive of Value Added Tax.

The commencement date of these Rules shall be.....

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SCHEDULE

DEFINITIONS

In this Schedule, any word or expression defined in the Act has that meaning, and, unless the context otherwise indicates:

Building Project and Multi-Disciplinary Project means a project comprising building work or multi-disciplinary work, together with its associated engineering work, where the engineer is subject to the authority of another professional acting as the Principal Agent while financial and administrative matters may be dealt with by another professional, and where the engineer is only paid a fee based on the costs of a portion of works.

Client means any juristic person or organ of the State engaging a consulting engineer for services on a project.

Consulting Engineer or Consultant, for purposes of these rules only, means any professional registered in terms of the Act, or a juristic person who employs such professional, engaged by a client on a project.

Construction Monitoring means the process of administering the construction contract and over-seeing and/or inspecting the works, to the extent of the consulting engineer's engagement, for the purpose of verification that the works are being completed in accordance with the requirements of the contract that the designs are being correctly interpreted and that appropriate construction techniques are being utilised. Construction monitoring, to whatever extent, does not diminish the contractor's responsibility for executing and completing the works in accordance with his contract.

Contractor means any person or a juristic person under contract to a client to perform the works or part of it on a project, including a subcontractor under contract to such contractor.

Cost of the Works means the total final amount (or a fair estimate thereof), exclusive of value added tax, certified or which would, normally, be certifiable for payment to Contractors (irrespective of who actually carries out the works) in respect of the works

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designed, specified or administered by the consulting engineer, before deduction of liquidated damages or penalties, including the following:

- Escalation, assuming continuity of the project through to final completion. Where delays occur in the project cycle the client and consultant should come to an agreement on the escalation that will be applicable to various stages of services.
- A pro-rata portion of all costs related to the Contractor general obligations and overhead (preliminary and general) items, including contractor's profit, applicable to the works (irrespective of who actually carries out the works).
- The costs of new materials, goods or equipment, or a fair evaluation, of such material, goods or equipment as if new whether supplied new or otherwise by or to the client and including the cost or a fair evaluation of the cost of installation (the sourcing, inspection and testing of such comprise additional services by the consulting engineer).

Electronic Engineering Services means services related to the provision of electronic systems and detailing the terminations, signals and interconnections of electronic components as distinct from conventional electrical HV, MV and LV systems and related reticulation.

Engineering Project means a project of which the scope comprises mainly engineering work.

Fees and/or tariff of fees means payment made to a consultant or consulting engineer in exchange for advice or services.

Normal Services means the services set out in clause 3.2.

Principal Consultant means the Professional Service Provider appointed by the client to manage and administer the services of all consultants on a multi-disciplinary project, where more than one professional service provider is appointed.

Principal Agent means the entity, person, or professional services provider named or appointed with full authority and obligation to act in terms of the contract between the client and the contractor. Depending on the form of contract applicable, the term "agent, or

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employer's agent", or "engineer", or "project manager" have the same meaning as "principal agent".

Project means any total scheme envisaged by a client, including all the works and services concerned.

Quality Assurance Plan is the plan that is put in place that represents the total of the contractor's quality control processes as well as other inspections and acceptable testing processes and related activities that are associated with assuring the client that the works will meet acceptable standards.

Scope of Work means the portion of the works for which the consulting engineer is engaged.

Scope of Services and/or Services means the services contemplated in clause 3 on a project for which a consulting engineer is engaged.

Stage means a stage of normal services set out in clause 3.2.

the Act means the Engineering Profession Act, 46 of 2000.

Total Annual Cost of Employment means the total annual cost of employment as defined in clause 4.4(4).

the Agreement means the agreement signed by the client and consulting engineer that defines their relationship and obligations as well as the scope of work and services to be provided by the consulting engineer and the remuneration of the consulting engineer and related commercial terms.

Works means the activities on a project for which contractors are under contract to the client to perform or are intended to be performed, including the supply of goods and equipment.

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1. PREAMBLE

This Schedule shows sets of tariffs of fees that serve as a guideline to determining fees to be paid for engineering services that are fair and equitable to all parties. This schedule allows for four different methods of remuneration namely:

- (a) percentage fee based on the cost of works
- (b) fees for services that are additional to those provided for in the normal percentage fee-based calculation
- (c) Time-based fees
- (d) Reimbursable expenses.

Where the scope of work is uncertain remuneration will primarily be based on time and reimbursable expenses.

Where the location, size, character, form and function of the works has been defined through previous studies and investigations that have either formed part of the client's normal business practices or have been the subject of previous separate appointments paid for on a time and cost basis, the remuneration can be determined using the guideline tariffs that are based on the cost of the works. This provides a convenient way to express the fee payable if the scope of work is somewhat uncertain. The typical range of percentage fees applicable to different size projects and services provided are shown in the graph below.

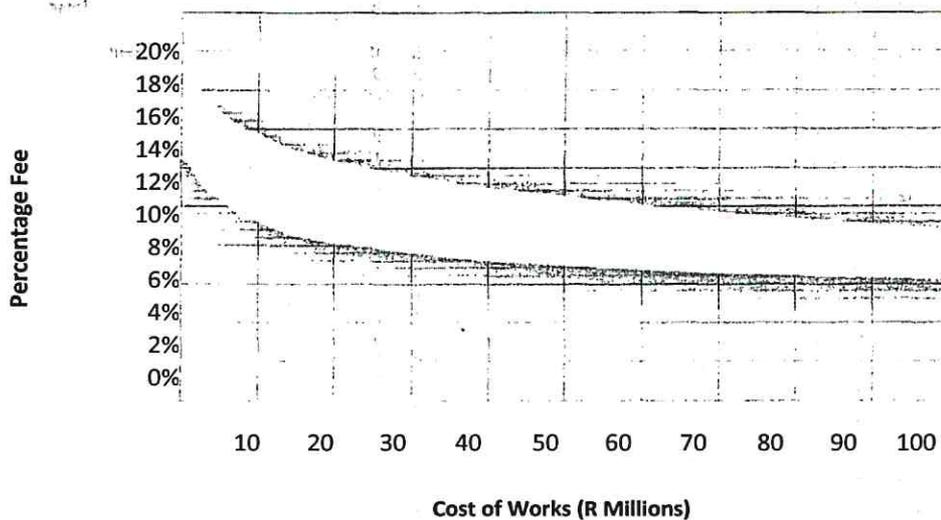
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Typical % Fee



The graph shows that the fee can range from 6% for a large project up to 20% for a small project. The fee can also fall within the shadowed area on either side of the band depending on the complexity factors that are expanded upon in paragraph 4.1. These factors are normally converted into multipliers that range from 0.3 to 1.5 and that are applied to modify the overall percentage fee and agree on a fair and reasonable fee for the services to be provided.

Once the client and consulting engineer have come to a mutually acceptable agreement on the appropriate fee and the scope of services and scope of work are clearly defined, then the client and consulting engineer should agree on commercial terms that set out the timing of deliverables and related payments as well as the method of payment that seeks to balance service provider cash flow and client risk.

This guideline is not prescriptive but has been produced as an aid to assist a client and the consulting engineer in reaching an equitable agreement on fees for services offered.

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2. GENERAL PROVISIONS

2.1 Repeal and transition

Subject to sub-clause (2), the Guideline Scope of Services and Tariff of Fees for Persons Registered in terms of the Engineering Profession Act, 46 of 2000, published under Government Gazette No. 39480, Board Notice 138 of 04 December 2015, is hereby repealed.

The provisions of previous Board Notices including subsequent amendments still apply in respect of services rendered during a stage, which has not yet been completed by the date of commencement of this Schedule.

2.2 Generality of terms

In this document, except where the context otherwise requires or indicates:

- the masculine includes the feminine
- the singular includes the plural
- any reference to a natural person includes a juristic person.

2.3 Short title

This Schedule is called the Guideline Scope of Services and Tariff of Fees for Registered Persons, 2021.

3. GUIDELINE SCOPE OF SERVICES

3.1 Planning, studies, investigations and assessments

These typical services relate to carrying out studies and investigations as well as the preparation and submission of reports embodying preliminary proposals or initial feasibility studies and will normally be remunerated on a time and cost basis.

1. Consultation with the client or client's authorised representative.
2. Inspection of the project site.

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3. Developing and defining the scope of work where required.
4. Preliminary investigation, route location, planning and a level of design appropriate to allow decisions on feasibility.
5. Assessment of existing infrastructural elements with the view of informing the project on options of how to integrate existing works with proposed new works.
6. Consultation with authorities having rights or powers of sanction as well as consultation with the public and stakeholder groups.
7. Advice to the client as to regulatory and statutory requirements, including environmental management and the need for surveys, analysis, tests and site or other investigations, as well as approvals, where such are required for the completion of the report, and arranging for these to be carried out at the client's expense.
8. Searching for, obtaining, investigating and collating available data, drawings and plans relating to the works.
9. Investigating financial and economic implications relating to the proposals or feasibility studies.
10. Clause (9) does not normally apply to civil and structural services or on building projects, where these services are provided by a quantity surveyor, except as far as the interpretation of cost figures concerning the engineer's scope of works.
11. Assist the client to develop timeframes for next stages of the project where required.

Deliverables will typically include:

- collation of information
- reports on technical and financial feasibility and related implications
- list of consents and approval
- schedule of required surveys, tests, analyses, site and other investigations
- time frames for upcoming deliverables.

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3.2 Normal Service

These services are applicable to projects where the nature, form and function of the project have been defined through previous investigations and reports and the engineering services are required to take the project through to successful completion of construction.

In the case where only a single consulting engineer is appointed on a project, the services and deliverables of the principal agent are included as normal and must be agreed between the parties to see the project through all stages.

Financial Administration Services

Unless otherwise agreed in writing prior to the commencement of any work, part of the normal services of the consulting engineer on all projects includes the provision of services related to all financial matters such as calculation of quantities, cost estimates, cost control and the procurement process.

The only exceptions, where financial services do not form part of the normal services of the consulting engineer are in the following cases:

- Structural and civil engineering services related to building and multi-disciplinary projects, and where such services form part of the quantity surveyor's scope of services. Where the civil and structural consulting engineer is required to give assistance with such services, these shall be treated as an additional service remunerated on a time and cost basis.
- In the case of building and multi-disciplinary projects where the scope of works forms part of the principal building contract (for example a domestic subcontract) and where such financial administration services form part of the quantity surveyor's scope of services.

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3.2.1 Stage 1 – Inception

Defined as: Establish client requirements and preferences, assess user needs and options, appointment of necessary consultants, establish the project brief including project objectives, priorities, constraints, assumptions aspirations and strategies.

1. Assist in developing a clear project brief.
2. Attend project initiation meetings.
3. Advise on procurement policy for the project.
4. Advise on the rights, constraints, consents and approvals.
5. Define the scope of services and scope of work required.
6. Conclude the terms of the agreement with the client.
7. Inspect the site and advise on the necessary surveys, analyses, tests and site or other investigations where such information will be required for Stage 2 including the availability and location of infrastructure and services.
8. Determine the availability of data, drawings and plans relating to the project.
9. Advise on criteria that could influence the project life cycle cost significantly.
10. Provide necessary information within the agreed scope of the project to other consultants involved.

Deliverables will typically include:

- agreed scope of services and scope of work
- signed agreement
- report on project, site and functional requirements
- schedule of required surveys, tests, analyses, site and other investigations
- schedule of consents and approvals and related timeframes.

3.2.2 Stage 2 – Concept and Viability (often called preliminary design)

Defined as: Prepare and finalise the project concept in accordance with the brief, including project scope, scale, character, form and function, plus preliminary programme and viability of the project.

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1. Agree documentation programme with principal agent or consultant and other consultants involved.
2. Attend design and consultants' meetings.
3. Establish the concept design criteria.
4. Prepare initial concept design and related documentation.
5. Advise the client regarding further surveys, analyses, tests and investigations that may be required.
6. Establish regulatory authorities' requirements and incorporate into the design.
7. Refine and assess the concept design to ensure conformance with all regulatory requirements and consents.
8. Establish access, utilities, services and connections required for the design.
9. Participate in coordinated design interfaces with architect or other consultants involved.
10. Prepare process designs (where required), preliminary designs, and related documentation for approval by authorities and client and suitable for costing.
11. Provide cost estimates and life cycle costs, as required.
12. Liaise, co-operate and provide necessary information to the client, principal consultant and other consultants involved.

Deliverables will typically include:

- concept design
- schedule of required surveys, tests and other investigations and related reports
- process design
- preliminary design
- cost estimates, as required.

3.2.3 Stage 3 – Design Development (also termed detailed design)

Defined as: Develop the approved concept to finalise the design, outline specifications, cost plan, financial viability and programme for the project.

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1. Review documentation programme with principal consultant and other consultants involved.
2. Attend design and consultants' meetings.
3. Incorporate client's and authorities' detailed requirements into the design.
4. Incorporate other consultants' designs and requirements into the design.
5. Prepare design development drawings including draft technical details and specifications.
6. Review and evaluate design and outline specification and exercise cost control.
7. Prepare detailed estimates of construction cost.
8. Liaise, co-operate and provide necessary information to the principal consultant and other consultants involved.
9. Submit the necessary design documentation to local and other authorities for approval.

Deliverables will typically include:

- design development drawings
- outline specifications
- local and other authority submission drawings and reports
- detailed estimates of construction costs.

3.2.4 Stage 4 – Documentation and Procurement

Defined as: Prepare procurement and construction documentation, confirm and implement the procurement strategies and procedures for effective and timeous procurement of necessary resources for execution of the project.

1. Attend design and consultants' meetings.
2. Prepare specifications and preambles for the works.
3. Accommodate services design.
4. Check cost estimates and adjust designs and documents, if necessary, to remain within budget.

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5. Formulate the procurement strategy for contractors or assist the principal consultant where relevant.
6. Prepare documentation for contractor procurement.
7. Review designs, drawings and schedules for compliance with approved budget.
8. Call for tenders and/or negotiation of prices and/or assist the principal consultant or quantity surveyor where relevant.
9. Liaise, co-operate and provide necessary information to the principal consultant and the other consultants as required.
10. Evaluate tenders.
11. Prepare contract documentation for signature.
12. Assess samples and products for compliance and design intent.
13. Assist in pricing, documentation and tender evaluation as required when the detailed services for these activities are provided by others.

Deliverables will typically include:

- specifications
- services co-ordination
- working drawings
- budget construction cost
- tender documentation
- tender evaluation report
- tender recommendations
- priced contract documentation.

3.2.5 Stage 5 – Contract Administration and Inspection

Defined as: Manage, administer and monitor the construction contracts and processes including preparation and coordination of procedures and documentation to facilitate practical completion of the works.

1. Attend site handover.

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2. Issue construction documentation in accordance with the documentation schedule including, in the case of structural engineering, reinforcing bending schedules and detailing, and specifications of structural steel sections and connections.
3. Carry out contract administration procedures in terms of the contract.
4. Prepare schedules of predicted cash flow.
5. Prepare pro-active estimates of proposed variations for client decision-making.
6. Attend regular site, technical and progress meetings.
7. Inspect the works for conformity to contract documentation as described under Clause 3.3.2.
8. Review the outputs of quality assurance procedures and advise the contractor and client on adequacy and need for additional controls, inspections and testing.
9. Adjudicate and resolve financial claims by contractors.
10. Assist in the resolution of contractual claims by the contractor.
11. Establish and maintain a financial control system.
12. Clarify details and descriptions during construction as required.
13. Prepare valuations for payment certificates to be issued by the principal agent.
14. Witness and review of all tests and mock-ups carried out on site.
15. Check and approve contractor drawings for compliance with contract documents.
16. Update and issue drawings register.
17. Issue contract instructions as and when required.
18. Review and comment on operation and maintenance manuals, guarantee certificates and warranties.
19. Inspect the works and issue practical completion and defects lists.
20. Arranging for the delivery of all test certificates, including any Certificates of Compliance, statutory and other approvals, and record drawings and operating manuals.

Deliverables will typically include:

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