



THE SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE

Contract No: SANBI: NZG357/2020

REQUEST FOR BIDS FOR THE DESIGN, SUPPLY, INSTALLATION AND 24-MONTH MAINTENANCE OF A NEW ACCESS CONTROL AND INTRUDER DETECTION SYSTEM AT THE NATIONAL ZOOLOGICAL GARDEN IN PRETORIA

January 2020

Issued by:

The South African National Biodiversity Institute
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Silverton
0184

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Name of Tenderer:

Contact Details:

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T1.1: TENDER NOTICE AND INVITATION TO TENDER

THE SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE INVITES TENDERERS FOR THE PROVISION OF:

PROJECT TITLE:	REQUEST FOR BIDS FOR THE DESIGN, SUPPLY, INSTALLATION AND 24-MONTH MAINTENANCE OF A NEW ACCESS CONTROL AND INTRUDER DETECTION SYSTEM AT THE NATIONAL ZOOLOGICAL GARDEN IN PRETORIA
CONTRACT NO:	SANBI: NZG357/2020

Advertising date:	17 January 2020	Closing date:	14 February 2020
Closing time:	11:00	Validity period:	120 days

- Tender documents will be available as from **17 January 2020** on the SANBI website www.sanbi.org.
- A **compulsory** pre-tender site inspection meeting will take place on site on **27 January 2020** at 14:00 at the Staff Centre, National Zoological Garden, Pretoria, South Africa. Access to the NZG is via the Service Entrance, Boom Street.

Any queries regarding the tender document or any related matter prior to submission of tenders must be directed to:

SANBI Representative (Technical Queries Only)	Mr Leslie Mudimeli
E-mail:	l.mudimeli@sanbi.org.za
SANBI SCM Representative	Ms Monica Thapeli
E-mail:	sanbi.tenders@sanbi.org.za

The closing time and date for the receipt of tenders is **11:00** on **14 February 2020**.

The tenders will be opened in public if required (please note that the two-envelope system is being followed). Requirements for sealing, addressing, delivery, opening and assessment of tenders are stated in the Tender Data.

T1.2 Tender Data

The Standard Conditions of Tender make several references to the Tender Data for details that apply specifically to this tender. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender.

Each item of data given below is cross-referenced to the clause in the Standard Conditions of Tender to which it mainly applies.

Clause number	Tender Data
F.1.1	The employer is: The South African National Biodiversity Institute Private Bag X101 Silverton 0184
F.1.2	The Tender Documents issued by the Employer comprise the following documents: THE TENDER Part T1: Tendering procedures T1.1 - Tender notice and invitation to tender T1.2 - Tender data Part T2: Returnable documents T2.1 - List of returnable documents THE CONTRACT Part C1: Agreements and Contract data C1.1 - Form of offer and acceptance C1.2 - Contract data C1.3 - Construction guarantee Part C2: Pricing Data C2.1- Pricing Instructions C2.2 – Bill of Quantities Part C3: Scope of Works C3.1- Description of the works C3.2 – Construction C3.3 - Annexures
F 2.1.1	The tender will only be considered for Evaluation (deemed to be responsive) if: a) The Tenderer provides all the relevant information required in the Returnable Documents Checklist b) The Tenderer attends the compulsory clarification meeting as per T1.1. c) The tenderer scores above the minimum score in respect of the quality criteria stated in F.3.11.9 of this Tender Data
F.2.7	The arrangements for a compulsory clarification meeting are as stated in the Tender Notice and Invitation to Tender. Tenderers must sign the attendance list in the name of the tendering entity. Addenda will be issued to and tenders will be received only from those tendering entities appearing on the attendance list.
F.2.8	Tenderers can request clarification of the tender documents, if necessary, by notifying the employer at least two working days before the closing time stated in the tender data.
F.2.12	Main tender offers are required to be submitted together with alternative tenders.

F.2.12	If a tenderer wishes to submit an alternative tender offer, the only criteria permitted for such alternative tender offer is that it demonstrably satisfies the Employer's standards and requirements, the details of which may be obtained from the Engineer/Employer's Agent. Calculations, drawings and all other pertinent technical information and characteristics as well as modified or proposed Pricing Data must be submitted with the alternative tender offer to enable the Employer to evaluate the efficacy of the alternative and its principal elements, to take a view on the degree to which the alternative complies with the Employer's standards and requirements and to evaluate the acceptability of the pricing proposals. Calculations must be set out in a clear and logical sequence and must clearly reflect all design assumptions. Pricing Data must reflect all assumptions in the development of the pricing proposal. Acceptance of an alternative tender offer will mean acceptance in principle of the offer. It will be an obligation of the contract for the tenderer, in the event that the alternative is accepted, to accept full responsibility and liability that the alternative offer complies in all respects with the Employer's standards and requirements. The modified Pricing Data must include an amount equal to 5% of the amount tendered for the alternative offer to cover the Employer's costs in confirming the acceptability of the supply package.
F.2.13.3	Tenderers shall note the specific requirements for packaging of their tender documents and include only the following: - Financial: One (1) original document marked "Original" including Form of Offer and Acceptance, Estimated monthly expenditure and Priced Bills of Quantities; and - Technical: One (1) copy excluding Form of Offer and Acceptance, Estimated monthly expenditure and Priced Bill of Quantities. INCLUSION OF ANY PRICING INFORMATION ANYWHERE IN THE ONE COPY <u>WILL</u> LEAD TO THE BID BEING DISQUALIFIED. The original document will be placed in one envelope and the one copy will be placed in another envelope. The two envelopes shall be placed together in an outer envelope sealed and bearing the following: - The address as stated in F.2.13.5 below - The identification details as stated in F.2.13.5 below - Name of the Tenderer - The words "Not be opened before the Tender opening" The technical and financial envelopes should also contain the details of the last three bullets on them. The financial envelope must contain the words NOT TO BE OPENED WITH THE TECHNICAL ENVELOPE.
F.2.13.5	The Employer's address for delivery of tender offers and identification details to be shown on each tender offer package are: Location of Tender box: Biodiversity Centre, Pretoria National Botanical Garden, 2 Cussonia Avenue, Brummeria, Pretoria, Gauteng Province
F.2.15.1	Identification details: Tender number: SANBI: NZG357/2020 Title of Tender: REQUEST FOR BIDS FOR THE DESIGN, SUPPLY, INSTALLATION AND 24-MONTH MAINTENANCE OF A NEW ACCESS CONTROL AND INTRUDER DETECTION SYSTEM AT THE NATIONAL ZOOLOGICAL GARDEN IN PRETORIA
F.2.13.6	A two-envelope procedure will be followed as described in clause F.2.13.3.
F.2.13.9	Telephonic, telegraphic, telex, facsimile or e-mailed tender offers will not be accepted.
F.2.15	The closing time for submission of tender offers is as stated in the Tender Notice and Invitation to Tender.
F.2.16	The tender offer validity period is 120 days.

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the

F.2.18	The tenderer shall, when requested by the Employer to do so, submit the names of all management and supervisory staff that will be employed to supervise the Labour-Intensive portion of the works together with satisfactory evidence that such staff members satisfy the eligibility requirements.																								
F.2.23	The tenderer is required to submit with his tender the following documents. Failure to include the following documents <u>WILL</u> result in the bid being disqualified: 1) A copy of the Central Suppliers Database (CSD) registration report or registration number 2) A valid copy of the Unemployment Insurance Fund (UIF) letter of Compliance issued by the Department of Labour 3) Letter of Good Standing from the office of the Compensation Commissioner as required by the Compensation for Occupational Injuries and Diseases Act (COIDA). The letter should be issued by the Department of Labour or a licensed compensation insurer 4) Local content declaration: Summary schedule and Declaration Certificate for local content SBD 6.2 must be submitted for the purpose of local content evaluation 5) Proof of agreement between the contractor and Professional Service Provider which shall detail the contractual relationships and management structure for the project 6) A valid original or certified copy of a B-BBEE certificate or a sworn affidavit to claim B-BBEE points. NOTE: for this tender, the following pre-qualification criterion for preferential procurement will be applied: Section 4(1)(a) a Tenderer having a minimum B-BBEE Status Level of 1 <u>OR</u> an EME or QSE 7) Fully completed SBD forms.																								
F.2.24	The tenderer is required to submit with the tender the following documents: 1) Completed Tenderer OHS Management System Questionnaire (based on the Baseline Risk Assessment and OHS Specifications attached) in terms of the Construction Regulations, 2014, issued in terms of the Occupational Health and Safety Act, 1993.																								
F.3.4	The tenders will be opened in public if required (please note that the two-envelope system is being followed).																								
F.3.11.1	The tender evaluation method for the evaluation of all responsive tender offers will be Method 4: Financial offer, quality and preferences in accordance with F.3.11.5.																								
F.3.11.7	Scoring financial offers The financial offer will be scored using Formula 1 (Option 1) where the value of W1 is 80 points.																								
F.3.11.8	Scoring preference A maximum of 100 minus W₁ tender evaluation points will be awarded for preference to tenderers who submit responsive tenders and who are found to be eligible for the preference claimed, in accordance with the criteria listed below. Points are based on a tenderer's scorecard measured in terms of the Broad-Based Black Economic Empowerment Act (Act No 53 of 2003)(B-BBEE) and the Regulations, 2011 to the Preferential Procurement Policy Framework Act (Act No 5 of 2000)(PPPFA) and the Preferential Procurement Regulations, 2017. Points awarded will be according to a tenderer's B-BBEE status level of contribution and summarised in the table below: <table><tr><th>B-BBEE Status Level of Contributor</th><th>Number of points (90/10 system)</th><th>Number of points (80/20 system)</th></tr><tr><td>1</td><td>10</td><td>20</td></tr><tr><td>2</td><td>9</td><td>18</td></tr><tr><td>3</td><td>8</td><td>14</td></tr><tr><td>4</td><td>5</td><td>12</td></tr><tr><td>5</td><td>4</td><td>8</td></tr><tr><td>6</td><td>3</td><td>6</td></tr><tr><td>7</td><td>2</td><td>4</td></tr></table>	B-BBEE Status Level of Contributor	Number of points (90/10 system)	Number of points (80/20 system)	1	10	20	2	9	18	3	8	14	4	5	12	5	4	8	6	3	6	7	2	4
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	Eligibility for preference points is subject to the following: (a) The tenderer's scorecard shall be submitted as a certificate attached to Returnable Schedule Form C2; and (b) The certificate shall have been issued by a registered verification agency accredited by the South African National Accreditation System (SANAS), as contemplated in the B-BBEE Framework for Accreditation and Verification by all Verification Agencies promulgated in Government Notice No 810 of 31 July 2009.; (c) The date of issue of the certificate must be less than 12 (twelve) months prior to the advertised Tender closing date (see Tender Data F.2.15); and (d) Compliance with any other information requested to be attached to Returnable Schedule Form T2.1.06.																											
F.3.11.9	Scoring quality The functionality (quality) evaluation criteria are listed below. Maximum points for each criterion are in bold while points for each sub-criterion are indicated in brackets. <table><tr><th colspan="3">FUNCTIONALITY CRITERIA</th></tr><tr><th>ID</th><th>CRITERIA</th><th>POINTS</th></tr><tr><td>1</td><td> Implementation method and project proposal - Project proposal to be followed in delivering this project (include the design, what will be supplied and what will be included in the maintenance plan) - Weekly plan/programme with milestones for the 3-month contract (installation plan, programme, testing programme, and ensuring commission according to specifications provided) </td><td> 30 (15) (15) </td></tr><tr><td>2</td><td> Main Contractor's Experience - Three reference letters regarding similar work completed in last three years - List of at least five other similar projects with telephonic references and indicating value of works completed (refer to tables in section T.2.1.05 below) </td><td> 35 (15) (20) </td></tr><tr><td>3</td><td> Main Contractor's Resources – Personnel Proposed personnel: - CVs for each proposed key personnel member indicating: - Previous work experience - Total number of years' working experience in construction - Individual experience on similar work in last five years - Qualifications or artisan's certification or other recognised training courses completed* - Membership of professional bodies or guilds *Essential expertise – a score of 0 will be allocated if proof of expertise is not provided, or if personnel do not meet the minimum criteria as specified below. <table><tr><th>TECHNICAL EXPERT</th><th>MINIMUM CRITERIA</th></tr><tr><td>Project lead / Construction manager</td><td>B Degree / B Tech in Mechanical/Electrical Engineering</td></tr><tr><td></td><td>Professional Registration with ECSA (Pr. Eng. / Pr. Tech. Eng.)</td></tr><tr><td>Construction supervisor</td><td>B Degree/B Tech in Civil Engineering and Building</td></tr><tr><td>Master electrician</td><td>Master Electrician's Certificate & Registration with Electrical Contractor's Board (ECB) = 5</td></tr><tr><td>Health & Safety Officer</td><td>An Occupational Health & Safety Officer</td></tr></table></td><td> 35 (35) </td></tr></table>	FUNCTIONALITY CRITERIA			ID	CRITERIA	POINTS	1	Implementation method and project proposal - Project proposal to be followed in delivering this project (include the design, what will be supplied and what will be included in the maintenance plan) - Weekly plan/programme with milestones for the 3-month contract (installation plan, programme, testing programme, and ensuring commission according to specifications provided)	30 (15) (15)	2	Main Contractor's Experience - Three reference letters regarding similar work completed in last three years - List of at least five other similar projects with telephonic references and indicating value of works completed (refer to tables in section T.2.1.05 below)	35 (15) (20)	3	Main Contractor's Resources – Personnel Proposed personnel: - CVs for each proposed key personnel member indicating: - Previous work experience - Total number of years' working experience in construction - Individual experience on similar work in last five years - Qualifications or artisan's certification or other recognised training courses completed* - Membership of professional bodies or guilds *Essential expertise – a score of 0 will be allocated if proof of expertise is not provided, or if personnel do not meet the minimum criteria as specified below. <table><tr><th>TECHNICAL EXPERT</th><th>MINIMUM CRITERIA</th></tr><tr><td>Project lead / Construction manager</td><td>B Degree / B Tech in Mechanical/Electrical Engineering</td></tr><tr><td></td><td>Professional Registration with ECSA (Pr. Eng. / Pr. Tech. Eng.)</td></tr><tr><td>Construction supervisor</td><td>B Degree/B Tech in Civil Engineering and Building</td></tr><tr><td>Master electrician</td><td>Master Electrician's Certificate & Registration with Electrical Contractor's Board (ECB) = 5</td></tr><tr><td>Health & Safety Officer</td><td>An Occupational Health & Safety Officer</td></tr></table>	TECHNICAL EXPERT	MINIMUM CRITERIA	Project lead / Construction manager	B Degree / B Tech in Mechanical/Electrical Engineering		Professional Registration with ECSA (Pr. Eng. / Pr. Tech. Eng.)	Construction supervisor	B Degree/B Tech in Civil Engineering and Building	Master electrician	Master Electrician's Certificate & Registration with Electrical Contractor's Board (ECB) = 5	Health & Safety Officer	An Occupational Health & Safety Officer	35 (35)
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Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the

		NOTE: The above indicated resources are the minimum in order to ensure continuity throughout the project.	
TOTAL			100

Each evaluation criterion will be assessed in terms of five indicators – no response, poor, satisfactory, acceptable, good and very good. Scores ranging from 0 to 5 will be allocated to no response, very poor, poor, acceptable, good and very good responses, respectively. The scores submitted by each of the evaluators will be averaged, weighted and then totalled to obtain the final score for functionality. The prompts for judgment and the associated scores used in the evaluation of quality shall be as follows:

Score	Prompt for judgement
0	Failed to address the question/issue
1	Very poor response – response/answer/solution lacks convincing evidence of skill/experience sought or medium risk that relevant skills will not be available.
2	Poor response – some elements of the response/answer/solution are present but documentary evidence is mostly lacking in respect of the required information
3	Acceptable response/answer/solution to the particular aspect of the requirements and evidence given of skill/experience sought
4	Above acceptable response/answer/solution demonstrating real understanding of requirements and evidence of ability to meet it.
5	Excellent response/answer/solution provides confidence that the tenderer will add real value to the project.

The minimum number of evaluation points for functionality proposal is 70 points in order to progress to the next round of the evaluation.

F.3.13	Tender offers will only be accepted if: - the tenderer submits a copy of the CSD registration report or registration number (refer to T2.1.13) - the tenderer or any of its directors/shareholders is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector (refer to SBD 8) - the tenderer has not (refer to SBD 8): <u>abused the Employer's Supply Chain Management System; or</u> <u>failed to perform on any previous contract and has been given a written notice to this effect</u> - the tenderer has completed the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the employer or potentially compromise the tender process and persons in the employ of the state are permitted to submit tenders or participate in the contract (refer to T2.1.16) - the tenderer is registered and in good standing with the compensation fund or with a licensed compensation insurer (Letter of good standing with COIDA) - the tenderer has a valid copy of the Unemployment Insurance Fund (UIF) letter of Compliance issued by the Department of Labour
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	g) the employer is reasonably satisfied that the tenderer has in terms of the Construction Regulations, 2014, issued in terms of the Occupational Health and Safety Act, 1993, the necessary competencies and resources to carry out the work safely (refer to T2.1.17).
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Standard Conditions of Tender

F.1 General

F.1.1 Actions

F.1.1.1 The employer and each tenderer submitting a tender offer shall comply with these conditions of tender. In their dealings with each other, they shall discharge their duties and obligations as set out in F.2 and F.3, timeously and with integrity, and behave equitably, honestly and transparently, comply with all legal obligations and not engage in anticompetitive practices.

F.1.1.2 The employer and the tenderer and all their agents and employees involved in the tender process shall avoid conflicts of interest and where a conflict of interest is perceived or known, declare any such conflict of interest, indicating the nature of such conflict. Tenderers shall declare any potential conflict of interest in their tender submissions. Employees, agents and advisors of the employer shall declare any conflict of interest to whoever is responsible for overseeing the procurement process at the start of any deliberations relating to the procurement process or as soon as they become aware of such conflict, and abstain from any decisions where such conflict exists or recuse themselves from the procurement process, as appropriate.

Note: (1) A conflict of interest may arise due to a conflict of roles which might provide an incentive for improper acts in some circumstances. A conflict of interest can create an appearance of impropriety that can undermine confidence in the ability of that person to act properly in his or her position even if no improper acts result.

(2) Conflicts of interest in respect of those engaged in the procurement process include direct, indirect or family interests in the tender or outcome of the procurement process and any personal bias, inclination, obligation, allegiance or loyalty which would in any way affect any decisions taken.

F.1.1.3 The employer shall not seek and a tenderer shall not submit a tender without having a firm intention and the capacity to proceed with the contract.

F.1.2 Tender Documents

The documents issued by the employer for the purpose of a tender offer are listed in the tender data.

F.1.3 Interpretation

F.1.3.1 The tender data and additional requirements contained in the tender schedules that are included in the returnable documents are deemed to be part of these conditions of tender.

F.1.3.2 These conditions of tender, the tender data and tender schedules which are only required for tender evaluation purposes, shall not form part of any contract arising from the invitation to tender.

F.1.3.3 For the purposes of these conditions of tender, the following definitions apply:

- (a) **conflict of interest** means any situation in which:
 - (i) someone in a position of trust has competing professional or personal interests which make it difficult to fulfil his or her duties impartially;
 - (ii) an individual or organisation is in a position to exploit a professional or official capacity in some way for their personal or corporate benefit; or
 - (iii) incompatibility or contradictory interests exist between an employee and the organisation which employs that employee.
- (b) **comparative offer** means the tenderer's financial offer after all tendered parameters that will affect the value of the financial offer have been taken into consideration in order to enable comparisons to be made between offers on a comparative basis
- (c) **corrupt practice** means the offering, giving, receiving or soliciting of anything of value to influence the action of the employer or his staff or agents in the tender process; and

- (d) **fraudulent practice** means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the employer, including collusive practices intended to establish prices at artificial levels
- (e) **organization** means a company, firm, enterprise, association or other legal entity, whether incorporated or not, or a public body
- (f) **quality (functionality)** means the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs

F.1.4 Communication and Employer's Engineer

Each communication between the employer and a tenderer shall be to or from the employer's agent/Engineer only, and in a form that can be readily read, copied and recorded. Communications shall be in the English language. The employer shall not take any responsibility for non-receipt of communications from or by a tenderer. The name and contact details of the employer's agent are stated in the tender data.

F.1.5 The employer's right to accept or reject any tender offer

F.1.5.1 The employer may accept or reject any variation, deviation, tender offer, or alternative tender offer, and may cancel the tender process and reject all tender offers at any time before the formation of a contract. The employer shall not accept or incur any liability to a tenderer for such cancellation and rejection, but will give written reasons for such action upon written request to do so.

F.1.5.2 The employer may not subsequent to the cancellation or abandonment of a tender process or the rejection of all responsive tender offers re-issue a tender covering substantially the same scope of work within a period of six months unless only one tender was received and such tender was returned unopened to the tenderer.

F.1.6 Procurement procedures

F.1.6.1 General

Unless otherwise stated in the tender data, a contract will, subject to F.3.13, be concluded with the tenderer who in terms of F.3.11 is the highest ranked or the tenderer scoring the highest number of tender evaluation points, as relevant, based on the tender submissions that are received at the closing time for tenders.

F.1.6.2 Competitive negotiation procedure

F.1.6.2.1 Where the tender data require that the competitive negotiation procedure is to be followed, tenderers shall submit tender offers in response to the proposed contract in the first round of submissions. Notwithstanding the requirements of F.3.4, the employer shall announce only the names of the tenderers who make a submission. The requirements of F.3.8 relating to the material deviations or qualifications which affect the competitive position of tenderers shall not apply.

F.1.6.2.2 All responsive tenderers, or not less than three responsive tenderers that are highest ranked in terms of the evaluation method and evaluation criteria stated in the tender data, shall be invited in each round to enter into competitive negotiations, based on the principle of equal treatment and keeping confidential the proposed solutions and associated information. Notwithstanding the provisions of F.2.17, the employer may request that tenders be clarified, specified and fine-tuned in order to improve a tenderer's competitive position provided that such clarification, specification, fine-tuning or additional information does not alter any fundamental aspects of the offers or impose substantial new requirements which restrict or distort competition or have a discriminatory effect.

F.1.6.2.3 At the conclusion of each round of negotiations, tenderers shall be invited by the employer to make a fresh tender offer, based on the same evaluation criteria, with or without adjusted weightings. Tenderers shall be advised when they are to submit their best and final offer.

F.1.6.2.4 The contract shall be awarded in accordance with the provisions of F.3.11 and F.3.13 after tenderers have been requested to submit their best and final offer.

F.1.6.3 Proposal procedure using the two stage-system

F.1.6.3.1 Option 1

Tenderers shall in the first stage submit technical proposals and, if required, cost parameters around which a contract may

be negotiated. The employer shall evaluate each responsive submission in terms of the method of evaluation stated in the tender data, and in the second stage negotiate a contract with the tenderer scoring the highest number of evaluation points and award the contract in terms of these conditions of tender.

Option 2

F.1.6.3.1.1 Tenderers shall submit in the first stage only technical proposals. The employer shall invite all responsive tenderers to submit tender offers in the second stage, following the issuing of procurement documents.

F.1.6.3.1.2 The employer shall evaluate tenders received during the second stage in terms of the method of evaluation stated in the tender data, and award the contract in terms of these conditions of tender.

F.2 Tenderer's obligations

F.2.1 Eligibility

F.2.1.1 Submit a tender offer only if the tenderer satisfies the criteria stated in the tender data and the tenderer, or any of his principals, is not under any restriction to do business with employer.

F.2.1.2 Notify the employer of any proposed material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used by the employer as the basis in a prior process to invite the tenderer to submit a tender offer and obtain the employer's written approval to do so prior to the closing time for tenders.

F.2.2 Cost of tendering

Accept that, unless otherwise stated in the tender data, the employer will not compensate the tenderer for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer complies with requirements.

F.2.3 Check documents

Check the tender documents on receipt for completeness and notify the employer of any discrepancy or omission.

F.2.4 Confidentiality and copyright of documents

Treat as confidential all matters arising in connection with the tender. Use and copy the documents issued by the employer only for the purpose of preparing and submitting a tender offer in response to the invitation.

F.2.5 Reference documents

Obtain, as necessary for submitting a tender offer, copies of the latest versions of standards, specifications, conditions of contract and other publications, which are not attached but which are incorporated into the tender documents by reference.

F.2.6 Acknowledge addenda

Acknowledge receipt of addenda to the tender documents, which the employer may issue, and if necessary apply for an extension to the closing time stated in the tender data, in order to take the addenda into account.

F.2.7 Clarification meeting

Attend, where required, a clarification meeting at which tenderers may familiarize themselves with aspects of the proposed work, services or supply and raise questions. Details of the meeting(s) are stated in the tender data.

F.2.8 Seek clarification

Request clarification of the tender documents, if necessary, by notifying the employer at least five working days before the closing time stated in the tender data.

F.2.9 Insurance

Be aware that the extent of insurance to be provided by the employer (if any) might not be for the full cover required in terms of the conditions of contract identified in the contract data. The tenderer is advised to seek qualified advice regarding insurance.

F.2.10 Pricing the tender offer

F.2.10.1 Include in the rates, prices, and the tendered total of the prices (if any) all duties, taxes (except Value Added Tax (VAT), and other levies payable by the successful tenderer, such duties, taxes and levies being those applicable 14 days before the closing time stated in the tender data.

F.2.10.2 Show VAT payable by the employer separately as an addition to the tendered total of the prices.

F.2.10.3 Provide rates and prices that are fixed for the duration of the contract and not subject to adjustment except as provided for in the conditions of contract identified in the contract data.

F.2.10.4 State the rates and prices in Rand unless instructed otherwise in the tender data. The conditions of contract identified in the contract data may provide for part payment in other currencies.

F.2.11 Alterations to documents

Do not make any alterations or additions to the tender documents, except to comply with instructions issued by the employer, or necessary to correct errors made by the tenderer. All signatories to the tender offer shall initial all such alterations. Erasures and the use of masking fluid are prohibited.

F.2.12 Alternative tender offers

F.2.12.1 Unless otherwise stated in the tender data, submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted as well as a schedule that compares the requirements of the tender documents with the alternative requirements that are proposed.

F.2.12.2 Accept that an alternative tender offer may be based only on the criteria stated in the tender data or criteria otherwise acceptable to the employer.

F.2.13 Submitting a tender offer

F.2.13.1 Submit one tender offer only, either as a single tendering entity or as a member in a joint venture to provide the whole of the works, services or supply identified in the contract data and described in the scope of works, unless stated otherwise in the tender data.

F.2.13.2 Return all returnable documents to the employer after completing them in their entirety, either electronically (if they were issued in electronic format) or by writing legibly in non-erasable ink.

F.2.13.3 Submit the parts of the tender offer communicated on paper as an original plus the number of copies stated in the tender data, with an English translation of any documentation in a language other than English, and the parts communicated electronically in the same format as they were issued by the employer.

F.2.13.4 Sign the original and all copies of the tender offer where required in terms of the tender data. The employer will hold all authorized signatories liable on behalf of the tenderer. Signatories for tenderers proposing to contract as joint ventures shall state which of the signatories is the lead partner whom the employer shall hold liable for the purpose of the tender offer.

F.2.13.5 Seal the original and each copy of the tender offer as separate packages marking the packages as "ORIGINAL" and "COPY". Each package shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.

F.2.13.6 Where a two-envelope system is required in terms of the tender data, place and seal the returnable documents listed in the tender data in an envelope marked "financial proposal" and place the remaining returnable documents in an envelope marked "technical proposal". Each envelope shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.

F.2.13.7 Seal the original tender offer and copy packages together in an outer package that states on the outside only the employer's address and identification details as stated in the tender data.

F.2.13.8 Accept that the employer will not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated.

F.2.13.9 Accept that tender offers submitted by facsimile or e-mail will be rejected by the employer, unless stated otherwise in the tender data.

F.2.14 Information and data to be completed in all respects

Accept that tender offers, which do not provide all the data or information requested completely and in the form required, may be regarded by the employer as non-responsive.

F.2.15 Closing time

F.2.15.1 Ensure that the employer receives the tender offer at the address specified in the tender data not later than the closing time stated in the tender data. Accept that proof of posting shall not be accepted as proof of delivery.

F.2.15.2 Accept that, if the employer extends the closing time stated in the tender data for any reason, the requirements of these conditions of tender apply equally to the extended deadline.

F.2.16 Tender offer validity

F.2.16.1 Hold the tender offer(s) valid for acceptance by the employer at any time during the validity period stated in the tender data after the closing time stated in the tender data.

F.2.16.2 If requested by the employer, consider extending the validity period stated in the tender data for an agreed additional period with or without any conditions attached to such extension.

F.2.16.3 Accept that a tender submission that has been submitted to the employer may only be withdrawn or substituted by giving the employer's agent written notice before the closing time for tenders that a tender is to be withdrawn or substituted.

F.2.16.4 Where a tender submission is to be substituted, submit a substitute tender in accordance with the requirements of F.2.13 with the packages clearly marked as "SUBSTITUTE".

F.2.17 Clarification of tender offer after submission

Provide clarification of a tender offer in response to a request to do so from the employer during the evaluation of tender offers. This may include providing a breakdown of rates or prices and correction of arithmetical errors by the adjustment of certain rates or item prices (or both). No change in the competitive position of tenderers or substance of the tender offer is sought, offered, or permitted.

Note: Sub-clause F.2.17 does not preclude the negotiation of the final terms of the contract with a preferred tenderer following a competitive selection process, should the Employer elect to do so.

F.2.18 Provide other material

F.2.18.1 Provide, on request by the employer, any other material that has a bearing on the tender offer, the tenderer's commercial position (including notarized joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the employer for the purpose of a full and fair risk assessment. Should the tenderer not provide the material, or a satisfactory reason as to why it cannot be provided, by the time for submission stated in the employer's request, the employer may regard the tender offer as non-responsive.

F.2.18.2 Dispose of samples of materials provided for evaluation by the employer, where required.

F.2.19 Inspections, tests and analysis

Provide access during working hours to premises for inspections, tests and analysis as provided for in the tender data.

F.2.20 Submit securities, bonds, policies, etc.

If requested, submit for the employer's acceptance before formation of the contract, all securities, bonds, guarantees, policies and certificates of insurance required in terms of the conditions of contract identified in the contract data.

F.2.21 Check final draft

Check the final draft of the contract provided by the employer within the time available for the employer to issue the contract.

F.2.22 Return of other tender documents

If so instructed by the employer, return all retained tender documents within 28 days after the expiry of the validity period stated in the tender data.

F.2.23 Certificates

Include in the tender submission or provide the employer with any certificates as stated in the tender data.

F.3 The employer's undertakings**F.3.1 Respond to requests from the tenderer**

F.3.1.1 Unless otherwise stated in the tender Data, respond to a request for clarification received up to five working days before the tender closing time stated in the Tender Data and notify all tenderers who drew procurement documents.

F.3.1.2 Consider any request to make a material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used to prequalify a tenderer to submit a tender offer in terms of a previous procurement process and deny any such request if as a consequence:

- (a) an individual firm, or a joint venture as a whole, or any individual member of the joint venture fails to meet any of the collective or individual qualifying requirements
- (b) the new partners to a joint venture were not prequalified in the first instance, either as individual firms or as another joint venture, or
- (c) in the opinion of the Employer, acceptance of the material change would compromise the outcome of the prequalification process.

F.3.2 Issue Addenda

If necessary, issue addenda that may amend or amplify the tender documents to each tenderer during the period from the date that tender documents are available until three days before the tender closing time stated in the Tender Data. If, as a result a tenderer applies for an extension to the closing time stated in the Tender Data, the Employer may grant such extension and, shall then notify all tenderers who drew documents.

F.3.3 Return late tender offers

Return tender offers received after the closing time stated in the Tender Data, unopened, (unless it is necessary to open a tender submission to obtain a forwarding address), to the tenderer concerned.

F.3.4 Opening of tender submissions

F.3.4.1 Unless the two-envelope system is to be followed, open valid tender submissions in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data. Tender submissions for which acceptable reasons for withdrawal have been submitted will not be opened.

F.3.4.2 Announce at the meeting held immediately after the opening of tender submissions, at a venue indicated in the tender data, the name of each tenderer whose tender offer is opened and, where applicable, the total of his prices, preferences claimed and time for completion for the main tender offer only.

F.3.4.3 Make available the record outlined in F.3.4.2 to all interested persons upon request.

F.3.5 Two-envelope system

F.3.5.1 Where stated in the tender data that a two-envelope system is to be followed, open only the technical proposal of valid tenders in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data and announce the name of each tenderer whose technical proposal is opened.

F.3.5.2 Evaluate the quality of the technical proposals offered by tenderers, then advise tenderers who remain in contention for the award of the contract of the time and place when the financial proposals will be opened. Open only the financial proposals of tenderers, who score in the quality evaluation more than the minimum number of points for quality stated in the tender data, and announce the score obtained for the technical proposals and the total price and any preferences claimed. Return unopened financial proposals to tenderers whose technical proposals failed to achieve the minimum number of points for quality.

F.3.6 Non-disclosure

Not disclose to tenderers, or to any other person not officially concerned with such processes, information relating to the evaluation and comparison of tender offers, the final evaluation price and recommendations for the award of a contract, until after the award of the contract to the successful tenderer.

F.3.7 Grounds for rejection and disqualification

Determine whether there has been any effort by a tenderer to influence the processing of tender offers and instantly disqualify a tenderer (and his tender offer) if it is established that he engaged in corrupt or fraudulent practices.

F.3.8 Test for responsiveness

F.3.8.1 Determine, after opening and before detailed evaluation, whether each tender offer properly received:

- (a) complies with the requirements of these Conditions of Tender,
- (b) has been properly and fully completed and signed, and
- (c) is responsive to the other requirements of the tender documents.

F.3.8.2 A responsive tender is one that conforms to all the terms, conditions, and specifications of the tender documents without material deviation or qualification. A material deviation or qualification is one which, in the Employer's opinion, would:

- (a) detrimentally affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,
- (b) significantly change the Employer's or the tenderer's risks and responsibilities under the contract, or
- (c) affect the competitive position of other tenderers presenting responsive tenders, if it were to be rectified.

Reject a non-responsive tender offer, and not allow it to be subsequently made responsive by correction or withdrawal of the non-conforming deviation or reservation.

F.3.9 Arithmetical errors, omissions and discrepancies

F.3.9.1 Check responsive tenders for discrepancies between amounts in words and amounts in figures. Where there is a discrepancy between the amounts in figures and the amount in words, the amount in words shall govern.

F.3.9.2 Check the highest ranked tender or tenderer with the highest number of tender evaluation points after the evaluation of tender offers in accordance with F.3.11 for:

- (a) the gross misplacement of the decimal point in any unit rate;
- (b) omissions made in completing the pricing schedule or bills of quantities; or
- (c) arithmetic errors in:
 - (i) line item totals resulting from the product of a unit rate and a quantity in bills of quantities or schedules of prices; or
 - (ii) the summation of the prices.

F.3.9.3 Notify the tenderer of all errors or omissions that are identified in the tender offer and either confirm the tender offer as tendered or accept the corrected total of prices.

F.3.9.4 Where the tenderer elects to confirm the tender offer as tendered, correct the errors as follows:

- (a) If bills of quantities or pricing schedules apply and there is an error in the line item total resulting from the product of the unit rate and the quantity, the line item total shall govern and the rate shall be corrected. Where there is an obviously gross misplacement of the decimal point in the unit rate, the line item total as quoted shall govern, and the unit rate shall be corrected.
- (b) Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the tenderer's addition of prices, the total of the prices shall govern and the tenderer will be asked to revise selected item prices (and their rates if bills of quantities apply) to achieve the tendered total of the prices.

F.3.10 Clarification of a tender offer

Obtain clarification from a tenderer on any matter that could give rise to ambiguity in a contract arising from the tender offer.

F.3.11 Evaluation of tender offers**F.3.11.1 General**

Appoint an evaluation panel of not less than three persons. Reduce each responsive tender offer to a comparative offer and evaluate them using the tender evaluation methods and associated evaluation criteria and weightings that are specified in the tender data.

F.3.11.2 Method 1: Financial Offer

In the case of a financial offer:

- (a) Rank tender offers from the most favourable to the least favourable comparative offer.
- (b) Recommend the highest ranked tenderer for the award of the contract, unless there are compelling and justifiable reasons not to do so.
- (c) Re-rank all tenderers should there be compelling and justifiable reasons not to recommend the highest ranked tenderer and recommend the highest ranked tenderer, unless there are compelling and justifiable reasons not to do so and the process set out in this subclause is repeated.

F.3.11.3 Method 2: Financial offer and preference

In the case of a financial offer and preferences:

- (a) Score each tender in respect of the financial offer made and preferences claimed, if any, in accordance with the provisions of F.3.11.7 and F.3.11.8.
- (b) Calculate the total number of tender evaluation points (T_{EV}) in accordance with the following formula:

$$T_{EV} = N_{FO} + N_P$$

where: N_{FO} is the number of tender evaluation points awarded for the financial offer made in accordance with F.3.11.7;
 N_P is the number of tender evaluation points awarded for preferences claimed in accordance with F.3.11.8.

- (c) Rank tender offers from the highest number of tender evaluation points to the lowest.
- (d) Recommend the tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
- (e) Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points, and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set out in this sub-clause is repeated

F.3.11.4 Method 3: Financial offer and quality

In the case of a financial offer and quality:

- (a) Score each tender in respect of the financial offer made and the quality offered in accordance with the provisions

of F.3.11.7 and F.3.11.9, rejecting all tender offers that fail to score the minimum number of points for quality stated in the tender data, if any.

- (b) Calculate the total number of tender evaluation points (T_{EV}) in accordance with the following formula:

$$T_{EV} = N_{FO} + N_Q$$

where: N_{FO} is the number of tender evaluation points awarded for the financial offer made in accordance with F.3.11.7;

N_Q is the number of tender evaluation points awarded for quality offered in accordance with F.3.11.9.

- (c) Rank tender offers from the highest number of tender evaluation points to the lowest.
- (d) Recommend tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
- (e) Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set out in this sub-clause is repeated.

F.3.11.5 Method 4: Financial offer, quality and preferences

In the case of a financial offer, quality and preferences:

- (a) Score each tender in respect of the financial offer made, preference claimed, if any, and the quality offered in accordance with the provisions of F.3.11.7 to F.3.11.9, rejecting all tender offers that fail to score the minimum number of points for quality stated in the tender data, if any.
- (b) Calculate the total number of tender evaluation points (T_{EV}) in accordance with the following formula, unless otherwise stated in the Tender Data:

$$T_{EV} = N_{FO} + N_P + N_Q$$

where: N_{FO} is the number of tender evaluation points awarded for the financial offer made in accordance with F.3.11.7;

N_P is the number of tender evaluation points awarded for preferences claimed in accordance with F.3.11.8.

N_Q is the number of tender evaluation points awarded for quality offered in accordance with F.3.11.9.

- (c) Rank tender offers from the highest number of tender evaluation points to the lowest.
- (d) Recommend the tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
- (e) Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set out in this sub-clause is repeated.

F.3.11.6 Decimal places

Score financial offers, preferences and quality, as relevant, to two decimal places.

F.3.11.7 Scoring Financial Offers

Score the financial offers of remaining responsive tender offers using the following formula:

$$NFO = W_1 \times A$$

where: N_{FO} is the number of tender evaluation points awarded for the financial offer.

W_1 is the maximum possible number of tender evaluation points awarded for the financial offer as stated in the Tender Data.

A is a number calculated using the formula and option described in Table F.1 as stated in the Tender Data.

Table F.1: Formulae for calculating the value of A

(d)	Formula	(e)	Comparison aimed at achieving	(f)	Option 1 ^a	(g)	Option 2 ^a
(h)	1	(i)	Highest price or discount	(j)	$A = (1 + \frac{P-P_m}{P_m})$ (k) P_m	(l)	$A = P / P_m$
(m)	2	(n)	Lowest price or percentage (o) commission / fee	(p)	$A = (1 - \frac{P-P_m}{P_m})$ (q) P_m	(r)	$A = P_m / P$
(s)	a	P _m is the comparative offer of the most favourable comparative offer.					
(t)		P is the comparative offer of the tender offer under consideration.					

F.3.11.8 Scoring preferences

Confirm that tenderers are eligible for the preferences claimed in accordance with the provisions of the tender data and reject all claims for preferences where tenderers are not eligible for such preferences. Calculate the total number of tender evaluation points for preferences claimed in accordance with the provisions of the tender data.

F.3.11.9 Scoring quality

Score each of the criteria and sub-criteria for quality in accordance with the provisions of the Tender Data.

Calculate the total number of tender evaluation points for quality using the following formula:

$$N_Q = W_2 \times S_O / M_S$$

where: S_O is the score for quality allocated to the submission under consideration;
 M_S is the maximum possible score for quality in respect of a submission; and
 W_2 is the maximum possible number of tender evaluation points awarded for the quality as stated in the tender data

F.3.12 Insurance provided by the employer

If requested by the proposed successful tenderer, submit for the tenderer's information the policies and/or certificates of insurance which the conditions of contract identified in the contract data, require the employer to provide.

F.3.13 Acceptance of tender offer

Accept the tender offer, if in the opinion of the employer, it does not present any unacceptable commercial risk and only if the tenderer:

- (a) is not under restrictions, or has principals who are under restrictions, preventing participating in the employer's procurement,
- (b) can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract,
- (c) has the legal capacity to enter into the contract,
- (d) is not insolvent, in receivership, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his business activities, or is subject to legal proceedings in respect of any of the foregoing,
- (e) complies with the legal requirements, if any, stated in the tender data, and
- (f) is able, in the opinion of the employer, to perform the contract free of conflicts of interest.

F.3.14 Prepare contract documents

F.3.14.1 If necessary, revise documents that shall form part of the contract and that were issued by the employer as part of the tender documents to take account of:

- (a) addenda issued during the tender period,
- (b) inclusion of some of the returnable documents, and

(c) other revisions agreed between the employer and the successful tenderer.

F.3.14.2 Complete the schedule of deviations attached to the form of offer and acceptance, if any.

F.3.15 Complete adjudicator's contract

Unless alternative arrangements have been agreed or otherwise provided for in the contract, arrange for both parties to complete formalities for appointing the selected adjudicator at the same time as the main contract is signed.

F.3.16 Notice to unsuccessful tenderers

F.3.16.1 Notify the successful tenderer of the employer's acceptance of his tender offer by completing and returning one copy of the form of offer and acceptance before the expiry of the validity period stated in the tender data, or agreed additional period.

F.3.16.2 After the successful tenderer has been notified of the employer's acceptance of the tender, notify other tenderers that their tender offers have not been accepted.

F.3.17 Provide copies of the contracts

Provide to the successful tenderer the number of copies stated in the Tender Data of the signed copy of the contract as soon as possible after completion and signing of the form of offer and acceptance.

F.3.18 Provide written reasons for actions taken

Provide upon request written reasons to tenderers for any action that is taken in applying these conditions of tender, but withhold information which is not in the public interest to be divulged, which is considered to prejudice the legitimate commercial interests of tenderers or might prejudice fair competition between tenderers.

T2.1: LIST OF RETURNABLE DOCUMENTS

PROJECT TITLE:	REQUEST FOR BIDS FOR THE DESIGN, SUPPLY, INSTALLATION AND 24-MONTH MAINTENANCE OF A NEW ACCESS CONTROL AND INTRUDER DETECTION SYSTEM AT THE NATIONAL ZOOLOGICAL GARDEN IN PRETORIA
CONTRACT NO:	SANBI: NZG357/2020

1. RETURNABLE SCHEDULES REQUIRED FOR TENDER EVALUATION PURPOSES

Tender document name	Number of pages issued	Returnable document
Resolution of Board of Directors (T2.1.01)	1 Page	■ Yes ☐ No
Resolution of Board of Directors to enter into consortia or JVs (T2.1.02) (If Applicable)	2 Pages	■ Yes ☐ No
Special Resolution of Consortia or JVs (T2.1.03) (If applicable)	3 Pages	■ Yes ☐ No
Schedule of proposed sub-contractors (T2.1.04)	1 Page	■ Yes ☐ No
Capacity of Tenderer (T2.1.05)	3 Pages	■ Yes ☐ No
Preference Point System (T2.1.06)	6 Pages	■ Yes ☐ No
Resources to be employed in terms of organization and staffing (T2.1.07)	2 Pages	■ Yes ☐ No
3-month preliminary work programme with estimated monthly expenditure (T2.1.08)	1 Page	■ Yes ☐ No
Unemployment Insurance Fund (UIF) (Clause F2.23)		■ Yes ☐ No
Compensation of Occupational Injuries and Disease Act (COIDA) (Clause F.2.23)		■ Yes ☐ No

2. OTHER DOCUMENTS REQUIRED FOR TENDER EVALUATION PURPOSES

Tender document name	Number of pages issued	Returnable document
Site Inspection Certificate (T2.1.09)	1 Page	■ Yes ☐ No
Declaration of Interest (T2.1.10)	2 Pages	■ Yes ☐ No
Medical Certificate for the confirmation of permanent disabled status (T2.1.11)	1 Page	■ Yes ☐ No
A copy of the Central Suppliers Database Registration Report or registration number (T2.1.12)	3 Pages	■ Yes ☐ No
Financial reference (T2.1.13)	1 Page	■ Yes ☐ No

3. RETURNABLE SCHEDULES THAT WILL BE INCORPORATED INTO THE CONTRACT

Tender document name	Number of pages issued	Returnable document
Record of Addenda to tender documents (T2.1.14)	1 Page	■ Yes ☐ No
Compulsory Enterprise Questionnaire (T2.1.15)	3 Pages	■ Yes ☐ No
Declaration certificate for local production and content for designated sectors (SBD 6.2)	5 Pages	■ Yes ☐ No

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the

Declaration of Bidder's Past Supply Chain Management Practices (SBD 8)	2 Pages	■ Yes □ No
Certificate of Independent Quotation Determination (SBD 9)	4 Pages	■ Yes □ No

4. OTHER DOCUMENTS THAT WILL BE INCORPORATED INTO THE CONTRACT

Tender document name	Number of pages issued	Returnable document
Applicable Form of Guarantee	3 Pages	■ Yes □ No
Priced Bill of Quantities	5 Pages	■ Yes □ No

C1.1 Offer portion of Form of Offer and Acceptance
C1.2 Contract Data (Part 2)
C1.3 Form of Guarantee

RETURNABLE DOCUMENT CHECKLIST

This form has been created as an aid to ensure a tenderer's compliance with the completion of the returnable schedules and subsequent placement in the correct **Technical** and **Financial** envelopes.

A TECHNICAL ENVELOPE (3 COPIES)

Reference No	Document Description	Tick if completed
T2.1.01	Resolution of Board of Directors	
T2.1.02	Resolution of Board of Directors to enter into consortia or JVs (If applicable)	
T2.1.03	Special Resolution of Consortia or JVs (If applicable)	
T2.1.04	Schedule of proposed sub-contractors	
T2.1.05	Capacity of Tenderer	
T2.1.06	Preference Point System	
T2.1.07	Resources to be employed in terms of organization and staffing	
T2.1.09	Site Inspection Certificate	
T2.1.10	Declaration of Interest	
T2.1.11	Medical Certificate for the confirmation of permanent disabled status	
T2.1.12	Copy of Central Suppliers Database (CSD) Registration Report or Registration number	
T2.1.13	Financial reference	
T2.1.14	Record of Addenda to tender documents	
T2.1.15	Compulsory Enterprise Questionnaire	
T2.1.16	OHS Management System Questionnaire	
SBD 8	Declaration of Bidder's Past Supply Chain Management Practices	
SBD 9	Certificate of Independent Quotation Determination	
Clause F.2.23	Unemployment Insurance Fund (UIF)	
Clause F.2.23	Compensation of Occupational Injuries and Disease Act (COIDA)	

B FINANCIAL ENVELOPE (ORIGINAL DOCUMENT)

The entire technical tender document must be submitted in this envelope including the forms as listed below:

Reference No	Document Description	Tick if completed
Form C1.1	Form of Offer and Acceptance	
Form C1.2	Contract Data – Part 1	
Form C2.2	Priced Bill of Quantities	
Form T2.1.08	Estimated Monthly Expenditure	
SBD 6.2	Declaration certificate for local production and content for designated sectors	

T2.1.01: RESOLUTION OF BOARD OF DIRECTORS

RESOLUTION of a meeting of the Board of *Directors / Members / Partners of:

(legally correct full name and registration number, if applicable, of the Enterprise)

Held at _____ (place)

On _____ (date)

RESOLVED that:

1. The Enterprise submits a Bid / Tender to the South African National Biodiversity Institute in respect of the following project:

(project description as per Bid / Tender Document)

Bid / Tender Number: _____ (Bid / Tender Number as per Bid / Tender Document)

2. *Mr/Mrs/Ms: _____

in *his/her Capacity as: _____ (Position in the Enterprise)

and who will sign as follows: _____

be, and is hereby, authorised to sign the Bid / Tender, and any and all other documents and/or correspondence in connection with and relating to the Bid / Tender, as well as to sign any Contract, and any and all documentation, resulting from the award of the Bid / Tender to the Enterprise mentioned above.

	Name	Capacity	Signature
1			
2			
3			
4			

Note:

1. * Delete which is not applicable
2. **NB.** This resolution must be signed by all the Directors / Members / Partners of the Bidding Enterprise
3. Should the number of Directors / Members/Partners exceed the space available above, additional names and signatures must be supplied on a separate page

ENTERPRISE STAMP

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the

words "Tender" or "Tenderer".

T2.1.02: RESOLUTION OF BOARD OF DIRECTORS TO ENTER INTO CONSORTIA OR JOINT VENTURES

RESOLUTION of a meeting of the Board of *Directors / Members / Partners of:

(Legally correct full name and registration number, if applicable, of the Enterprise)

Held at _____ (place)

On _____ (date)

RESOLVED that:

3. The Enterprise submits a Bid /Tender, in consortium/Joint Venture with the following Enterprises:

(List all the legally correct full names and registration numbers, if applicable, of the Enterprises forming the Consortium/Joint Venture)

to the South African National Biodiversity Institute in respect of the following project:

(Project description as per Bid /Tender Document)

Bid / Tender Number: _____ (Bid / Tender Number as per Tender Document)

4. *Mr/Mrs/Ms: _____

in *his/her Capacity as: _____ (Position in the Enterprise)

and who will sign as follows: _____

be, and is hereby, authorised to sign a consortium/joint venture agreement with the parties listed under item 1 above, and any and all other documents and/or correspondence in connection with and relating to the consortium/joint venture, in respect of the project described under item 1 above.

5. The Joint Venture formation/arrangement will be in the following proportions:

Name of Contractor	Proportion (%)

6. The Enterprise accepts joint and several liabilities with the parties listed under item 1 above for the due fulfilment of the obligations of the joint venture deriving from, and in any way connected with, the Contract to be entered into with the Employer in respect of the project described under item 1 above.

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the

7. The Enterprise chooses as its *domicilium citandi et executandi* for all purposes arising from this joint venture agreement and the Contract with the Employer in respect of the project under item 1 above:

Physical address: _____

 _____ (code)

Postal Address: _____

 _____ (code)

Telephone number: _____ (code)

Fax number: _____ (code)

	Name	Capacity	Signature
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Note:

1. * Delete which is not applicable
2. **NB.** This resolution must be signed by all the Directors / Members / Partners of the Bidding Enterprise
3. Should the number of Directors / Members/Partners exceed the space available above, additional names and signatures must be supplied on a separate page

ENTERPRISE STAMP

T2.1.03: SPECIAL RESOLUTION OF CONSORTIA OR JOINT VENTURES

RESOLUTION of a meeting of the duly authorised representatives of the following legal entities who have entered into a consortium/joint venture to jointly bid for the project mentioned below: *(legally correct full names and registration numbers, if applicable, of the Enterprises forming a Consortium/Joint Venture)*

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

Held at _____ *(place)*

On _____ *(date)*

RESOLVED that:

- A. The above-mentioned Enterprises submit a Bid in Consortium/Joint Venture to the South African National Biodiversity Institute in respect of the following project:

(Project description as per Bid /Tender Document)

Bid / Tender Number: _____ *(Bid / Tender Number as per Bid /Tender Document)*

- B. Mr/Mrs/Ms: _____

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the

in *his/her Capacity as: _____ (Position in the Enterprise)

and who will sign as follows: _____

be, and is hereby, authorised to sign the Bid, and any and all other documents and/or correspondence in connection with and relating to the Bid, as well as to sign any Contract, and any and all documentation, resulting from the award of the Bid to the Enterprises in Consortium/Joint Venture mentioned above.

- C. The Enterprises constituting the Consortium/Joint Venture, notwithstanding its composition, shall conduct all business under the name and style of: _____
- D. The Enterprises to the Consortium/Joint Venture accept joint and several liability for the due fulfilment of the obligations of the Consortium/Joint Venture deriving from, and in any way connected with, the Contract entered into with the Employer in respect of the project described under item A above.
- E. Any of the Enterprises to the Consortium/Joint Venture intending to terminate the consortium/joint venture agreement, for whatever reason, shall give the Employer 30 day's written notice of such intention. Notwithstanding such decision to terminate, the Enterprises shall remain jointly and severally liable to the Employer for the due fulfilment of the obligations of the Consortium/Joint Venture as mentioned under item D above.
- F. No Enterprise to the Consortium/Joint Venture shall, without the prior written consent of the other Enterprises to the Consortium/Joint Venture and of the Employer, cede any of its rights or assign any of its obligations under the consortium/joint venture agreement in relation to the Contract with the Employer referred to herein.
- G. The Enterprises choose as the *domicilium citandi et executandi* of the Consortium/Joint Venture for all purposes arising from the consortium/joint venture agreement and the Contract with the Employer in respect of the project under item A above:

Physical address: _____

_____ (code)

Postal Address: _____

_____ (code)

Telephone number: _____ (code)

Fax number: _____ (code)

	Name	Capacity	Signature
1			
2			
3			

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the

4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

Note:

1. * Delete which is not applicable
2. **NB.** This resolution must be signed by all the Duly Authorised Representatives of the Legal Entities to the Consortium Joint Venture submitting this Bid
3. Should the number of Duly Authorised Representatives of the Legal Entities joining forces in this Bid exceed the space available above, additional names and signatures must be supplied on a separate page
4. Resolutions, duly completed and signed, from the separate Enterprises who participate in this Consortium/Joint Venture must be attached to the Special Resolution.

T2.1.04: SCHEDULE OF PROPOSED SUBCONTRACTORS

PROJECT TITLE:	REQUEST FOR BIDS FOR THE DESIGN, SUPPLY, INSTALLATION AND 24-MONTH MAINTENANCE OF A NEW ACCESS CONTROL AND INTRUDER DETECTION SYSTEM AT THE NATIONAL ZOOLOGICAL GARDEN IN PRETORIA
CONTRACT NO:	SANBI: NZG357/2020

We notify you that it is our intention to employ the following Subcontractors for work in this contract. If we are awarded a contract we agree that this notification does not change the requirement for us to submit the names of proposed Subcontractors in accordance with requirements in the contract for such appointments. If there are no such requirements in the contract, then your written acceptance of this list shall be binding between us.

	Name and address of proposed Subcontractor	Nature and extent of work	Previous experience with Subcontractor
1			
2			
3			
4			

Name of representative	Signature	Capacity	Date

Name of organisation:	
------------------------------	--

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the

T2.1.05: CAPACITY OF TENDERER

PROJECT TITLE:	REQUEST FOR BIDS FOR THE DESIGN, SUPPLY, INSTALLATION AND 24-MONTH MAINTENANCE OF A NEW ACCESS CONTROL AND INTRUDER DETECTION SYSTEM AT THE NATIONAL ZOOLOGICAL GARDEN IN PRETORIA
CONTRACT NO:	SANBI: NZG357/2020

1. WORK CAPACITY: *(The Tenderer is requested to furnish the following particulars, attach additional pages if more space is required. Failure to furnish the particulars may result in the Tender being disregarded.)*

Skilled artisans employed		Unskilled employees employed	
Categories of artisans	Number	Categories of employees	Number

1.1. Provide full particulars of:

Machinery	Plant	Workshops

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

2. PARTICULARS OF COMMITMENTS WHICH THE TENDERER HAS PREVIOUSLY COMPLETED AND PRESENTLY ENGAGED WITH:**2.1. Current projects:**

Project		Place (town)	Reference / Contact person	Contact Tel. No.	Contract amount	Contract period	Date of commencement	Scheduled date of completion
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

2.2. Previous projects:

Project	Place (town)	Reference / Contact person	Contact Tel. No.	Contract amount	Contract period	Date of commencement	Scheduled date of completion	Actual date of completion
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

Name of Tenderer	Signature	Date

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

T2.1.06: PREFERENCE POINT SYSTEM

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2017

This preference form must form part of all bids invited. It contains general information and serves as a claim form for preference points for Broad-Based Black Economic Empowerment (B-BBEE) Status Level of Contribution

NB: BEFORE COMPLETING THIS FORM, BIDDERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF B-BBEE, AS PRESCRIBED IN THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017.

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to all bids:

- the 80/20 system for requirements with a Rand value equal to or above R30 000 and up to R50 000 000 (all applicable taxes included); and
- the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

1.2 The value of this bid is estimated to not exceed R50 000 000.00 (all applicable taxes included) and therefore the 80/20 system shall be applicable.

1.3 Preference points for this bid shall be awarded for:

- (a) Price; and
- (b) B-BBEE Status Level of Contribution.

1.3.1 The maximum points for this bid are allocated as follows:

	POINTS
1.3.1.1 PRICE	80
1.3.1.2 B-BBEE STATUS LEVEL OF CONTRIBUTION	20
Total points for Price and B-BBEE must not exceed	100
1.4 Failure on the part of a bidder to fill in and/or to sign this form and submit a B-BBEE Verification Certificate from a Verification Agency accredited by the South African Accreditation System (SANAS) or a Registered Auditor approved by the Independent Regulatory Board of Auditors (IRBA) or an Accounting Officer as contemplated in the Close Corporation Act (CCA) together with the bid, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.	
1.5 The purchaser reserves the right to require of a bidder, either before a bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the purchaser.	

2. DEFINITIONS

- 2.1.1 **“all applicable taxes”** includes value-added tax, pay as you earn, income tax, unemployment Insurance fund contributions and skills development levies;
- 2.2 **“B-BBEE”** means broad-based black economic empowerment as defined in section 1 of the Broad - Based Black Economic Empowerment Act;
- 2.3 **“B-BBEE status level of contributor”** means the B-BBEE status received by a measured entity Based on its overall performance using the relevant scorecard contained in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;
- 2.4 **“bid”** means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of services, works or goods, through price quotations, advertised competitive bidding processes or proposals;
- 2.5 **“Broad-Based Black Economic Empowerment Act”** means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- 2.6 **“comparative price”** means the price after the factors of a non-firm price and all unconditional discounts that can be utilized have been taken into consideration;
- 2.7 **“consortium or joint venture”** means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract;
- 2.8 **“contract”** means the agreement that results from the acceptance of a bid by an organ of state;
- 2.9 **“EME”** means any enterprise with an annual total revenue of R5 million or less.
- 2.10 **“Firm price”** means the price that is only subject to adjustments in accordance with the actual increase or decrease resulting from the change, imposition, or abolition of customs or excise duty and any other duty, levy, or tax, which, in terms of the law or regulation, is binding on the contractor and demonstrably has an influence on the price of any supplies, or the rendering costs of any service, for the execution of the contract;
- 2.11 **“functionality”** means the measurement according to predetermined norms, as set out in the bid documents, of a service or commodity that is designed to be practical and useful, working or operating, taking into account, among other factors, the quality, reliability, viability and durability of a service and the technical capacity and ability of a bidder;
- 2.12 **“non-firm prices”** means all prices other than “firm” prices;
- 2.13 **“person”** includes a juristic person;
- 2.14 **“rand value”** means the total estimated value of a contract in South African currency, calculated at the time of bid invitations, and includes all applicable taxes and excise duties;
- 2.15 **“sub-contract”** means the primary contractor's assigning, leasing, making out work to, or employing, another person to support such primary contractor in the execution of part of a project in terms of the contract;
- 2.16 **“total revenue”** bears the same meaning assigned to this expression in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act and promulgated in the *Government Gazette* on 9 February 2007;
- 2.17 **“trust”** means the arrangement through which the property of one person is made over or bequeathed to a trustee to administer such property for the benefit of another person; and

Any reference to words “Bid” or Bidder” herein and/or in any other documentation shall be construed to have the same meaning as the words “Tender” or “Tenderer”.

- 2.18 **“trustee”** means any person, including the founder of a trust, to whom property is bequeathed in order for such property to be administered for the benefit of another person.

3. ADJUDICATION USING A POINT SYSTEM

- 3.1 The bidder obtaining the highest number of total points will be awarded the contract.
- 3.2 Preference points shall be calculated after prices have been brought to a comparative basis taking into account all factors of non-firm prices and all unconditional discounts.
- 3.3 Points scored must be rounded off to the nearest 2 decimal places.
- 3.4 In the event that two or more bids have scored equal total points, the successful bid must be the one scoring the highest number of preference points for B-BBEE.
- 3.5 However, when functionality is part of the evaluation process and two or more bids have scored equal points including equal preference points for B-BBEE, the successful bid must be the one scoring the highest score for functionality.
- 3.6 Should two or more bids be equal in all respects, the award shall be decided by the drawing of lots.

4. POINTS AWARDED FOR PRICE

4.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

A maximum of 80 or 90 points is allocated for price on the following basis:

$$\begin{array}{ccc}
 \mathbf{80/20} & \mathbf{or} & \mathbf{90/10} \\
 \\
 P_s = 80 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right) & \text{or} & P_s = 90 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)
 \end{array}$$

Where

- P_s = Points scored for comparative price of bid under consideration
- P_t = Comparative price of bid under consideration
- $P_{\min}$ = Comparative price of lowest acceptable bid

5. Points awarded for B-BBEE Status Level of Contribution

- 5.1 In terms of Regulation 5 (2) and 6 (2) of the Preferential Procurement Regulations, preference points must be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

B-BBEE Status Level of Contributor	Number of points (90/10 system)	Number of points (80/20 system)
1	10	20
2	9	18
3	8	14
4	5	12
5	4	8
6	3	6
7	2	4
8	1	2
Non-compliant contributor	0	0

- 5.2 Bidders who qualify as EMEs in terms of the B-BBEE Act must submit a certificate issued by an Accounting Officer as contemplated in the CCA or a Verification Agency accredited by SANAS or a Registered Auditor. Registered auditors do not need to meet the prerequisite for IRBA's approval for the purpose of conducting verification and issuing EMEs with B-BBEE Status Level Certificates.
- 5.3 Bidders other than EMEs must submit their original and valid B-BBEE status level verification certificate or a certified copy thereof, substantiating their B-BBEE rating issued by a Registered Auditor approved by IRBA or a Verification Agency accredited by SANAS.
- 5.4 A trust, consortium or joint venture, will qualify for points for their B-BBEE status level as a legal entity, provided that the entity submits their B-BBEE status level certificate.
- 5.5 A trust, consortium or joint venture will qualify for points for their B-BBEE status level as an unincorporated entity, provided that the entity submits their consolidated B-BBEE scorecard as if they were a group structure and that such a consolidated B-BBEE scorecard is prepared for every separate bid.
- 5.6 Tertiary institutions and public entities will be required to submit their B-BBEE status level certificates in terms of the specialized scorecard contained in the B-BBEE Codes of Good Practice.
- 5.7 A person will not be awarded points for B-BBEE status level if it is indicated in the bid documents that such a bidder intends sub-contracting more than 25% of the value of the contract to any other enterprise that does not qualify for at least the points that such a bidder qualifies for, unless the intended sub-contractor is an EME that has the capability and ability to execute the sub-contract.
- 5.8 A person awarded a contract may not sub-contract more than 25% of the value of the contract to any Other enterprise that does not have an equal or higher B-BBEE status level than the person concerned, unless the contract is sub-contracted to an EME that has the capability and ability to execute the sub-contract.

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

6. BID DECLARATION

- 6.1 Bidders who claim points in respect of B-BBEE Status Level of Contribution must complete the following:

7. B-BBEE STATUS LEVEL OF CONTRIBUTION CLAIMED IN TERMS OF PARAGRAPHS 1.3.1.2 AND 5.1

- 7.1 B-BBEE Status Level of Contribution: = (maximum of 10 or 20 points)

(Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 5.1 and must be substantiated by means of a B-BBEE certificate issued by a Verification Agency accredited by SANAS or a Registered Auditor approved by IRBA or an Accounting Officer as contemplated in the CCA).

8 SUB-CONTRACTING

- 8.1 Will any portion of the contract be sub-contracted? YES / NO (delete which is not applicable)

- 8.1.1 If yes, indicate:

- (i) what percentage of the contract will be subcontracted?%
- (ii) the name of the sub-contractor?
- (iii) the B-BBEE status level of the sub-contractor?
- (iv) whether the sub-contractor is an EME? YES / NO (delete which is not applicable)

9 DECLARATION WITH REGARD TO COMPANY/FIRM

- 9.1 Name of company/firm :

- 9.2 VAT registration number :

- 9.3 Company registration number :

9.4 TYPE OF COMPANY/ FIRM

- ☐ Partnership/Joint Venture / Consortium
- ☐ One-person business/sole propriety
- ☐ Close corporation
- ☐ Company
- ☐ (Pty) Limited

[TICK APPLICABLE BOX]

9.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES

.....

.....

.....

9.6 COMPANY CLASSIFICATION

- ☐ Manufacturer
- ☐ Supplier
- ☐ Professional service provider
- ☐ Other service providers, e.g. transporter, etc.

[TICK APPLICABLE BOX]

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

9.7 Total number of years the company/firm has been in business?

9.8 I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBE status level of contribution indicated in paragraph 7 of the foregoing certificate, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:

- (i) The information furnished is true and correct
- (ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form
- (iii) In the event of a contract being awarded as a result of points claimed as shown in paragraph 7, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct
- (iv) If the B-BBEE status level of contribution has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –
 - (a) disqualify the person from the bidding process
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct
 - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation
 - (d) restrict the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
 - (e) forward the matter for criminal prosecution.

WITNESSES:

1.

.....

2.

SIGNATURE(S) OF BIDDER(S)

DATE:

ADDRESS:.....

.....

T2.1.07: RESOURCES TO BE EMPLOYED IN TERMS OF ORGANIZATION AND STAFFING

The Tenderer shall list below the key personnel (including first nominee and the second choice alternate), whom he proposes to employ on the Contract should his tender be accepted, both at his headquarters and on the Site, to direct and for the execution of the work, together with their qualifications, experience, positions held and their nationalities.

[illegible]

Any reference to words "Bid" or "Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

T2.1.08: 3-MONTH WORK PROGRAMME WITH ESTIMATED MONTHLY EXPENDITURE

The Tenderer shall state below the estimated value of work to be completed every month, based on his preliminary 3-month programme and his tendered unit rates.

MONTH	VALUE
1	R
2	R
3	R
4	R
5	R
6	R
	COMPLETION OF CONTRACT
TOTAL	R

T2.1.09: SITE INSPECTION MEETING CERTIFICATE

PROJECT TITLE:	REQUEST FOR BIDS FOR THE DESIGN, SUPPLY, INSTALLATION AND 24-MONTH MAINTENANCE OF A NEW ACCESS CONTROL AND INTRUDER DETECTION SYSTEM AT THE NATIONAL ZOOLOGICAL GARDEN IN PRETORIA
CONTRACT NO:	SANBI: NZG357/2020
CLOSING DATE:	14 February 2020 at 11:00

This is to certify that I, _____ representing
 _____ in the company of
 _____ visited the site on: _____

I have made myself familiar with all local conditions likely to influence the work and the cost thereof. I further certify that I am satisfied with the description of the work and explanations given at the site inspection meeting and that I understand perfectly the work to be done, as specified and implied, in the execution of this contract.

Name of Tenderer	Signature	Date

Name of Engineer's Representative	Signature	Date

T2.1.10: DECLARATION OF INTEREST

Any person, including persons in the employ of the South African National Biodiversity Institute; or persons acting on behalf of the South African National Biodiversity Institute performing business as a sole proprietor or in partnership; or persons acting in the capacity of a trustee/s of a trust; or any legal entity, including legal entities and trusts, of which the members, directors, shareholders, trustees and/or beneficiaries are in the employ of the South African National Biodiversity Institute or act on behalf of the South African National Biodiversity Institute, may make an offer or offers in terms of this tender invitation.

In view of the possible allegations of favouritism, should the resulting tender, or part thereof, be awarded to persons employed by the South African National Biodiversity Institute; or to persons who act on behalf of the South African National Biodiversity; or to persons connected or related to them, the bidder / tenderer or the bidder / tenderer's duly authorized representative shall disclose herein any relationship and/or kinship, including blood relation, which he/she; his/her employer; the bidder / tenderer's management; members; directors; partners; shareholders; trustees; and/or beneficiaries may have with any person or persons in the employ of the South African National Biodiversity Institute and/or with any person or persons acting on behalf of the South African National Biodiversity Institute and who may directly or indirectly be involved in, and/or may be in a position to influence the adjudication and/or evaluation and/or award of this bid / tender.

In order to give effect to the above, the following questionnaire shall be completed and submitted with the tender. Failure to furnish the information requested in the questionnaire below may render the tender submission not to be considered at all.

(In answering the questions below, indicate the applicable answer with a ✓ and cross the other out)

9. Is the bidder / tenderer and/or the duly authorized representative in the employ of the South African National Biodiversity Institute

☐ YES ☐ NO

If yes, State the full particulars of such person/s, together with their current position held as an employee of the South African National Biodiversity Institute.

10. Is the bidder / tenderer and/or the duly authorized representative in the employ of the person/s or legal entity acting on behalf of the South African National Biodiversity Institute, and who may directly or indirectly be involved in, and/or may be in a position to influence, the adjudication and/or evaluation and/or award of this tender?

☐ YES ☐ NO

If yes, State the full particulars of such person/s, together with their current position held as an employee of such person/s or legal entity acting on behalf of the South African National Biodiversity Institute.

11. Does the bidder / tenderer, the bidder's / tenderer's duly authorised representative, and/or any of the bidder's / tenderer's employees, management, partners, members, directors, shareholders, trustees and/or beneficiaries have any relationship (family, friend, business- or financial interest) with a person, or persons in the employ of the South African National Biodiversity Institute and/or in the employ of the person/s or legal entity acting on behalf of the South African National Biodiversity Institute, and who may directly or indirectly be involved in, and/or may be in a position to influence, the adjudication and/or evaluation and/or award of this tender?

☐ YES ☐ NO

If yes, State the full particulars of the persons between whom the relationship exists, the nature of the relationship and the current position/status of such employee/s of the South African National Biodiversity Institute and/or of the person/s and/or legal entity acting on behalf of the South African National Biodiversity Institute herein.

I, the undersigned, _____
(name of the person duly authorised to sign the bid / tender documents on behalf of the bidder / tenderer) hereby certify that the information, furnished above, is correct in all respects. I accept and understand that the South African National Biodiversity Institute, may act against me and the bidder / tenderer, jointly and severally, should this declaration prove to be false.

Duly signed at _____ on this the _____ day of _____ (month)
_____ (year)

Name of Bidder / Tenderer

Full name of signatory

Capacity of Signatory

Signature



Commissioner of oaths stamp

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

T2.1.11: MEDICAL CERTIFICATE FOR THE CONFIRMATION OF PERMANENT DISABLED STATUS

PROJECT TITLE:	REQUEST FOR BIDS FOR THE DESIGN, SUPPLY, INSTALLATION AND 24-MONTH MAINTENANCE OF A NEW ACCESS CONTROL AND INTRUDER DETECTION SYSTEM AT THE NATIONAL ZOOLOGICAL GARDEN IN PRETORIA
CONTRACT NO:	SANBI: NZG357/2020

I, _____ (surname and name), Identity number, _____
 _____ do hereby declare that I am a registered medical practitioner, with my
 practice number being _____, practicing at _____
 _____ (Physical and postal addresses) declare that I have examined Mr/Mrs
 _____, identity number of _____
 _____ and have found the said person to be permanently disabled
 or having a recurring disability.

“Disability” means, in respect of a person, a permanent impairment of a physical, intellectual, or sensory function, which results in restricted, or lack of, ability to perform an activity in the manner, or within the range, considered normal for a human being.” – As per Preferential Procurement Policy Framework Act: No 5 of 2000 (PPPFA)

The nature of the disability is as follows:

Thus signed at _____ on this day of _____ of _____.

 Signature Date

OFFICIAL STAMP OF
MEDICAL PRACTITIONER

T2.1.12: COPY OF CENTRAL SUPPLIERS DATABASE (CSD) REGISTRATION REPORT OR REGISTRATION NUMBER

A copy of CSD registration report or registration number must be included for evaluation purposes.

T2.1.13: FINANCIAL REFERENCES

Notes to tenderer:

1. The tenderer shall attach to this form a letter from the bank in which it is declared how he conducts his account. The contents of the bank's letter must state the credit rating that the bank, in addition to the information required below, accords to the tenderer for the business envisaged by this tender. Failure to provide the required letter with the tender submission may render the tenderer's offer unresponsive in terms of tender condition F3.8.
2. The tenderer's banking details as they appear below shall be completed.
3. In the event that the tenderer is a joint venture enterprise, details of all the members of the joint venture shall be similarly provided and attached to this form.

Details of Company's Bank

DESCRIPTION OF BANK DETAIL	BANK DETAILS APPLICABLE TO TENDERER'S HEAD OFFICE
Name of bank	
Branch name	
Branch code	
Street address	
Postal address	
Name of manager	
Telephone number	
Fax number	
Account number	

T2.1.14: RECORD OF ADDENDA TO TENDER DOCUMENTS

PROJECT TITLE:	REQUEST FOR BIDS FOR THE DESIGN, SUPPLY, INSTALLATION AND 24-MONTH MAINTENANCE OF A NEW ACCESS CONTROL AND INTRUDER DETECTION SYSTEM AT THE NATIONAL ZOOLOGICAL GARDEN IN PRETORIA
CONTRACT NO:	SANBI: NZG357/2020

I / We confirm that the following communications received from the South African National Biodiversity Institute before the submission of this tender offer, amending the tender documents, have been taken into account in this tender offer: *(Attach additional pages if more space is required)*

	Date	Title or Details
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		

Name of Tenderer	Signature	Date

12. I / We confirm that no communications were received from the South African National Biodiversity Institute before the submission of this tender offer, amending the tender documents.

Name of Tenderer	Signature	Date

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

T2.1.15: COMPULSORY ENTERPRISE QUESTIONNAIRE

The following particulars must be furnished. In the case of a joint venture, separate enterprise questionnaires in respect of each partner must be completed and submitted.

Section 1: Name of enterprise:

Section 2: VAT registration number, if any:

Section 3: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*

*Complete only if sole proprietor or partnership and attach separate page if more than 3 partners.

Section 4: Particulars of companies and close corporations

Company registration number:

Close corporation number:

Tax reference number:

Section 5: Record in the service of the state

Indicate by marking the relevant boxes with a cross, if any sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently, or has been within the last 12 months, in the service of any of the following:

☐ a member of any municipal council ☐ a member of any provincial legislature ☐ a member of the National Assembly or the National Council of Province ☐ a member of the board of directors of any municipal entity ☐ an official of any municipality or municipal entity	☐ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No 1 of 1999) ☐ a member of an accounting authority of any national or provincial public entity ☐ an employee of Parliament or a provincial legislature
--	--

If any of the above boxes are marked, disclose the following:

*

Name of sole proprietor, partner, director, manager, principal shareholder or stakeholder	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months

*Insert separate page if necessary.

Section 7: Record of spouses, children and parents in the service of the state

Indicate by marking the relevant boxes with a cross, if any spouse, child or parent or a sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently, or has been within the last 12 months, in the service of any of the following:

☐ a member of any municipal council ☐ a member of any provincial legislature ☐ a member of the National Assembly or the National Council of Province ☐ a member of the board of directors of any municipal entity ☐ an official of any municipality or municipal entity	☐ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No 1 of 1999) ☐ a member of an accounting authority of any national or provincial public entity ☐ an employee of Parliament or a provincial legislature
--	--

*

Name of spouse, child or parent	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months

*Insert separate page if necessary.

The undersigned, who warrants that he/she is duly authorised to do so on behalf of the enterprise:

- (i) authorises the Employer to obtain a tax clearance certificate from the South African Revenue Services that my/our tax matters are in order
- (ii) confirms that neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act, 2004
- (iii) confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise, has within the last five years been convicted of fraud or corruption
- (iv) confirms that I/we are not associated, linked or involved with any other tendering entities submitting tender offers and have no other relationship with any of the Tenderers or those responsible for compiling the Scope of Work that could cause or be interpreted as a conflict of interest, and
- (v) confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

Signed: Date:

Name: Position:

Enterprise name:

T2.1.16: OHS MANAGEMENT SYSTEM QUESTIONNAIRE

OHS Plan and completed Tenderer OHS Management System Questionnaire (based on the Baseline Risk Assessment, OHS Specifications and Tenderer OHS Management System Questionnaire attached).

SBD 6.2**DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS**

This Standard Bidding Document (SBD) must form part of all bids invited. It contains general information and serves as a declaration form for local content (local production and local content are used interchangeably).

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2011, the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

1. General Conditions

- 1.1. Preferential Procurement Regulations, 2011 (Regulation 9) makes provision for the promotion of local production and content.
- 1.2. Regulation 9.(1) prescribes that in the case of designated sectors, where in the award of bids local production and content is of critical importance, such bids must be advertised with the specific bidding condition that only locally produced goods, services or works or locally manufactured goods, with a stipulated minimum threshold for local production and content will be considered.
- 1.3. Where necessary, for bids referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4. A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5. The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

Where

x is the imported content in Rand

y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by South African Reserve Bank (SARB) at 12:00 on the date of advertisement of the bid as indicated in paragraph 4.1 below.

The SABS approved technical specification number SATS 1286:2011 is accessible on [http://www.thedti.gov.za/industrial development/ip.jsp](http://www.thedti.gov.za/industrial%20development/ip.jsp) at no cost.

1.6 A bid may be disqualified if –

- (a) this Declaration Certificate and the Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation; and
- (b) the bidder fails to declare that the Local Content Declaration Templates (Annex C, D and E) have been audited and certified as correct.

2. Definitions

- 2.1. **“bid”** includes written price quotations, advertised competitive bids or proposals;
- 2.2. **“bid price”** price offered by the bidder, excluding value added tax (VAT);
- 2.3. **“contract”** means the agreement that results from the acceptance of a bid by an organ of state;
- 2.4. **“designated sector”** means a sector, sub-sector or industry that has been designated by the Department of Trade and Industry in line with national development and industrial policies for local production, where only locally produced services, works or goods or locally manufactured goods meet the stipulated minimum threshold for local production and content;
- 2.5. **“duly sign”** means a Declaration Certificate for Local Content that has been signed by the Chief Financial Officer or other legally responsible person nominated in writing by the Chief Executive, or senior member / person with management responsibility (close corporation, partnership or individual).
- 2.6. **“imported content”** means that portion of the bid price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or its subcontractors) and which costs are inclusive of the costs abroad (this includes labour or intellectual property costs), plus freight and other direct importation costs, such as landing costs, dock duties, import duty, sales duty or other similar tax or duty at the South African port of entry;
- 2.7. **“local content”** means that portion of the bid price which is not included in the imported content, provided that local manufacture does take place;
- 2.8. **“stipulated minimum threshold”** means that portion of local production and content as determined by the Department of Trade and Industry; and
- 2.9. **“sub-contract”** means the primary contractor’s assigning, leasing, making out work to, or employing another person to support such primary contractor in the execution of part of a project in terms of the contract.

3. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

<u>Description of services, works or goods</u>	<u>Stipulated minimum threshold</u>
_____	_____ %
_____	_____ %
_____	_____ %

Any reference to words “Bid” or Bidder” herein and/or in any other documentation shall be construed to have the same meaning as the words “Tender” or “Tenderer”.

4. Does any portion of the services, works or goods offered have any imported content?

(Tick applicable box)

YES		NO	
-----	--	----	--

- 4.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the general conditions must be the rate(s) published by SARB for the specific currency at 12:00 on the date of advertisement of the bid.

The relevant rates of exchange information is accessible on www.reservebank.co.za.

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Bidders must submit proof of the SARB rate (s) of exchange used.

5. Were the Local Content Declaration Templates (Annex C, D and E) audited and certified as correct?

(Tick applicable box)

YES		NO	
-----	--	----	--

- 5.1. If yes, provide the following particulars:

- (a) Full name of auditor:
- (b) Practice number:
- (c) Telephone and cell number:
- (d) Email address:

(Documentary proof regarding the declaration will, when required, be submitted to the satisfaction of the Accounting Officer / Accounting Authority)

6. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dti must be informed accordingly in order for the dti to verify and in consultation with the AO/AA provide directives in this regard.

LOCAL CONTENT DECLARATION
(REFER TO ANNEX B OF SATS 1286:2011)

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO.

ISSUED BY: (Procurement Authority / Name of Institution):

.....
 NB

1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.

2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on <http://www.thdti.gov.za/industrialdevelopment/ip.jsp>. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, (full names),
 do hereby declare, in my capacity as
 of(name of bidder
 entity), the following:

(a) The facts contained herein are within my own personal knowledge.

(b) I have satisfied myself that:

- (i) the goods/services/works to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011; and
- (ii) the declaration templates have been audited and certified to be correct.

(c) The local content percentage (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C:

Bid price, excluding VAT (y)	R
Imported content (x), as calculated in terms of SATS 1286:2011	R
Stipulated minimum threshold for local content (paragraph 3 above)	
Local content %, as calculated in terms of SATS 1286:2011	

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above.

The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E.

(d) I accept that the Procurement Authority / Institution has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.

(e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Institution imposing any or all of the remedies as provided for in Regulation 13 of the Preferential Procurement Regulations, 2011 promulgated under the Preferential Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

SIGNATURE: _____

DATE: _____

WITNESS No. 1 _____

DATE: _____

WITNESS No. 2 _____

DATE: _____

SBD 8**DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES**

- 1 This Standard Bidding Document must form part of all bids invited.
- 2 It serves as a declaration to be used by institutions in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
- 3 The bid of any bidder may be disregarded if that bidder, or any of its directors have-
 - a. abused the institution's supply chain management system;
 - b. committed fraud or any other improper conduct in relation to such system; or
 - c. failed to perform on any previous contract.
- 4 In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

Item	Question	Yes	No
4.1	Is the bidder or any of its directors listed on the National Treasury's database as companies or persons prohibited from doing business with the public sector? (Companies or persons who are listed on this database were informed in writing of this restriction by the National Treasury after the <i>audi alteram partem</i> rule was applied).	Yes ☐	No ☐
4.1.1	If so, furnish particulars:		
4.2	Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)? To access this Register enter the National Treasury's website, www.treasury.gov.za, click on the icon "Register for Tender Defaulters" or submit your written request for a hard copy of the Register to facsimile number (012) 326 5445.	Yes ☐	No ☐
4.2.1	If so, furnish particulars:		
4.3	Was the bidder or any of its directors convicted by a court of law (including a court outside of the Republic of South Africa) for fraud or corruption during the past five years?	Yes ☐	No ☐

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

4.3.1	If so, furnish particulars:		
4.4	Was any contract between the bidder and any organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes ☐	No ☐
4.4.1	If so, furnish particulars:		

SBD 8**CERTIFICATION**

**I, THE UNDERSIGNED (FULL NAME)
CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS TRUE
AND CORRECT.**

**I ACCEPT THAT, IN ADDITION TO CANCELLATION OF A CONTRACT, ACTION MAY BE TAKEN
AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.**

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

SBD 9**CERTIFICATE OF INDEPENDENT QUOTATION DETERMINATION**

- 1 This Standard Bidding Document (SBD) must form part of all quotations¹ invited.
- 2 Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).² Collusive bidding is a *per se* prohibition meaning that it cannot be justified under any grounds.
- 3 Treasury Regulation 16A9 prescribes that accounting officers and accounting authorities must take all reasonable steps to prevent abuse of the supply chain management system and authorizes accounting officers and accounting authorities to:
 - a. disregard the bid of any bidder if that bidder, or any of its directors have abused the institution's supply chain management system and or committed fraud or any other improper conduct in relation to such system.
 - b. cancel a contract awarded to a supplier of goods and services if the supplier committed any corrupt or fraudulent act during the bidding process or the execution of that contract.
- 4 This SBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.
- 5 In order to give effect to the above, the attached Certificate of Bid Determination (SBD 9) must be completed and submitted with the bid:

¹ Includes price quotations, advertised competitive bids, limited bids and proposals.

² Bid rigging (or collusive bidding) occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and / or services through a bidding process. Bid rigging is, therefore, an agreement between competitors not to compete.

SBD 9**CERTIFICATE OF INDEPENDENT BID DETERMINATION**

I, the undersigned, in submitting the accompanying bid:

SANBI: NZG357/2020
REQUEST FOR BIDS FOR THE DESIGN, SUPPLY, INSTALLATION AND 24-MONTH
MAINTENANCE OF A NEW ACCESS CONTROL AND INTRUDER DETECTION SYSTEM AT
THE NATIONAL ZOOLOGICAL GARDEN IN PRETORIA

do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of: _____ that:

(Name of Bidder)

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign the bid, on behalf of the bidder;
5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
 - (a) has been requested to submit a bid in response to this bid invitation;
 - (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
 - (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder
6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or consortium¹ will not be construed as

¹ Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

collusive bidding.

7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
- (a) prices;
 - (b) geographical area where product or service will be rendered (market allocation)
 - (c) methods, factors or formulas used to calculate prices;
 - (d) the intention or decision to submit or not to submit, a bid;
 - (e) the submission of a bid which does not meet the specifications and conditions of the bid; or
 - (f) bidding with the intention not to win the bid.
8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
9. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
- a)
10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

C1.1: FORM OF OFFER AND ACCEPTANCE

PROJECT TITLE:	REQUEST FOR BIDS FOR THE DESIGN, SUPPLY, INSTALLATION AND 24-MONTH MAINTENANCE OF A NEW ACCESS CONTROL AND INTRUDER DETECTION SYSTEM AT THE NATIONAL ZOOLOGICAL GARDEN IN PRETORIA
CONTRACT NO:	SANBI: NZG357/2020

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract for the appointment of a contractor for the design, supply and installation of a new access control and intruder detection system at the National Zoological Garden in Pretoria

The tenderer, identified in the Offer signature block, has examined the documents listed in the Tender Data and addenda thereto as listed in the Returnable Schedules, and by submitting this Offer has accepted the Conditions of Tender.

The tenderer, identified in the Offer signature block, has examined the draft contract as listed in the Acceptance section and agreed to provide this Offer.

By the representative of the tenderer, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance the tenderer offers to perform all of the obligations and liabilities of the **Contractor** under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the conditions of contract identified in the Contract Data.

THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF VAT IS:

(in words)Rand;

R..... (in figures)

THE OFFERED PRICES ARE AS STATED IN THE PRICING SCHEDULE

This Offer may be accepted by the Employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document including the Schedule of Deviations (if any) to the tenderer before the end of the period of validity stated in the Tender Data, or other period as agreed, whereupon the tenderer becomes the party named as the **Contractor** in the conditions of contract identified in the Contract Data.

Signature(s)

Name(s)

Capacity

For the tenderer:

.....

.....
(Insert name and address of organisation)

Name &
signature of
witness

Date

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer"

Acceptance

By signing this part of this Form of Offer and Acceptance, the Employer identified below accepts the tenderer's Offer. In consideration thereof, the Employer shall pay the Contractor the amount due in accordance with the conditions of contract identified in the Contract Data. Acceptance of the tenderer's Offer shall form an agreement between the Employer and the tenderer upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement.

The terms of the Contract are contained in

- Part C1 Agreements and Contract Data *[which includes this Agreement]*
- Part C2 Pricing Data
- Part C3 Scope of Work
- Part C4 Site Information

and drawings and documents or parts thereof, which may be incorporated by reference into Parts C1 to C4 above.

Deviations from and amendments to the documents listed in the Tender Data and any Addenda thereto listed in the Tender Schedules, as well as any changes to the terms of the Offer agreed by the Tenderer and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Agreement. No amendments to or deviations from the said documents are valid unless contained in this Schedule, which must be duly signed by the authorised representative(s) of both parties.

The Tenderer shall within the time required to submit documentation in accordance with clause 5.3.2 of the Contract Data (C1.2) after receiving a completed copy of this Agreement, including the Schedule of Deviations (if any), contact the Employer's agent (whose details are given in the Contract Data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data at, or just after, the date this Agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this Agreement.

Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Tenderer receives one fully completed original copy of this document, including the Schedule of Deviations (if any). Unless the Tenderer (now Contractor) within five working days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this Agreement, this Agreement shall constitute a binding Contract between the parties.

Signature(s)

Name(s)

Capacity

For the

Employer:

.....

.....

(Insert name and address of organisation)

Name &
signature of
witness

Date

.....

Schedule of Deviations

1 Subject	
Details	
.....	
.....	
.....	
2 Subject	
Details	
.....	
.....	
.....	
3 Subject	
Details	
.....	
.....	
.....	
4 Subject	
Details	
.....	
.....	
.....	
5 Subject	
Details	
.....	
.....	
.....	

By the duly authorised representatives signing this Schedule of Deviations, the Employer and the Tenderer agree to and accept the foregoing Schedule of Deviations as the only deviations from and amendments to the documents listed in the Tender Data and Addenda thereto as listed in the Tender Schedules, as well as any confirmation, clarification or change to the terms of the offer agreed by the Tenderer and the Employer during this process of offer and acceptance.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the Tender Documents and the receipt by the Tenderer of a completed signed copy of this Agreement shall have any meaning or effect in the Contract between the parties arising from this Agreement.

FOR THE TENDERER:

Signature(s) _____

Name(s) _____

Capacity _____

*[Name and address of organisation]*Name and
signature of
witness

Date _____

FOR THE EMPLOYER:

Signature(s) _____

Name(s) _____

Capacity _____

*[Name and address of organisation]*Name and
signature of
witness

Date _____

CONFIRMATION OF RECEIPT

The Tenderer (now Contractor), identified in the Offer part of this Agreement, hereby confirms receipt from the Employer, identified in the Acceptance part of this Agreement, of one fully completed original copy of this Agreement, including the Schedule of Deviations (if any) today:

The..... *[day]*

of *[month]*

20.....*[year]*

at *[place]*

For the Contractor:

.....
Signature

.....
Name

.....
Capacity

Signature and name of witness:

.....
Signature

.....
Name

C.1.2 Contract Data

PROJECT TITLE:	REQUEST FOR BIDS FOR THE DESIGN, SUPPLY, INSTALLATION AND 24-MONTH MAINTENANCE OF A NEW ACCESS CONTROL AND INTRUDER DETECTION SYSTEM AT THE NATIONAL ZOOLOGICAL GARDEN IN PRETORIA
CONTRACT NO:	SANBI: NZG357/2020
C.1.2 Contract Data	
The Conditions of Contract are the General Conditions of Contract for Construction Works (Second Edition, 2010) published by the South African Institution of Civil Engineering. Copies of these conditions of contract may be obtained from the South African Institution of Civil Engineering (Tel: 011-805 5947). Each item of data given below is cross-referenced to the clause in the Conditions of Contract to which it mainly applies.	
Part 1: Data provided by the Employer	
Clause	Data
1.1.1.13	Clause 1.1.1.13: Defects Liability Period The Defects Liability Period is 12 months, measured from the date of the Certificate of Completion.
1.1.1.14	Clause 1.1.1.14: Due Completion Date The time for achieving Practical Completion is three (3) months after the Commencement Date.
1.1.1.15	The name of the Employer is The South African National Biodiversity Institute , represented by Mr L. Mudimeli and/or such persons or person duly authorised to be the Employer in writing.
1.2.1.2	The Employer's address for receipt of communications is: Delivery Address: Attention: Supply Chain Manager: Supply Chain Management The South African National Biodiversity Institute 2 Cussonia Ave Brummeria Pretoria Postal Address: Attention: Supply Chain Manager: Supply Chain Management The South African National Biodiversity Institute Private Bag X101 Silverton, 0184 South Africa
1.1.1.26	Clause 1.3.: Pricing Strategy The Pricing Strategy is a re-measurement contract
3.1.3	Clause 3.1.3: Specific Approval of the Employer Required The Engineer is required to obtain the specific approval of the Employer before executing any of the following functions or duties: 1 Clause 6.3: Variations 2 Clause 5.11.1: Suspension of the Works

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

	3	Clause 5.12: Extension of Time for Practical Completion																								
5.3.1	Clause 5.3.1: Commencement of the Works The documentation required before commencement with Works execution are: Health and Safety Plan (Refer to Clause 4.3) Initial programme (Refer to Clause 5.6) Security (Refer to Clause 6.2) Insurance (Refer to Clause 8.6) Cash flow projection																									
5.3.2	Clause 5.3.2: Timeframe to deliver documentation The time to submit the documentation required before commencement with Works execution is fourteen (14) days .																									
5.4.2	The access and possession of Site shall not be exclusive to the Contractor but as set out in the Site Information.																									
5.8.1	Clause 5.8.1: Non-Working Times The non-working days are Saturdays and Sundays. The special non-working days are: 1. All gazetted public holidays falling outside the year end break.																									
5.12.2.	Clause 5.12.2.: Some reasons for extension of time Clause 5.12.2.2: Abnormal climatic conditions. <i>Add the following:</i> Regardless of the cause of any delay an extension of time will only be considered if it can be shown that the activity delayed is on the critical path indicated on the Programme of Works (Clause 5.6.1). No extension of time will be granted in respect of any delays attributed to normal climatic conditions. Normal climatic conditions shall be deemed to include normal rainfall and associated wet conditions and materials, strong winds and extremes of temperature. However, in the event that delays to critical activities exceed the number of working days listed below for each month, then abnormal climatic conditions shall be deemed to exist, and an extension of time shall be granted in accordance with the provisions of that clause. The number of days quoted below shall be regarded as a fair estimate of the delays to be anticipated and allowed for under normal climatic conditions where inclement weather prevents or disrupts work on the critical path. <table><tr><td>January</td><td>4 days</td><td>May</td><td>2 days</td><td>September</td><td>2 days</td></tr><tr><td>February</td><td>4 days</td><td>June</td><td>2 days</td><td>October</td><td>2 days</td></tr><tr><td>March</td><td>2 days</td><td>July</td><td>2 days</td><td>November</td><td>5 days</td></tr><tr><td>April</td><td>2 days</td><td>August</td><td>2 days</td><td>December</td><td>4 days</td></tr></table> Claims for delays for abnormal climatic conditions shall be accompanied by substantiating facts and evidence, which shall be submitted timeously as each day or half-day delay is experienced. Should an extension of time be granted by the Engineer such extension of time will be added to the Time for Completion. It shall be further noted that where the critical path is not affected, no extension of time for <u>abnormal</u> climatic conditions or for any other reason will be entertained. Rainfall of less than 2 mm between 07:00 and 17:00 shall not be deemed to be an inclement weather day.		January	4 days	May	2 days	September	2 days	February	4 days	June	2 days	October	2 days	March	2 days	July	2 days	November	5 days	April	2 days	August	2 days	December	4 days
January	4 days	May	2 days	September	2 days																					
February	4 days	June	2 days	October	2 days																					
March	2 days	July	2 days	November	5 days																					
April	2 days	August	2 days	December	4 days																					
5.13.1	Clause 5.13.1: Penalty for Delay The penalty for failing to complete the Works is R2 000 per day.																									

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5.16.3	Clause 5.16.3: Latent defect liability The latent defect period is one year.
6.2	Clause 6.2: Security The Form of Guarantee is to contain the wording of the pro-forma document as per the contract document. The liability of the guarantee shall be for 10% of the Approved Contract Sum.
6.8.2	Clause 6.8.2: Contract Price Adjustment Contract Price Adjustment: Is not applicable
6.8.3	Clause 6.8.3: Variation in Cost of Special Materials Price adjustments for variations in the costs of special materials are not allowed
6.10.1.5	Clause 6.10.1.5: Interim Payments - Materials on Site No percentage advance on materials on site but not yet built into the Permanent Works is allowed for, or will be paid.
6.10.3	Clause 6.10.3: Retention Money The percentage retention on the amounts due to the Contractor is 10% (ten percent). The limit of retention is 5% of the Contract Sum, including allowances for contingencies. This reduces to 2.5% upon the issue of the Certificate of Completion. The remaining 2.5% retention will be released upon the issue of the Final - Approval Certificate upon lapse of the defects liability period. Security plus Retention amount will not exceed 15% of the Contract Sum.
6.10.4	Clause 6.10.4: Delivery, dissatisfaction with and payment of payment certificate <i>Replace "28 days" in the second last sentence with "30 days"</i>
6.10.6	Clause 6.10.6: Set-Off and Delayed Payments A guarantee <i>in lieu</i> of retention is not permitted.
6.10.6.2	Clause 6.10.6.2: Set-Off and Delayed Payments <i>Replace the words "prime overdraft rate certified by the Contractor's banker" with the words "interest rate as determined by the Minister of Finance, from time to time, in terms of section 80(1)(b) of the Public Finance Management Act, 1999 (Act No. 1 of 1999), will apply"</i>
6.10.8	Clause 6.10.8: Contractor's completion statement <i>Replace "28 days" in the last sentence with "30 days"</i>
6.10.9	Clause 6.10.9: Final payment certificate <i>Replace "28 days" in the last sentence with "30 days"</i>
6.12	Clause 6.12: Additional <i>Add Clause 6.12 as follows:</i> In respect of any amount owed by the Contractor to the Employer, the Contractor shall pay the Employer interest at the rate as determined by the Minister of Finance, from time to time, in terms of section 80(1)(b) of the Public Finance Management Act, 1999 (Act No. 1 of 1999), will apply.
8.6.1	Clause 8.6.1: Insurance <i>Add the following:</i> Damage to the Works

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	(a) Without in any way limiting the Contractor's obligations in terms of the Contract, the Contractor shall bear the full risk of damage to and/or destruction of the Works by whatever cause during construction of the Works and hereby indemnifies and holds harmless the Employer against any such damage. The Contractor shall take such precautions and security measures and other steps for the protection and security of the Works, as he may deem necessary. (b) The Contractor shall at all times proceed immediately to remove or dispose of any debris arising from damage to or destruction of the Works and to rebuild, restore, replace and/or repair the Works. (c) The Employer shall carry the risk of damage to or destruction of the Works and material paid for by the Employer that is the result, whether direct or indirect or proximate or remote, of the excepted risks as set out in Clause 8.6.2. (d) Where the Employer bears the risk in terms of this Contract, the Contractor shall, if requested to do so, reinstate any damage or destroyed portions of the Works and the costs of such reinstatement shall be measured and valued in terms of Clause 6.7 hereof.
8.6.1.1.2	Clause 8.6.1.1.2: Insurance The value of the materials supplied by the Employer to be included in the insurance sum is Nil.
8.6.1.1.3	Clause 8.6.1.1.3: Insurance The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is Nil.
8.6.1.3	Clause 8.6.1.3: Insurance The limit of indemnity for liability insurance is R5 million for any single claim – the number of claims to be unlimited during the construction.
8.6.1.5	Clause 8.6.1.5: Additional Insurance Additional Insurance is required for the following: a) Where the contract involves manufacturing and/or fabrication of the works or part thereof at premises other than the Site, the Contractor shall satisfy the Employer that all materials and equipment for incorporation in the works are adequately insured during manufacture and/or fabrication. In the event of the Employer having an insurable interest in such works during manufacture or fabrication then such interest shall be noted by endorsement to the Contractor's Policies of Insurance.
10.5, 10.6, 10.7	Clause 10.5, 10.6, 10.7: Dispute Resolution Dispute resolution shall be by Arbitration.
11	Clause 12: Confidentiality The Contractor shall treat the details of the Works comprised in this Contract as private and confidential (save in so far as may be necessary for the purposes hereof) and shall not publish or disclose the same or any particulars thereof in any trade or technical paper elsewhere without prior written consent of the Engineer.
12	Clause 13: Amendments in writing No amendments of this Contract or of any provisions or terms hereof and no waiver or relaxation or suspension of any of the provisions or terms of this Contract shall be of any force or effect unless reduced to writing and signed by both the parties hereto.

PART 2: DATA PROVIDED BY THE CONTRACTOR

Clause

1.1.1.9 The Contractor is

1.2.1.2 The Contractor's address for receipt of communications is:

Physical address:

Postal address:

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Telephone:

Fax:

Email:

C1.3 FORM OF GUARANTEE

GUARANTOR DETAILS AND DEFINITIONS

"Guarantor" means:

Physical address:

"Employer" means:

"Contractor" means:

"Engineer" means:

"Works" means:

"Site" means:

"Contract" means: The Agreement made in terms of the Form of Offer and Acceptance and such amendments or additions to the Contract as may be agreed in writing between the parties.

"Contract Sum" means: The accepted amount inclusive of tax of R

Amount in words:

"Guaranteed Sum" means: The maximum aggregate amount of R.....

Amount in words:

"Expire Date" means:

CONTRACT DETAILS

Engineer issues: Interim Payment Certificates, Final Payment Certificate and the Certificate Completion of the Works as defined in the Contract.

PERFORMANCE GUARANTEE

- 1 The Guarantor's liability shall be limited to the amount of the Guaranteed Sum.
- 2 The Guarantor's period of liability shall be from and including the date of issue of this Performance Guarantee and up to and including the Expiry Date or the date of issue by the Engineer of the Certificate of Completion of the Works or the date of payment in full of the Guaranteed Sum, whichever occurs first. The Engineer and/or the Employer shall advise the Guarantor in writing of the date on which the Certificate of Completion of the Works has been issued.
- 3 The Guarantor hereby acknowledge that:
 - 3.1 any reference in this Performance Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship;
 - 3.2 its obligation under this Performance Guarantee is restricted to the payment of money.
- 4 Subject to the Guarantor's maximum liability referred to in 1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 4.1 to 4.3:
 - 4.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Engineer in an Interim or Final Payment Certificate has not been made in terms

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- of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 4.2;
- 4.2 A first written demand issued by the Employer to the guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) days has elapsed since the first written demand in terms of 4.1 and the sum certified has still not been paid;
- 4.3 A copy of the aforesaid payment certificate which entitles the Employer to receive payment in terms of the Contract of the sum certified in 4.
- 5 Subject to the Guarantor's maximum liability referred to in 1, the Guarantor undertakes to pay to the Employer the Guaranteed Sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address calling up this Performance Guarantee, such demand stating that:
- 5.1 the Contract has been terminated due to the Contractor's default and that this Performance Guarantee is called up in terms of 5; or
- 5.2 a provisional or final sequestration or liquidation court order has been granted against the Contractor and that the Performance Guarantee is called up in terms of 5; and
- 5.3 the aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional/final sequestration and/or the provisional liquidation court order.
- 6 It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4 and 5 shall not exceed the Guarantor's maximum liability in terms of 1.
- 7 Where the Guarantor has made payment in terms of 5, the Employer shall upon the date of issue of the Final Payment Certificate submit an expense account to the Guarantor showing how all monies received in terms of this Performance Guarantee have been expended and shall refund to the Guarantor any resulting surplus. All monies refunded to the Guarantor in terms of this Performance Guarantee shall bear interest at the prime overdraft rate of the Employer's bank compounded monthly and calculated from the date payment was made by the Guarantor to the Employer until the date of refund.
- 8 Payment by the Guarantor in terms of 4 or 5 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.
- 9 Payment by the Guarantor in terms of 5 will only be made against the return of the original Performance Guarantee by the Employer.
- 10 The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may deem fit and the Guarantor shall not have the right to claim his release from this Performance Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.
- 11 The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.
- 12 This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 2, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.
- 13 This Performance Guarantee, with the required demand notices in terms of 4 or 5, shall be regarded as a liquid document for the purposes of obtaining a court order.
- 14 Where this Performance Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Signed at

Date

Guarantor's signatory: (1)

Capacity.....

Guarantor's signatory: (2)

Part C2: Pricing Data and Bill of Quantities

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C2.1. Pricing Instructions

1. Measurement and payment clauses of the COLTO (1998)/SABS 1200 Standardised Specifications, as well as the Particular Specifications, shall be deemed to form part of and included in the pricing instructions.
2. The units of measurement described in the Bill of Quantities are metric units. Abbreviations used in the Bill of Quantities are as follows:

%	=	percent	m ² .pass	=	square metre-pass
h	=	hour	m ³	=	cubic metre
ha	=	hectare	m ³ .km	=	cubic metre-kilometre
kg	=	kilogram	MN	=	meganewton
kl	=	kilolitre	MN.m	=	meganewton-metre
km	=	kilometre	MPa	=	megapascal
km-pass	=	kilometre-pass	No.	=	number
kPa	=	kilopascal	Prov sum	=	Provisional sum
kW	=	kilowatt	P C sum	=	Prime Cost sum
l	=	litre	sum	=	lump sum
m	=	metre	t	=	ton (1 000 kg)
mm	=	millimetre	W/day	=	Work day
m ²	=	square metre			

3. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
4. The prices and rates to be inserted in the Bill of Quantities are to be the full inclusive prices for the work described under the items. Such prices and rates shall cover all costs and expenses that may be required 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. These prices shall be used as a basis for assessment of payment for additional work that may have to be carried out.
5. It will be assumed that prices included in the Bill 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 or www.iso.org for information on standards).
6. Where the Scope of Work requires detailed drawings and design 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.
7. An item against which no price is entered will be considered to be covered by the other price s or rates in the Bill of Quantities. A single lump sum will apply should a number of items be grouped together for pricing purposes.
8. The quantities set out in the Bill of Quantities are approximate and do not necessarily represent the actual amount of work to be done. The quantities of work accepted and certified for payment will be used for determining payments due and not the quantities given in the Bills of Quantities.
9. Pricing in the Schedules **shall not include Value Added Tax (VAT)**. Provision is made in the Summary to the Schedule of Quantities for VAT to be added.
10. Reasonable compensation will be received where no pay item appears in respect of work required in the Bills of Quantities in terms of the Contract and which is not covered in any other pay item.
11. The short descriptions of the items of payment given in the Bill of Quantities 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.
12. The Bill of Quantities has been drawn up in accordance with the latest issue of the COLTO (1998)/SABS1200 Standardised Specifications. Descriptions in the Bill of Quantities are abbreviated and must be read in conjunction with the measurement and payment clauses of the applicable specifications.

C2.2. Bill of Quantities

SECTION A: PRELIMINARY AND GENERAL

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount (Excl. VAT) R c
		Fixed-charge items				
		Contractual requirements	Sum			
		Establish facilities on the Site				
		Facilities for Contractor:				
		Offices and storage sheds	Sum			
		Workshops	Sum			
		Living accommodation	Sum			
		Ablution and latrine facilities	Sum			
		Tools and equipment	Sum			
		Water supplies, electric power and communications	Sum			
		Dealing with water	Sum			
		Access	Sum			
		Fencing and Security for Site Establishment	Sum			
		Access to and around works	Sum			
		Other fixed-charge obligations	Sum			
		Removal of Site establishment on completion	Sum			
		Health and safety:				
		General safety obligations	Sum			
		Risk assessment	Sum			
		Health and safety plan	Sum			
		Training	Sum			
		Medical assessment of employees	Sum			
		Time-related items				
		Carried forward / ...				

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		Brought forward / ...				
		Contractual requirements	Sum			
		Operate and maintain facilities on the Site for duration of construction except where otherwise stated				
		Other time-related obligations		-	-	
		Health and safety:				
		General safety obligations	Sum			
		Health and safety plan	Sum			
		Construction Safety Officer and other appointments	Sum			
		Erect survey beacons on sites	No.			
		Sums stated provisionally by Engineer				
		Commission on Item A4.2 (State % and extend as an amount)	%			
		Compliance with the requirements of the Environmental Management Plan for the duration of the Contract	Sum			
	SUB TOTAL	SECTION A : PRELIMINARY AND GENERAL			R	

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SCHEDULE C: Bill of Quantity

Item no	Description	Unit	Quantity	Supply	Install	Amount
	All rates shall include design, supply, installation, labelling, commissioning, connections, mounting etc. for a complete working installation					
100.00	Decommission and making neat of the old access control and intruder detection system	Lump Sum	1			R150 000.00
101.00	Access control system headend equipment, including cabling					
101.01	Access control server, rackmount c/w monitor as per manufacturer's recommendations	Sum	1			R -
101.02	Access control software, similar or equal approved to Gallagher command centre	Sum	1			R -
101.03	Intelligent IP based access and alarm controller, similar or equal approved to Gallagher controller 6 000	No	1			R -
101.04	Universal reader interface - Wiegand Variant	No	38			R -
101.05	12VDC 8Ahr battery	No	25			R -
101.06	Workstation (mini PC form factor or approved equivalent) for access enrolment c/w 1 x 24" HDMI monitors and stands, keyboard, mouse, cables, etc.	Sum	1			R -
101.07	Security locking mechanism for workstation and monitors	No	4			R -
101.08	Sundry installation materials and accessories	Sum	1			R -
102.00	Enrolment hardware, complete with all connection cabling					
102.01	Biometric optical enrolment scanner (take-on reader), similar or equal approver to MA300	No	1			R -

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102.02	Fingerprint enrolment and template management license, similar or equal approved to MA MACI Licence + Verif Dongle	No	1			R	-
102.03	User database license, similar or equal approved to Morpho Sigma 3k upgrade licence	No	1			R	-
102.04	Web camera for capturing enrolment/visitor photo	No	1			R	-
102.05	User (150) enrolment onto system	No	150			R	-
102.06	Access control card (Prox©) programmer	No	1			R	-
102.07	Allowance for access control cards (Prox©)	No	250			R	-
102.08	Sundry installation materials and accessories	Sum	1			R	-
103.00	Access control system field equipment complete with all connection cabling						
103.01	Biometric fingerprint and card reader, similar or equal approved to MA SIGMA lite multi including reader integration	No	76			R	-
103.02	"No Touch" pushbutton on stainless steel face plate complete with fixing plate	No	76			R	-
103.03	300kg Magnetic door lock 12VDC, fail unsecured with door status relay output, Incl. Fixing Plates, Z-bracket, etc.	No	63			R	-
103.04	Green Emergency door release resettable break glass unit with transparent hinged flap and flap seal	No	56			R	-
103.05	Sundry installation materials and accessories	Sum	1			R	-
104.00	Intruder Detection field equipment complete with connection cabling						
104.01	Alarm keypad	No	28			R	-

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104.01	Local alarm piezo sounder c/w backbox, re-triggerable 3 sec - 3 hours timer PCB linked to green BGU	No	28			R -
104.02	300kg Magnetic door lock 12VDC, fail unsecured with door status relay output, Incl. Fixing Plates, Z-bracket, etc.	No	76			R -
104.03	Recessed door monitor, complete	No	120			R -
104.04	2A Power Supply Unit c/w 12VDC 8Ahr battery and enclosure with lockable door complete.	No	120			R -
104.05	PIR wired detectors	Sum	250			R -
104.05	Sundry installation materials and accessories	Sum	1			R -
104.06	Attic stock of main components of the installed system	Lump sum	1			Fixed amount determined by engineer

SECTION D: 24 MONTHS MAINTENANCE CONTRACT:

The below quotation shall include the maintaining of the access control and intruder detection system in good working order for a period of 24 months. The starting date of the 24-months maintenance contract will commence after the final completion of the installation of the system.

Item No	Payment Clause	Short Description	Unit			Amount (Excl. VAT) R c
		24-months maintenance contract	Sum			
SUB-TOTAL		SCHEDULE E: 24-MONTHS MAINTENANCE CONTRACT				

SUMMARY

		Amount (Excl. VAT)
	SCHEDULE A	
	SCHEDULE B	
	SCHEDULE C	
	SCHEDULE D	

NET TOTAL OF TENDER

Add 15% for Value Added Tax

GROSS TOTAL OF TENDER
Carried to Tender Form

Signed on behalf of Tenderer

Date

Part C3: Scope of Works

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C4.1	HEALTH AND SAFETY	111

Status

Should any requirement or provision in the parts of the Scope of Work conflict with any requirement of any Standardised Specification, Particular Specification or any drawings, the order of precedence, unless otherwise specified, is:

Scope of Work
Standardised Specifications
Drawings

C3.1 Description of the Works

C3.1.1 Employer's Objectives

This contract contains the design, supply and installation of an access control and intruder detection system at the National Zoological Garden located in 232 Boom Street, Daspoort, Pretoria, Gauteng, South Africa, to be installed in the following buildings:

- Quarantine facilities
 - Biometrics
 - "No Touch" pushbutton
 - Intruder detection
- Aquarium park
 - Biometrics
 - "No Touch" pushbutton
 - Intruder detection
- Reptile park
 - Biometrics
 - "No Touch" pushbutton
 - Sliding Gate (Biometrics)
 - Intruder detection
- Educational Hall
 - Biometrics
 - "No Touch" pushbutton
 - Intruder detection
- Main entrance
 - Turn stiles (Biometrics)
 - Booms (Biometrics)
- Main building
 - Biometrics
 - "No Touch" pushbutton
 - Server room (Biometrics) ("No Touch" pushbutton)
 - Parking area Turn Style (Biometrics)
 - Intruder detection
- Biobank
 - Biometrics
 - "No Touch" pushbutton
 - Intruder detection
- Resurge student centre
 - Biometrics
 - "No Touch" pushbutton
 - Intruder detection
- Main resurge building
 - Biometrics
 - "No Touch" pushbutton
 - Inside the building (Biometrics)
 - Intruder detection

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- Animal kitchen
 - Biometrics
 - “No Touch” pushbutton
 - Intruder detection
- Animal feed area
 - Turn style (Biometrics)
 - Intruder detection
- Forensics building
 - Biometrics
 - “No Touch” pushbutton
 - Intruder detection
- Bio-forensics building
 - Biometrics
 - “No Touch” pushbutton
 - Intruder detection
- Veterinary hospital
 - Biometrics
 - “No Touch” pushbutton
 - Intruder detection
- Grey house
 - Biometrics
 - “No Touch” pushbutton
 - Intruder detection
- Intruder detection for the:
 - Flamingo Restaurant and
 - Water Hole Restaurant

This contract further includes the following:

- a) The design of the system
- b) Spare parts, tools and manuals as specified
- c) All equipment and material, not specified, but which are required to execute the contract as specified and in accordance with all other regulations, statutes and codes of practice which are applicable, and
- d) 24-Month maintenance contract.

C3.1.2 General

C3.1.2.1 Site conditions

The contractor shall familiarise themselves with the site conditions prior to undertaking or providing cost estimates for any work. Specific conditions to be observed include, but are not limited to, the main contractor's site access and entry requirements, OHS requirements, qualification and identification of personnel.

C3.1.2.2 Time elapsed

Due to the time elapsing between the release of this specification and the installation and construction works, it is anticipated that some of the equipment proposed will be superseded by later models by construction time. The contractor is to review products and confirm the models of all equipment and products proposed with the engineer one month prior to the procurement and installation of the equipment, interfaces to the other equipment and systems.

C3.1.2.3 System design

The scope of work shall be for the design, supply, installation, programming, testing, commissioning and maintenance of the system as detailed in this specification. Ancillary works to be carried out by the contractor shall include, but not be limited to:

- Project management of the scope of work
- Project coordination with other services trades to ensure timely and successful completion of the scope of work including on-site and off-site project meetings as required
- Project documentation
- User training
- Maintenance during the Defects Liability Period
- The supply, construction, programming, testing, commissioning and maintenance of the installation shall comply with all relevant Statutory Regulations, and the latest editions (current at the time of Tender) of all applicable standards as listed in the specification
- The contractor shall operate an auditable quality assurance procedure covering the supply, construction, inspection and testing of the installation
- The contractor shall provide all materials and equipment not explicitly mentioned in this specification, but which is obviously needed for the completion of the scope of work. This is not limited to the system only, but also includes all tools, equipment for testing, safety equipment, working platforms, scaffolding, ancillary materials, etc., needed to complete the design, supply, installation, programming, commissioning and maintenance of the system
- The contractor shall make do allowance as per the schedule of quantities for the configuration of graphics, report staff training, etc. related to the system
- The operation of the system shall be configurable per the client's requirements.

C3.1.2.4 System requirements

- The various system requirements shall be as detailed for each section
- All equipment installed under this contract shall comply with the requirements of IEC 61000 Parts 1 to 6 ELECTROMAGNETIC COMPATIBILITY (EMC)
- Any equipment found producing Electromagnetic interference subsequent to commissioning, shall be suppressed or replaced to the satisfaction of the Engineer without any cost to the Employer.

C3.1.2.5 Components and equipment

- In addition to section specific requirements the following general component and equipment requirements shall be adhered to

- All materials, equipment and components shall be new, of good quality and fit for purpose. The contractor shall not provide without written approval products that are obsolete, discontinued or about to be discontinued
- The contractor shall provide equipment and associated accessories which are the products of established manufacturers regularly engaged in the manufacture of such equipment applicable to the system
- All equipment and materials used in these works shall be standard components that are regularly manufactured and utilised in the manufacturers' system
- Attic stock of the main components of the installed system shall be required. The final quantities and items shall be agreed with the engineer during construction.
- All system components shall operate reliably within the range of -10 degrees to +55 degrees and 98% non-condensing humidity
- To ensure the long-term dependability of the system, the contractor shall provide all system components with appropriate environmental protections including (as appropriate):
 - Protective enclosures
 - Seals
 - Insulation
 - Water proofing
 - Rust proofing
 - UV protection.
- Any modifications to equipment to meet the intent of this specification shall be performed in a way that does not alter the manufacturers' warranty
- The fault current rupturing capacity of all equipment guaranteed by the manufacturers thereof must at least be greater than the unsymmetrical fault level of the system of which it forms a part. Should this not be the case, enough back-up protection must be provided by installing correctly sized HRC fuses.

C3.1.2.6 Interfacing with other systems

System interfacing requirements shall be as detailed for each service required.

C3.1.2.7 Installation of components and equipment

- In addition to section specific requirements the following general installation of components and equipment requirements shall be adhered to.
- The contractor shall be responsible for coordination with the main contractor and with other works and trades including civil, building, electrical, mechanical and security where work is dependent upon or carried out in conjunction with these works. This includes but is not restricted to:
 - Use of site and facilities
 - Closure of restriction of access to site and facilities
 - Scheduling of works and resources
 - Segregation of services
 - Site reinstatement.
- Major items requiring coordination are listed as follows:
 - Coordinate with other trades to ensure that no conflict occurs between proposed cable, cable tray and ducting routes, pipe runs and air conditioning ductwork, hydraulics pipework and the like
 - Ensure staging of works is to the requirements of the Construction Program.
- The location of all outlets, switches and equipment indicated in the drawings is indicative only and may be relocated within a 3 000 mm radius to suit coordination with other services, finishes, architectural preference and to meet code requirements. The exact locations are to be determined by reference to architectural plans, sections and details and are to be confirmed with the engineer prior to installation. Architectural room data sheets and room layouts sheets shall also be adhered to.

- The installation and mounting of all equipment shall ensure that the components remain operational and connected to the structure and to their foundations (if applicable) throughout a seismic event by means of proper installation of all anchors and mounting hardware. The contractor shall issue a seismic compliance certificate at completion.
- All equipment shall be securely mounted using proprietary fixtures and fittings.
- The method of equipment installation shall not adversely affect the function or structural integrity of the structure to which the equipment is attached.
- The method of equipment installation shall not compromise the IP rating of the equipment.
- Framework and brackets
 - Site-fabricated framework and brackets shall not be used
 - Framework and brackets shall be positioned so as not compromise the removal and replacement of equipment
 - Where it is necessary to modify on site any pre-fabricated galvanised mild steel framework, the cut edges shall be dressed and treated immediately with an approved cold galvanising paint to prevent corrosion
 - Fasteners securing equipment to framework and brackets shall be independent of those securing framework and brackets to walls and floors.
- Positioning of Equipment
 - Final positions of equipment shall be agreed on site, prior to installation
 - Equipment shall be positioned with due regard to the aesthetics of the installation.
- All surface mounted equipment shall be solidly fixed to walls or soffits by means of their back plates.
- Cables
 - Dedicated containment for the system shall be provided by the electrical contractor as per the layout drawings.
 - The cable installation shall comply with the requirements of BS 7671
 - Cables shall, as far as possible, run parallel with the lines of building construction
 - Cables and their support systems shall not be fixed to protective barriers, guards or direct to guard-rails
 - Cables shall be installed strictly per the manufacturers' requirements pertaining to:
 - Maximum tensile or compressive stresses (e.g. due to pinching or squashing)
 - Minimum bending radius
 - Temperature of installation.
- Operating environment.
 - Cable installation in conduit shall conform to BS 7671
 - Conduit shall be debugged and swabbed prior to cables being pulled in
 - The entire conduit system shall be complete prior to installing cables
 - No joints shall be allowed in the cables without the prior approval of the engineer
 - The use of PVC insulation tape shall not be accepted – heat shrink or approved equivalent method shall be used
 - The contractor shall take utmost care whilst pulling conductors through conduit to ensure that the conductors are not kinked, twisted or strained in any manner. Damaged cables shall be replaced in its entirety
 - Care shall furthermore be taken to ensure that conductors do not meet materials or surfaces that may damage or otherwise adversely affect the insulation and durability of the conductor
 - Conductors installed in vertical wire ways shall be secured at intervals not exceeding 400mm to support the weight of the conductors
 - Proprietary or approved clamps shall be supplied and installed in suitable draw-boxes for this purpose
 - The contractor shall allow for the installation of the “last mile” conduit connection/link from the containment infrastructure installed by the electrical contractor, i.e. from trunking/cable basket to device location.
 - Cables shall be manufactured strictly in accordance with BS 7835
 - Cables shall be delivered within 8 weeks of manufacture and shall be delivered to site on cable drums or coiled with protective wrappings
 - Cables shall be delivered, stored and handled in accordance with the manufacturer's instructions. Where the performance of the cable is likely to be adversely affected by the ingress of moisture, it shall be adequately sealed at both ends

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- The end protruding from the drum shall be protected against mechanical damage.
- Method of Cable Support
 - Fixing of cables to containment shall be via appropriate cable metallic straps, clamps and clips
 - No cable ties shall be used in the installation
 - Cables should be strapped to cable containment or supports every 500 mm or as per the manufacturer's recommendation
 - The methods of cable support should be non-combustible, and their installation should not in any way compromise the integrity of the circuit. The cable support material should be of a material that can withstand a similar temperature and duration to that of the fire rated cable while maintaining adequate support.
- Terminations
 - Connectors recommended by the manufacturer of the cable being terminated shall be used. Terminating equipment must be designed for the connection type and be used in the manner intended by the manufacturer.
 - Connections must be of compression crimp type or similar, such that it is not possible to easily disconnect equipment simply through applying cable tension. All connections must be in accessible locations and protected against tampering and environmental risks.
 - Spare electrical/optical cores shall be terminated into spare terminals for future connections and proper insulation.
- Identification
 - All system components shall be suitably identified with labels. Labels shall be located so that they are easily seen from normal access adjacent to the item being marked. Labels shall not be installed on components normally removed or replaced.
 - All labels shall be of the engraved type and mechanically fixed. Labels shall be fixed with brass bolts and nuts or rivets. Self-tapping screws, glue, etc. shall not be accepted.
- General labels:
 - Stencil with black or white lettering contrasting with background
 - For indoor applications only, engraved two-colour laminated plastic, black lettering on white background
 - Engraved and black filled lettering on stainless steel or brass, minimum thickness 1mm.
- Warning labels and markings:
 - Danger and warning labels, fire and safety equipment labels: White lettering on red background.
- Pipes, conduits and ducts
 - Identification of the contents of pipes, conduits and ducts.
- Wiring and terminal strips
 - Identify wiring with numbered ferrules at both ends
 - Number each terminal of terminal strips
 - Numbering system: To match electrical and control shop drawings.
- Equipment identification
 - Identify each item by name and identification number
 - Contents: Match terminology and numbering system of the contract documents. Number multiple items individually.
- Minimum lettering heights:
 - Equipment nameplates: 40 mm
 - Danger, warning and caution notices: 10 mm for heading 5 mm for text.
 - Warning notices: 7 mm.
 - Minor lettering: 3 mm
- Lettering style:
 - Helvetica medium.

C3.1.2.8 Samples, drawings and documentation

In addition to section specific requirements the following general samples, drawings and documentation requirements shall be adhered to:

- All drawings, information, and documentation shall be in English, and each item shall be identified with the client's name and project / scheme / contract reference title and numbers, the Employer's representative's name and reference numbers, and the Manufacturer's works / contract / order references
- Shop drawings, samples, product data submission and connection diagrams of the system configurations shall be provided by the contractor for approval by the engineer prior to equipment ordering.

C3.1.2.9 Shop drawings

- Design/shop drawings shall be submitted by the contractor for approval by the engineer prior to any equipment ordering or installation.
- The tender drawings are schematic and do not show the exact dimensions or positions of equipment. Contractors must satisfy themselves that the equipment offered by them will fit in the available space and can be positioned so that access for maintenance, repair or removal is not encumbered.
- Not later than the time stated in the contract document (typically 1 week) after access to site or receiving verbal instruction, the successful contractor shall submit to the engineer, two copies of the detailed working drawings showing the required conduits, conduit boxes, position of equipment, cable trays, ducts etc., should extras be required. It must also be ensured that the complete installation is according to the specification and standards.
- Approval by the engineer of these drawings submitted by the contractor shall not relieve him of his liability to carry out the work in accordance with the requirements of the contract documents.
- NOTE: Final dimensions must be taken on site before any equipment or materials is either purchased or manufactured.
- The following documentation and drawings shall be submitted to the engineer prior to the installation of cables and wire ways and before civil construction have started on the areas where cable routes are required:
 - Cable route layout drawings showing
 - Type of wire ways
 - Trenching
 - Cable junction boxes.

C3.1.2.10 Sample submissions

- The contractor shall submit one sample of each designated item with copies of its supporting documentation
- The contractor shall submit a range of samples if choice of colour or finish is required
- The contractor shall also reselect and resubmit samples which are not approved
- The contractor shall keep the approved samples in good condition on site, until practical completion. The approved samples shall be checked against the installed products at Practical Completion and will not be returned.

C3.1.2.11 Product data submissions

- The contractor shall submit manufacturer's data for all equipment, materials components and systems to be provided including the following as applicable:
 - Technical specifications and datasheets
 - Evidence of compliance with specified product certification schemes
 - Drawings, showing size, arrangement, operating and maintenance clearances
 - Schematic layout, piping, wiring and control drawings
 - Operating weight and support loadings
 - Lifting points
 - Control details

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- Recommendations for installation and maintenance.

C3.1.2.12 Submissions Schedule

- The contractor shall maintain and submit a monthly schedule of submissions to identify all proposed submissions designated with the following information:
 - Submission number, description, date and revision number
 - Status
 - Accepted
 - Submitted awaiting acceptance
 - Not yet submitted
 - To be corrected and re-submitted.

C3.1.2.13 All documentation shall be detailed and be written to enable any supplier or maintenance organization to maintain the system.

C3.1.2.14 As-built drawings shall be provided by the contractor for the completed installation.

- “As-built” drawings shall be computer generated through a recognised CAD software package. Drawings submitted for acceptance shall be provided on A3 paper size.
- Final “As-built” drawings shall be submitted in A0 paper format, PDF and CAD format, on CD. Paper copies are to be neatly folded and placed in a perspex cover sleeve.
- The contractor shall supply laminated A3 layouts of the “As-built” drawings for the main control room.
- The detailed “As-built” drawings shall be provided by the Contractor showing positions of the following:
 - Equipment
 - Wire ways
 - Cable routes.

C3.1.2.15 Comprehensive operating and maintenance manuals (hard and soft copy) shall be provided by the Contractor prior to the commissioning stage. This shall include all duly completed certificates.

C3.1.2.16 A draft copy shall be provided to the engineer for approval prior to final handover.

C3.1.2.17 The operating and maintenance manuals shall include at least the following:

A schedule of all components in the installations with the following information provided:

- Manufacturers name and contact details
- Function:
 - Full description and details of design capacity and design criteria for each item of equipment and each product
 - Detailed description of the function of all operator controls
 - Operator training manuals and operation procedures.
- Safety procedures for protection against electrical, mechanical, and any other hazards
- Clear instructions for setting up and configuring the system
- Complete software configuration and physical connection information
- Safe starting up, operating and shutting down procedures for the systems
- Drawings and technical data as necessary for the efficient operation and maintenance of the systems
 - Project-specific Administrator's Guide that must detail all the functions available to the Administrator. It must also provide a detailed record of all the system configuration and programming settings for all programmable parameters. It must also contain all the administrator passwords that have been programmed into the system

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- Procedures for fault finding
- Maintenance instructions for all components, including frequency, repair, overhaul, change-out and installation procedures.
- Emergency maintenance procedures, including telephone numbers for emergency services and after hour's contacts for suppliers and contractors
- Detailed recommendations for preventative maintenance procedures, which should be adopted to ensure the most efficient operation of the systems installed
- Inspection, testing and maintenance programme in tabular form showing frequency and level of routine checks for each item
- Trouble shooting checklists and simple diagnostic analysis
- Schedule of normal consumable items, local sources of supply, and expected replacement intervals.
- Schedule of recommended spare parts
- Commissioning procedures
- "As-built" drawings
- Copies of Software Licenses
- Manufacturer's Manuals, Warranties and Certificates.

C3.1.3 End-user training

In addition to section specific requirements the following general end-user training requirements shall be adhered to:

- The contractor shall provide training to two separate groups of users, namely System Administrators and System Operators. In general, the training shall include presentations, informal discussions, demonstrations and hand-on activities on the actual system.
- Training for System Operators shall cover all the functions and activities that the operators need to carry out daily.
- The training for the System Administrations shall include that provided for the System Operators and additional training specific to system administration. Further, the System Administrators training shall also include training on how to teach other staff members by way of a 'train the trainers' approach.
- The System Administrators' training shall be provided for up to 10 personnel. The training shall be carried out up to 2 sessions with 1 or more personnel per session.
- The System Operators training shall be provided for up to 10 personnel. The training shall be carried out up to 2 sessions with 2 or more personnel per session.
- Refresher training shall be provided after client occupation – typically 3 to 6 months following completion
- The timing of the training shall be agreed between the contractor and the users but must be completed prior to the handing over of the live system to the user. The contractor shall make provision for training of users on multiple work shifts.
- Training Plan and Course Materials
 - Training plan and course materials shall be submitted to the engineer at least two weeks prior to the commencement of the training for approval. The contractor shall provide all course materials, all support equipment (e.g. computer, projector, whiteboard, flipchart, etc.). The venue for the training shall be on the project site.
 - A training feedback form shall also be provided for all trainees to fill out at the conclusion of every training session to evaluate the effectiveness of the training and for future improvement.
- Training Records and Certificates
 - The contractor shall maintain a complete record of the training. The record shall include:
 - Date and time of training session.
 - Name of trainer.
 - Name of all trainees.
 - Names of trainees issued with a completion certificate.
 - Training feedback forms.
 - All trainees who have successfully completed the training shall be issued with a certificate signed by the trainer.

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C3.1.4 Testing and commissioning

The contractor shall provide qualified personnel for the supervision of all inspection and testing activities. In addition to section specific requirements the following general testing and commissioning requirements shall be adhered to:

- Comprehensive testing and commissioning of the system shall be required
- A test plan and programme shall be submitted for approval by the engineer before any tests are conducted
- The test plans shall be developed to unambiguously demonstrate the correct operation of the installed equipment. The contractor shall identify any testing that may impact on critical operations and seek direction from the engineer.
- At minimum, the test plan shall include the following
 - Details of the equipment to be tested
 - Configuration (e.g. memory, I/O cards, power supplies) of equipment to be tested
 - Software and/or firmware versions of equipment to be tested
 - Major software configuration parameters
 - System diagram showing how equipment is logically arranged
 - Details of any interfaces to third party equipment, both high level and low level
 - Cause and effect matrix detailing all input/output relationships/results
 - Pass or fail criteria to be specified within test documentation.
- The test programme shall be developed providing the sequence of testing to be conducted. As a minimum, the test programme shall indicate the relative start and finish dates for the following:
 - System Commissioning Tests
 - System Acceptance Tests
- System Commissioning Tests
 - Upon receiving approval for the test plan and programme from the engineer, the contractor shall conduct unsupervised System Commissioning Tests in accordance with the test plan and within the dates defined in the programme.
 - Any defects shall be rectified immediately by the contractor and the system re-tested. Tests shall be repeated until the contractor is able to complete all approved tests successfully without any defects. Upon successful completion, the contractor shall formally advise the engineer in writing of such, and that they are ready for the System Acceptance Tests.
- The engineer is not required to witness the system commissioning tests but may choose to do so.
 - System Acceptance Tests
 - The contractor shall demonstrate the functionality of the system using the approved test plan. System Acceptance Tests shall be witnessed and signed off by the engineer or his representatives. The contractor shall provide two-way radio communications and all equipment required for the testing.
 - If the System Commissioning Tests have been properly carried out, the systems acceptance tests should be straight forward, and no defects should arise. In any case, should there still be defects; the systems acceptance tests shall be repeated. The contractor shall bear all costs incurred by the engineer or his/her representatives in attending system acceptance re-testing.
 - Report of all the test event transactions shall be provided in both soft and hardcopy. Softcopy shall be in the Microsoft Office Excel format for easy analysis.
- The Contractor shall provide all necessary safety equipment and test instruments. All test instruments shall be covered by a current test and calibration certificate.
- All inspection and test results shall be recorded using proforma documentation (test certificates and schedules) complying with applicable standard (e.g. BS 5839) – all test results shall be included in the handover documentation.
- All certificates to be issued once final commissioning has been completed shall be submitted to the engineer for approval before being issued.
- The Contractor shall make provision for all inspection and testing activities to be witnessed by the engineer. Unless otherwise specified, the period of notice for witness testing shall be 10 working days.

- Unless otherwise agreed by the engineer, no part of the installation shall be commissioned until all defects or omissions revealed by inspection and testing have been rectified. Where a defect or omission renders all or part of the installation unsafe for use, the contractor shall take approved precautions to ensure that no part of the installation can be commissioned.
- Before testing and commissioning, inspections shall be performed to verify:
 - All equipment and material is of the correct type and complies with applicable BS standards
 - All parts of the installation are correctly installed
 - No part of the installation is visibly damaged or otherwise defective
 - The installation is suitable for the environmental conditions
 - The installation complies with this Specification
- On satisfactory completion of the inspections the following tests shall be performed in the sequence listed:
 - A power failure shall be simulated to test the standby power supply
 - If required by the applicable standard, or requested by the engineer, cables and wiring shall be insulation tested at 500 V after they are installed. The insulation resistance to earth and between conductors shall comply with the requirements of SANS 10142-1. Because 500V can damage electrical and electronic equipment, the insulation test shall be carried out before equipment is connected to the cables or wire. The completed installation shall be tested at a lower voltage, as recommended by the manufacturer.
 - Earth continuity should be tested in accordance to SANS 10142-1
 - Each system component dynamically tested to ensure that they work satisfactorily, and that the correct indications and responses are given by the fire control panel
 - Annunciating devices shall be tested to ensure that the correct sound levels are achieved throughout the building
 - All signals from the system to ancillary systems shall be checked to ensure that the correct actions or responses are achieved
 - After individually testing the components and equipment, system simulation tests shall be done to commission the system and to indicate that the system is working.

C3.1.5 Maintenance during defects liability period

In addition to section specific requirements the following general maintenance requirements shall be adhered to:

- Comprehensive maintenance shall be provided during the twelve months Defects Liability Period. The defect period shall commence upon successful completion of system acceptance testing and the issue of the certificate of completion.
- Comprehensive maintenance shall comprise of:
 - Half-yearly preventative maintenance for all installed items
 - Ad-hoc corrective maintenance for reported faults
 - Keeping a maintenance register
 - Half-yearly preventative maintenance

The maintenance to be carried shall include, but not be limited to, the following activities:

- Consultation with user on any problems encountered and adjustment required (e.g. adjustment of programming of system behaviour, etc.)
- Check the operation of all system components for correct operation
- Check for correct system reporting of faults, alarms and errors
- Check the operation of all annunciators
- Check and confirm interfacing with other connected systems
- Check operation of user interfaces (GUI, workstations, etc.)
- Check the physical conditions of the installation including mechanical fixing, evidence of corrosion to any part, signs of overheating, abrasion or physical damage
- Check all data, control signal and power connections and terminations

- Check the conditions of all batteries connected to the system. Clean batteries; recoat terminal posts with an approved coating
- Check all labels and signage
- Install software updates and upgrades including patches, firmware, updates and upgrades
- Check time and date on system clock.

C3.1.6 Ad-hoc Corrective Maintenance

- Ad-hoc maintenance shall be carried upon the user reporting a fault.
 - Maintenance Register
- A comprehensive maintenance register shall be kept by the maintenance service provider. The maintenance register shall include the following minimum information:
 - Name of person reporting or discovering fault
 - Date and time of fault reported or discovered
 - Nature of fault
 - Date and time technician arrived on site
 - Name of technician attended to fault
 - Date and time fault are resolved
 - Details of the action taken to resolve the issue including any parts being replaced
 - The maintenance register shall be an electronic register such a Microsoft Office Excel or Access database file. The electronic maintenance register shall be the property of the user and shall be handed over to the user at the end of the maintenance contract. Hard copy reports shall be updated and submitted to the user following any changes to the register.
 - Quality of service
 - Quality of service shall be based on the key performance indicators as per the Contractual document.

C3.2 Access control and intruder detection

C3.2.1 System design

- The Electronic Access Control and intruder detection (EACID) shall be an integrated IP-based enterprise solution, and supplied complete with appliances, controllers and software. The system shall be fully scalable to allow for future expansion.
- The access control and intruder detection shall provide biometric access control and alarm functionality. The alarm functionality shall include intrusion alarms and duress alarms.
- The access control and alarm system will consist of the following, but not limited to:
 - Electronic access and alarm control system headend and workstations
 - Enrolment station
 - System control panels located in communication rooms or ceiling voids above access-controlled doors.
 - Biometric fingerprint and contactless smartcard access card readers
 - Electromagnetic locks – 300 kg breaking force
 - Emergency door release units
 - Request-to-Exit (REX) buttons
 - Magnetic reed switches
 - Programmable audible alarm devices
 - Interfacing to third party systems such as CCTV, lifts, Fire detection system and motorised portals etc, as required.

C3.2.2 System requirements

- The integrated access and alarm system shall be installed with the following minimum requirements:
 - Conventional access control door hardware (magnetic locks, break glass units, etc.) at selected doors
 - Enrolment and control workstation
 - Alarm devices at selected locations
 - Security Information and Event Management
 - Integration with other services (video surveillance, fire detection, lifts, etc.) as required
- The contractor shall coordinate with the end-users to ensure the successful completion of the following:
 - Creation of user groups, access zones and time zones.
 - Obtaining user lists and their designated access areas and programming them into the system.
 - Taking photos of users
 - Preparing access cards for temporary use by visitors and contractors

C.3.2.3 Components and equipment

- Server
 - The access control and alarm system shall reside on a dedicated server located in the main server room
 - The server(s) specification, including; volatile memory (cache, application usable RAM) and network interface bandwidth, shall be provided by the contractor and be sized in accordance with the manufacturer's recommendations for the specified configuration plus 20% spare capacity
 - At minimum, the server shall meet or exceed the following specifications:
 - shall be industrial grade, 19" rack mountable and have multi-core (at least quad core) processors
 - The power supply unit shall be dual redundant and hot swappable
 - It shall have built-in R/W DVD drive
 - Keyboard, mouse and monitor shall be provided in the form of a foldable rack console
 - Storage for operating system and applications shall comprise a pair of SAS high speed drives arranged as RAID1 with hardware controller
 - Storage for application data and databases shall be high speed SAS drives arranged in a RAID5 configuration with hardware controller if required.

C3.2.4 Operator workstation hardware

- The Operator workstation shall be installed in the guardhouse. The workstation shall include viewing of CCTV camera footage.
- The operator workstation specifications shall be provided by the contractor and be sized in accordance with the manufacturer's recommendations for the specified configuration.
- At a minimum, the operator workstation shall meet or exceed the following specifications:
 - Be desktop compact slimline in size
 - Multi-core (at least dual core) processor with 8 gigabytes of RAM
 - The processing unit shall have built-in DVD R/W optical drive, 1000BaseT Ethernet ports and a minimum of 4 USB ports
 - The keyboard shall be a full size QWERTY, spill-proof keyboard with good tactile feedback
 - Mouse shall be laser optical with dual button and a scroll wheel
 - The Operator Workstation monitor shall meet or exceed the following requirements:
 - Type: 2 x Minimum 32" TFT LCD Flat Screen.
 - Aspect ratio: 16:9
 - Resolution: 1920(w) x 1200(h)

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- Brightness: $\geq 400 \text{cd/sqm}$
- Colour Depth: ≥ 16 million
- Contrast Ratio: $\geq 2000:1$
- Response Time: $\leq 5 \text{ms}$
- Interface: DVI

C3.2.5 System Software

- The server shall run the latest operating and server software recommended by the server manufacturer.
- The servers shall have UPS monitoring services in order to initiate an orderly shutdown in the event of a low battery signal being received from a UPS system. This orderly shutdown must ensure all database transactions are completed and written to disk prior to shut down.
- Software for system backup shall support incremental backup, full back up and system backup. The software shall be configurable to perform the different backups based on a pre-determined schedule. By default, incremental backup shall be performed daily, full back up weekly, and system backup monthly or whenever new software or software upgrades or patches are installed. The backup or restore processes shall not degrade the performance of the access control system in any way.

C3.2.6 Response times

- The access control system shall meet the following response times:

Type	Description	Maximum Acceptable time period (Seconds)
Alarm notification	Time between an alarm device changing state (alarm or restore) and it being displayed in the alarm queue, and the associated graphic also changing state on all connected operator workstations.	2
Control command	Time between the issue of a control command to the remote devices responding to the command. E.g. remote release or locking of door locks, activation of siren, switching on of lights, etc.	0.25
Access control response	Time between the presentation of a valid credential (card, PIN or biometrics) and the locking unlocking.	0.25
Access control system panel Resynchronisation	Time to send access events and alarms logged by an access control and alarm panel during a communication failure to the server.	10

C3.2.7 Operator User Groups

- The access control system shall include a minimum of 1 000 password and 32 Operator User Groups of different access level to provide granularity of control to the following:
 - Which maps can be displayed
 - Which alarms can be displayed, acknowledged and cancelled
 - Which doors can be controlled
 - Which access zones can be assigned to a new operator
 - What reports can be generated.

C3.2.8 Event and Operator activity logging (Normal Operation)

- All operator activity to be logged together with time stamp including but not necessarily limited to:
 - Logging on and off

- Acknowledging alarms
- Clearing alarms
- Remote arming or disarming of alarm system
- Remotely opening/locking of doors
- Registering new users and cards
- Changing user access privileges.
- Generation of reports.
 - Installation of new applications, software updates or patches.
 - All audit trails must be stored for a minimum of 30 days.
- Reports
 - The access control and alarm system shall provide preconfigured reports that can be run either on a time basis, or manually:
 - All access control transactions (including adding, modifying and deleting card holders)
 - Valid access control events
 - Invalid access control attempts
 - Un-acknowledged alarms and warnings
 - Acknowledged alarms
 - Alarms by sensor (detector/device) for a particular period
 - Un-cleared alarms
 - Operator activity logs (Administrators Only)
 - System parameters modified
 - System login or logout
 - System restart
 - Cardholder added, deleted, or changed
 - Event added, deleted, changed, or executed
 - Alarm message added, deleted, or changed
 - Field device/points added, deleted, or changed
 - Access privileges added, deleted, or changed
 - Activity for a card
 - Activity for a group of cards
 - Activity for a door/s
 - The system shall also provide a manually customisable report generation function to generate ad-hoc reports by operators based on any combination of database fields
 - All reports generated shall be capable of being exported in XML, PDF, RTF and CSV format. Images shall be able to be exported in JPEG, TIFF or BMAP format
 - Graphical site maps
 - Shall not be required
 - Status bar and alarm points
 - The status bar shall detail aggregated information such as the number of unacknowledged alarms, the current date and time, and the workstation name. The status bar shall change colour dynamically depending on the status, e.g. green when everything is OK, red when there are unacknowledged alarms, blue for faults, etc.
 - Every alarm point, both physical and virtual, in the system's database shall be assigned a unique point ID and a unique point descriptor
 - Each point state shall have an action associated with it such as a journal action or an alarm action
 - Every alarm point shall have a graphical icon to represent it. Alarm actions shall have priorities associated with them. There shall be at least 30 levels of alarm action priority. Alarms generated from these points shall be displayed with the oldest, highest priority unacknowledged alarm at the front of the alarm queue.
 - All alarms that have been acknowledged but have not been reset shall be displayed in a separate alarm summary queue with the oldest, highest priority at the front of the queue. It shall have the capability and intelligence to aggregate multiple continuous fault alarms into a single alarm rather than having continuous flow of alarm flooding the alarm queue.

- The alarm queue shall be located in close proximity to the status bar. Clicking an alarm in the alarm queue will take the operator directly to that point on the site map where the alarm originates.
- The alarm queue shall include the following information related to each alarm:
 - o The time and date of the alarm
 - o The priority of the alarm
 - o Point ID
 - o A description of the alarm and
 - o The type of alarm.

C3.2.9 Audible alarms

- It shall have the capability to associate different audio files to selected high priority alarms. For example, priority 1 and 2 alarms may have different audio files associated with each of them, and priority 3 to 5 may have the same audio file and priority 6 onward may not have audio at all.
- The audio file is played through the speakers built into the monitors.

C3.2.10 Security zones

- The access control and alarm system shall have the ability to define security zones comprising a bounded area with one or more portals. The security zones are as indicated on the security drawings. Each of these zones shall operate independently and shall be able to be armed and disarmed independently.
- An attempt to enter a security zone contained within another security zone for which entry has not yet been granted is to be alerted as an out of order violation.

C3.2.11 Anti-pass back control

- The system shall allow selectable anti-pass back features to prevent a person from passing their cards to another person for entry into an access-controlled area using the same card.
- The full anti-pass back control shall be required that a valid access control procedure always be used to enter, and exit, an access-controlled area and that the valid access control procedure must be carried out in the right order (e.g. must badge out of a zone before badging back in).
- The Multiple-Person Rule anti-pass back control shall deny access into an access-controlled area unless a second valid access control procedure is undertaken, within a set period of time, from when the first valid access control procedure occurred. This is to ensure that there must be at least two people within the area. It shall have the facility to generate an alarm if the number of persons within a zone falls down to one, and a second valid access control procedure has not occurred out of the area, within a set period of time, from exit of the previous departure. This may be applied to access to confined spaces, hazardous areas, etc. where it is unsafe to work alone.
- Occupancy Limit anti-pass back control shall restrict the number of people that can be present in an access-controlled area at any given time.

C3.2.12 Access Groups

- The system shall have the ability to configure Access Groups to define which security zones may be entered by users assigned to particular Access Groups.
- It shall have the ability to configure Access Groups to define individual portals which may be entered by users assigned to particular Access Groups.
 - Day and time access
 - o The system shall be programmed to restrict access to any access-controlled area based on time of day and day of week as required.

C3.2.13 Manual override portal control

- It shall have the ability to remotely unlock/lock a portal by clicking on a graphic map icon or by selecting a portal from a list and clicking a button.

- Door hold open control
- It shall have the ability to control electromagnetic door holders for fire doors as follows:
 - Release doors on timed basis (e.g. out of hours)
 - Release doors on fire trip (where required for fire safety)
 - Release doors on valid control procedure (e.g. card swipe)
 - Energise holder on valid control procedure (e.g. card swipe)

C3.2.14 Alarm types

The system shall monitor the following alarm types as a minimum.

Alarm Type	Description
Duress (24 hr)	Activation of duress buttons.
Internal intrusion (when area is armed)	Alarm from volumetric detectors such as movement detectors (PIRs).
Perimeter intrusion (24 hr)	Alarm from site perimeter intrusion detection system.
Door forced open (24 hr)	Door opened without a valid access procedure such as a valid card swipe.
Door open too long (24 hr)	Door held opened for longer than pre-configured time period (default 10 seconds) after a valid access procedure such as a valid card swipe.
Emergency door open (24 hr)	Opening of emergency exit door.
Break glass (24 hr)	Activation of break glass door release unit.
Key override (24 hr)	Key override used on access-controlled door.
Invalid access (24 hr)	Invalid access procedure (invalid card swipe) repeated a pre-configured number of times (default 3 times) at the same portal using the same credential (card). This indicates multiple attempts to access into an area using an unauthorised credential.
Blacklist (24 hr)	Using a blacklisted credential to attempt access.
Anti-pass back violation (24 hr)	A credential (card) is being used to gain access into an area when the system has not registered that the credential has been used to exit the area.
Tamper (24 hr)	Alarm from tamper circuits for all field devices.
Housekeeping & engineering (24hr).	Communication failure between server and security panel. Communication failure between security panel and field devices. Mains power failure. Battery low. UPS offline. Fire trip.

C3.2.15 Access control and alarm panels

- Access control and alarm panels shall be in Communication Rooms or Services Cabinets.
- Battery backup shall be provided for the Access control and alarm panels for a minimum period of 8 hours of normal operation in the event of a mains power outage.
- Access control and alarm panels shall perform the following functionality:
 - Monitor and control access-controlled portals

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- Monitor intruder alarm devices
 - Monitor duress alarm devices
 - Monitor Fire Trips
 - Monitor miscellaneous inputs
 - Control miscellaneous outputs.
- Access control and alarm panels shall be capable of processing access control procedures without reference to the head-end servers. For example, it should be able to verify a card badge against its own internal database and either open the associated portal or deny access, even if disconnected from the servers.

C3.2.16 Performance

- Access control and alarm panels shall meet or exceed the following performance specifications:
- Communications with server – Ethernet
 - Number of security zones – minimum 99
 - Access groups – minimum 255
 - Alarm groups – minimum 255
 - Users database – minimum 2 000
 - Alarm log – minimum 5 000
 - Access log – minimum 5 000
 - Holidays/Special days – minimum 24
 - Time zones – minimum 32 time zones
 - Operating temperature – 0 to 50°C @ 90% relative humidity (non-condensing)
 - Enclosure Lock – Replaceable cylinder type
 - Enclosure material – Steel
 - External Device Power –12Vdc and 24Vdc.

C3.2.17 Contactless Smart Access cards

- The access cards shall be supplied by the contractor as part of the contract.
- Access cards shall be Prox© contactless access cards
- They shall be suitable for use with a direct image or thermal transfer printer.
- Access cards shall be programmed with a unique facility code.

C3.2.18 Enrolment Station

- An enrolment station shall be provided for biometric fingerprint enrolment and reading/programming access cards during the enrolment process.
- Due allowance by the contractor for the issuing of access cards, enrolment of staff (and setting up of access groups) shall be made in the schedule of quantities.

C3.2.19 Photo ID Equipment

- Software and equipment for generating Photo ID images shall be provided and collocated with the enrolment station unless otherwise specified.
- The Photo ID facility shall include 5MP (minimum) digital colour camera with built-in flash, camera tripod, ID printer, and retractable seamless cloth in white, blue and grey backdrop to support the creation of ID card layouts for printout during the enrolment process.
- Card layouts functionality shall include but not limited to:
 - Font selection, colour and size
 - Shape selection, colour and size

- Insert graphic images such as logo, etc.
- Insertion of photographs from user database or from removal media attached to the system.

C3.2.20 Photo ID card printer

- The photo ID card printer shall be a high density dye-sublimation type image printing system which prints two sides, edge to edge, directly onto a white-unfinished ISO access card. Card layout shall be downloadable directly to the printer. The card media is to be fed to the printer automatically through a card hopper.
- The minimum requirements for the card printer shall be:
 - Resolution – 300 dpi
 - Speed – More than 180 full-colour cards per hour
 - Hopper – 100 Cards.
 - Printable Materials – PVC, PVH

C3.2.21 Equipment Racks

- The equipment racks shall meet the following requirements:
 - Built to IEC 297
 - Powder coated
 - Lockable, tinted glass front and metal rear door to facilitate ease of access to the equipment
 - Sufficient airflow
 - Moisture and dust resistance
 - Adjustable rails
 - Cable organisers
 - Left and right hinging doors.

C3.2.22 Fire Egress Portal Control

- Provide a Fire Trip Interface to automatically unlock doors along nominated fire egress paths upon receipt of a signal from the fire panel.
- The contractor must ensure that the access control and alarm system is interfaced to the Fire alarm control panel to receive one or more fire trip signals. Each fire trip signal will correspond to one fire evacuation zones.
- The contractor must ensure that the access control and alarm system panel controlling one or more fire evacuation zone has all the corresponding fire trip signals wired to it. The access control and alarm system panel must unlock doors only within a fire evacuation zone where the fire trip signal has triggered and keep doors in other fire evacuation zones locked. In situation where an access controlled door serves multiple fire evacuation zones (e.g. along a corridor), these doors must unlock when a fire trip signal is received for any one of the fire evacuation zones.
- The interface shall comprise of hard-wired relay modules within the access control and alarm system panels that will disconnect power to fail-safe electromechanical locks on receipt of one or more fire trip signals from the fire alarm control panel. The interface must not rely on signal processing in the access control and alarm system.
- The Security Contractor shall provide all necessary cabling from the hard-wired relay modules to the fire indicator panel. Final connection to fire indicator panel shall be performed by the Fire Services Contractor.

C3.2.23 Motorised Portal Control

- Motorised portals include the following motorised elements:
 - Sliding doors and gates
 - Automated vehicle gates
 - Boom gates
 - Roller shutters

- Speed stiles.
- Where motorised portals are provided by others, the Security Contractor is to liaise with the motorised portal providers so that on receipt of a valid access procedure (e.g. card badge), the associated door controller will provide the motorised portal with an open signal. It must be possible, using an electro-mechanical locking device built into the motorised portal, to lock the portal using the access control system. The interface shall also provide monitoring of the portal status for “door forced open alarm” and “door opened too long alarm”.
- For the closing of the portal, the interface must only provide a signal to the portal controller to close the portal and must NOT interfere with the safety feature of the portal or forcibly close the portal.

Additional perimeter and building security barrier requirements are addressed in the specific section of the report.

C3.2.24 Break Glass Door Release Units

- The units shall be green in colour and surface mounted where practicable. It shall be permanently labelled “EMERGENCY DOOR RELEASE” in white engraved, minimum 4mm high, serif font. They shall conform to the Manual Call Point EN54 Part 11 standard.
- The units shall be installed using only extra low voltage control as defined in SANS 10142-1.
- A tool for testing the unit without breaking the glass shall be provided.
- Activation of the Break Glass Door Release is to break the current to the fail-safe locking mechanism directly (i.e. not via any electronics). Where these units are associated with motorised portals, the unlock/open connection of the portal shall be connected directly into the unit. This activation will override all locking devices and cause the door to unlock automatically.
- The Break Glass Door Release Unit shall be monitored and raise an alarm when activated.
- Break Glass Door Release Units shall be mounted at least 500mm from the corner and 1200mm above the finished floor, adjacent to portal, in clear line of sight of people approaching the portal.

C3.2.25 Request-to-Exit Buttons

- The buttons shall be momentary action, flushed mounted type. It shall have a stainless-steel faceplate with shrouded button with a minimum diameter of 20 mm.
- The button shall be continuously illuminated green in colour. The label “PRESS TO EXIT” shall be engraved in black on the faceplate.
- Activation of the button shall unlock the portal only once in each cycle.
- The portal shall be locked after the programmed “unlock period” has expired.
- Multiple activation of the button during the “unlock period” shall not extend the “unlock period”.
- Once the “unlock period” expired, the portal must be closed before the portal can be unlocked again using the button.
- If the portal remained opened after the expiry of the “unlock period”, a door open too long alarm shall be generated.
- If the portal is closed prior to the expiry of the “unlock period”, the portal shall be locked as soon as the portal closes.
- Jamming or wedging of the button shall generate a tamper alarm. The button is jammed or wedged if the button is activated and remains continuously activated after the programmed portal “unlock period” has expired.
- Sample for both wall mounted and mullion mounted type shall be submitted for approval prior to installation.
- Request-to-exit buttons shall be mounted 1200 mm above the finished floor level, and at least 500 mm from the corner.

C3.2.26 Electromagnetic Locks

- General
 - Single and double door electromagnetic locks shall be provided as indicated on the security drawings. Mounting brackets suitable for lock orientation shall be provided. Lock status shall be connected in series with door status monitors

- The contractor shall liaise with main contractor to ensure doorframes and frame compatibility.
- The electromagnetic locks shall meet the following performance specifications
 - Operating Voltage – 12V_{dc} to 24V_{dc}
 - Holding Force – minimum 250 kg (Light Duty), 500 kg (Heavy Duty).
 - Door Status Monitor – Reed switch, Dry relay contact, open on door open.
 - Lock Status Indicator – Hall Effect, Dry relay contact, opens on lock not fully engaged
 - Fire rating – 4 hours.
 - Mounting – The lock shall be mounted such that the bottom edge of the lock is not lower than 1 980 mm measured from the finished floor level.

C3.2.27 Biometric fingerprint and card readers

- The card readers shall support multi-technology card topologies and be capable to read, Desfire, Mifare and standard proximity card as well as biometric fingerprint reading.
- Operating Voltage – 12 Vdc or 24 Vdc.
- Maximum Range – 5 cm for wall and mullion mount readers, 30 cm for extended range readers.
- Visual Indication – LED to illuminate or changes colour on presentation of credential.
- Audio Indication – Beeper to sound on presentation of card (enable/disable).
- Environmental protection – IP 65
- Reader shall be mounted 1200 mm above the finished floor level (FFL), and at least 500 mm from corner. Card readers on the same portal, as far as practicable, should NOT be mounted directly back-to-back to avoid interference. In situation where the readers need to be mounted back-to-back, they should be offset, e.g. the centre of the reader on one side may be at 900 mm above the FFL and the other at 1100 mm above the FFL. Where necessary, a grounded metal shield should be installed to avoid reader interference.
- Readers for the same portal shall be installed in a manner that allows each of the reader to be independently programmed to behave differently.

C3.2.28 Gooseneck Bollards

- Gooseneck bollard shall be provided for the mounting of card readers for access controlled vehicle portals.
- The height shall be adjusted to suit the height of the mounting footing such that the access control readers will be positioned for easy access by driver in a passenger vehicle and a truck.
- Gooseneck bollards shall be hot dip galvanised with a yellow powder coat with safety reflective strips.

C3.2.29 Magnetic Reed Switches

- Magnetic reed switches shall be mounted with the switching element in the door frame and matched magnet element mounted on the door top member at furthest edge from the hinge.
- On double doors, two magnetic reed switches shall be installed, one on each door leaf. The two magnetic reed switches may be wired in series to be monitored as one alarm point.
- All magnetic reed switches shall be recess mounted except for fire rated doors and roller doors.
- For surface mounted magnetic reed switches, the bottom edge of the door-frame mounted switching element shall be at least 1980mm above the finished floor level. Cabling shall be routed on the secure side of the portal only.
- Heavy duty magnetic reed switches shall be used for roller shutter doors and mounted with switching element on the floor and matched magnet element mounted on roller shutter door end flange. Specially designed and built bracket for the magnet that affixes to the roller shutter frame shall be provided. Stainless steel cabling shall be routed from the switch to an adjacent tamper resistant and tamper monitored junction box.
- Where the reed switches are to be installed on metal doors such as steel framed doors or roller shutters, rare earth magnets shall be used.
- Magnetic reed switches shall be provided with suitable gap tolerances for the given application. Gap tolerances listed below are indicative only – the contractor shall ensure correct operation of the installed

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- Magnetic reed switch outputs shall be dry relay contacts, closed when door is fully closed.
- Door gap tolerance – Typically not more than 10 mm. For larger gap tolerance, seek approval prior to installation.
- Construction – Hermetically sealed, nylon case (light duty), cast aluminium case (heavy duty).
- End of Line Resistors – Built-in.

C3.2.30 Localised Door Sounder

- The sounder shall be activated when a portal is forced open or the portal is held open for too long (i.e. after the expiry of the door “unlock period”). Once activated, the sounder shall continue to sound until one of the following has occurred:
 - An authorised access control card is presented to the reader.
 - The portal is closed following a “door opened too long” event.
 - The portal is closed following a “door forced opened” event. However, the sounder must sound for a programmable minimum period (default 10 seconds), following a “door forced opened” event. This is to prevent the situation where there is only a short beep if an intruder closes the door quickly.
- The sounder shall meet the following:
 - Provide a sound level of 80 dBA at 1 metre at approximately 3.6 kHz.
 - Constructed of self-extinguishing polycarbonate.
 - White in colour.
 - Approximately 80 mm x 80 mm x 30 mm.
 - Operating voltage between 6 and 28 V_{dc}.
- Localise door sounders, as far as practical, should be mounted on the ceiling directly above the door on the secure side. Where this is not practical, it may be mounted the wall closest to the door at a height of not less than 2 500 mm above the FFL.

C3.3 Interfacing with other systems

- Video surveillance system
 - None
- Lift System
 - None
 - Structured cabling installation
 - Network outlets shall be provided by the structured cabling contractor
 - The access control and alarm contractor shall coordinate with the structured cabling contractor to ensure that all data outlets and connections are available for security use for communications with the main control room.
- Ironmongery and shopfronts (main contractor)
 - The access control and alarm contractor shall coordinate with the main contractor to ensure that electronic locking devices supplied by the contractor are properly mated with door ironmongery supplied by the main contractor.

C3.4 Fire detection system

- The electronic access control and alarm system shall receive inputs from the fire alarm system to automatically unlock doors along nominated fire egress paths upon receipt of a signal from the fire panel.
- The fire alarm panel and fire trip signal shall be provided by the Fire Detection System Contractor.
- The Fire Detection Contractor shall provide one or more voltage-free relay contact outputs at the security panels as indicated by the access control contractor. One voltage-free relay contact output relay shall be provided for each fire evacuation zone.
- The access control contractor shall ensure that the security panel controlling one or more fire evacuation zones has all the corresponding fire trip signals wired to it. The security panel shall unlock doors only within a fire evacuation zone where the fire trip signal has triggered and keep doors in other fire evacuation zones locked. In situations

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where an access-controlled door serves multiple fire evacuation zones (e.g. along a corridor), this door must unlock when a fire trip signal is received for any one of the fire evacuation zones.

- The access control contractor shall terminate the fire trip cable at the access control panels, and coordinate with the Fire detection contractor to test that a fire trip signal is correctly received.
- All I/O units shall be wired fail-secured.

C3.4.1 230 VAC power

- The Electrical contractor will provide 230 VAC power outlets near the access control panels. The access control contractor shall coordinate the final location and number of points required.
- The access control contractor shall reticulate all power requirements for the access control and alarm system from this point onward.
- The access control contractor shall perform all power reticulation from the power outlet to all access control panels and from the access control panels to all field devices.
- The access control contractor shall provide separate battery backup for normal operation for a minimum period of 8 hours for access control panels and field devices running on extra low voltage. The backup power provided by the access control contractor shall be through local batteries housed in the access control panels.

C3.5 Samples, drawings and documentation

- The shop drawings shall include but not be limited to:
 - Network diagram showing all proposed interconnections of the components of the system such as field devices (readers, electromechanical locks, request to exit devices, Break glass units, etc.), control panels, servers, workstations, network switches, etc.
 - Typical mounting details of the field devices for the different type of portals.
 - Mounting details of the control panels.

C3.6 End-user training

- Refer to section above for end-user training requirement.

C3.7 Testing and commissioning

- Refer to section above for testing and commissioning requirements
- The tests to be carried out shall include but not be limited to:
 - Access groups – access groups created according to Client's requirements
 - User groups – user groups created according to Client's requirements
 - Time zones – time zone created according to Client's requirements
 - Graphics, icons and texts
 - Site maps and floor plans
 - Meaningful icons and their behaviour for different events (e.g. door locked, unlocked, alarm, etc)
 - Active Icon creation and addition to graphics
 - Meaningful text descriptions of locations, devices, events, instructions, etc.
 - Communication link between:
 - Server and operator workstation
 - Server and EACID panel.
 - EACID panel and field controller
 - Card enrolment and deletion
 - Card read range
 - Events at controlled portals (doors, gates, barriers, etc)
 - Valid card

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- Invalid card
- Out of time zone
- Door forced
- Door open too long
- Anti-pass-back violation
- The adequacy of all electromechanical lock "unlocked" and alarm shunt
- The operation of all the electromechanical locks, ensuring that the lockset is aligned with the keeper and mechanical locks
- Interlocking of doors – e.g. airlock, traffic flow channelling, etc.
- Manual controls (e.g. open/lock door)
- The operations of all tamper circuit
- The operation of all intruder detection sensors
- The operation of all the sounders and indicator lights
- Break glass release of portal
- Request-to-exit devices
- Door release on fire trip
- The interfaces to third party system such as CCTV system, lift system, fire indicator panel, motorised portals, etc.
- Report generation
- Standard tests
- Custom – creation and run
- EACID panel battery backup time
- Operation of all operator workstation
- Verify time and date on system clock
- Verify all labels and signage are correctly installed
- Verify all alarms/messages and normal conditions are received at the monitoring station.

C3.8 Technical Data Schedule

This information schedule must be fully completed by the Tenderer to allow the Engineer to evaluate compliance with the specification. Failing to complete the schedule will result in disqualification. This information shall not be treated as qualifications or deviation from the specification. The Engineer reserve the right to ask the Tenderer to submit alternative offers for equipment and materials found to be not compliant to the specifications. The schedule shall not be completed by using answers such as "refer to" and "see attached". All technical brochures and technical sheets shall be provided separately from this document.

	Access control	
	Head-end equipment	
	Access control software make and model	
	Server ICT requirements (list all requirements)	
	Workstation ICT requirements (list all requirements)	
	Field devices	
	System and door controllers: Manufacturer	

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	System and door controllers: Model	
	Reader: Manufacturer	
	Reader: Model	
	Take-on reader make and model	
	Access card make and model	
	Magnetic door lock: manufacturer	
	Magnetic door lock: model	
	Magnetic door lock: size	
	Door status monitor make and model	
	Local alarm sounder makes and model	
	IR remote Rx and Tx make and model	
	Free standing cabinet	
	Make and model	
	PDU make and model	
	Floor standing cabinet	
	Make and model	
	PDU make and model	
	Wall mounted cabinet	
	Make and model	
	PDU make and model	
	UPS	
	Make and model	
	Country of origin	

SIGNED ON BEHALF OF TENDERER:

DATE :

C4. Site Information

C4.1 HEALTH AND SAFETY

All Contractors entering into a Contract with the South African National Biodiversity Institute shall, as a minimum, comply with the requirements of:

- The Occupational Health & Safety Act (OHSA) (Act 85 of 1993) and its Regulations. A current, up-to-date copy of the Occupational Health and Safety Act as well as Health and Safety file for the company shall be available on site at all times. The Health and Safety file will become SANBI property at the end of the contract. Within seven days of appointment, the Contractor will be required to submit a Health and Safety file for approval by the Employers H&S Manager. Initiation of the works can only proceed once approval has been granted.
- Compensation for Occupational Injuries & Diseases Act (Act 130 of 1996). The principal Contractor will be required to submit a letter of good standing from the office of the Compensation Commissioner as required by the Compensation for Occupational Injuries and Diseases Act as part of the submission. The letter should be issued by the Department of Labour or licensed compensation insurer. A current, up-to-date copy of the Compensation for Occupational Injury and Diseases Act (COIDA) shall be available on site at all times.
- National Environmental Management Act (Act No. 107 of 1998).
- The South African National Biodiversity Institute Health and Safety Specification and relevant policies.

The Contractor shall:

- a. Create and maintain a safe and healthy work environment
- b. Execute the works in a manner that complies with all the requirements of the OHSA and all its associated Regulations, and in so doing, minimize the risk of incidents occurring
- c. Respond to the notices issued by SANBI's Health and Safety Agent as follows:
 - i. Improvement Notice: improve health and safety performance over time so that repeat notices are not issued
 - ii. Contravention Notice: rectify contravention as soon as possible
 - iii. Prohibition Notice: terminate affected activities with immediate effect and only resume activities when it is safe to do so.

HEALTH & SAFETY SPECIFICATIONS FOR MINOR CONSTRUCTION WORK ACTIVITIES AT SANBI PREMISES.

1. PURPOSE

The objective of the Health and Safety Specifications is to provide guidelines to the principal contractor for complying with the requirements of the Occupational Health and Safety Act (OHSA), Act 85 of 1993 and its regulations.

The Health and Safety Specifications do not replace the OHSA and relevant regulations, but is a supplementary document to the requirements of the relevant legislation and the conditions of the contract agreement between SANBI and the Principal Contractor.

It does not imply that sections of legislation not referred to in full in this document are of less importance and/or not relevant. The Contractor remains responsible to comply with the Act, its regulations and the contracting company's own health and safety plan.

In terms of Section 37 of the Occupational Health and Safety Act (1993), SANBI is required to control persons/organisations conducting activities for or on their behalf (Mandatories). The Construction Regulations 2014 promulgated under the Occupational Health and Safety Act (Act no. 85 of 1993), is requiring SANBI to compile an occupational health and safety specification for any intended project classified as construction work and to provide the specification to prospective tenderers/mandatories.

The dual objective of this specification is to ensure that the mandatories and service providers entering into a contractual agreement/relationship with SANBI achieves and maintains an acceptable level of occupational health, safety and environmental performance whilst conducting activities while performing the contract work.

2. Scope of Occupational Health, Safety and Environmental (SHE) Specification

The scope of this Occupational Health, Safety and Environmental (SHE) Specification is to address the reasonable and foreseeable aspects of occupational health, safety and environmental management which will be affected by the contract work and it covers any of the following activities:

- Alterations and renovations to existing buildings
- Demolition work (portion of buildings)
- Altering and opening of existing walls
- Dismantling, storage and disposal of material
- Removal of a canopy fixed to façade
- Breaking up of mass concrete/brick paved areas and/or brick work
- Removal of all sanitary fittings
- Preparatory work to existing surfaces
- Work conducted inside existing buildings
- Earth works/open face excavations/trenches/backfilling
- Concrete work, formwork and/or reinforcing
- Concrete in foundations – superstructure
- Rough formwork
- Steel reinforcement

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Masonry work/water proofing of roof coverings
Carpentry and joining
Ceilings installation, partitioning/access flooring
Iron monger work
Installation of bathroom fittings
Structural steelwork/metal work
General plastering work
Tiling work
Paint work on new work (external plastered walls)
External works – preparation of soil for paving
Removal of existing work
Building up of openings
Re-fixing of existing palisade fencing
Earth works and filling (import material)
Soil poisoning (Submit Medical Safety Data Sheets (MSDS))
Concrete formwork and reinforcement
Formwork to soffits of solid slab, sides of bases
Reinforced concrete casts – strip footings and bases
Installation of alarms and security features
Installation of diesel engines
Construction of Incinerator
Installation of Lightning conductors
Masonry work for new work General brick work (one and two brick walls)
Building of superstructure
Installation of concrete lintels
Waterproofing (damp proofing of walls/floors/roofs)
Installation of roof coverings (galvanized steel)
Installation of roof insulation
Carpentry and joining work (new work scope)
Installation of ceilings/partitions and access flooring
Installation of electrical light fittings
Installation of suspended ceilings
Ironmongery work
Installation of bathroom fittings
Metal work including door frame installations, gates and screens
External/internal plastering work (New work scope)
Tiling, including wall tiling/floor tiling
Plumbing and drainage work (New work scope)
Disinfection of water pipe work (requires MSDS of disinfectant)
Soil drainage (Sewer, pipe and drain fittings)
Water supply provision
Installation of fire appliances
Boundary and yard walls/palisade fencing
Aprons, compaction of surfaces
Construction of generator plinth

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

Signage installation
Installation of electrical fencing
Construction and installation of steel canopies with roof coverings
Internal electrical installations
Site electrical reticulation
Electronic installations to existing buildings
All activity which falls within the scope of construction work

3. Health and safety risks (baseline assessment)

The following are potential risks associated with the above work activities:

- Falling from height
- Exposure to electricity (Overhead and underground cables)
- Fire
- Proximity to flammable or combustible materials causing injury
- Climbing steps and working on platforms
- Risk of vehicles overturning
- Risk of eye injury from flying particles and dust
- Cancer risk from exposure to asbestos
- Slips, trips and falls due to untidy work area
- Manual handling activity injuries
- Risk of using various types of machinery and tools
- Contact with moulds, fungi and bacteria
- Contracting dermatitis
- Exposure to cuts and abrasions
- Explosion
- Being struck by machinery
- Loss of fingers/limbs
- Risk of pain or injury from performing repetitive tasks.
- Exposure to noise
- Being struck by falling objects
- Risk of eye injury from solvent splashes or vapour
- Contracting vibration white finger
- Exposure to hand and foot injury
- Sun exposure

4. SITE SPECIFIC HEALTH AND SAFETY REQUIREMENTS BASED ON PROJECT SCOPE

1. The principal contractor and all appointed sub-contractors shall be registered with the Department of Labour Compensation Commissioner or an appropriate similar private insurer and have available a valid Letter of Good Standing at all times from such.
2. Ensure a SHE file is submitted before work commences to SANBI's Occupational Health and Safety department of the Corporate Services Division for evaluation.
3. Ensure all employees undergo medical examination and are declared fit for the job they are employed for by a registered medical practitioner.

4. Ensure all employees under their control undergo company specific induction and SANBI site specific induction.
5. Ensure before work commences that employees are trained in the health and safety risks associated with the work they are conducting.
6. Ensure employees are trained in company procedures, policies, method statements and informed of SHE requirements as per the specification.
7. Ensure legislative requirements are complied with for the duration of the contract and ensure that its employees comply.
8. Ensure that the 37 (2) Agreement has been signed before any work commences and that a copy is kept on the SHE file.
9. Ensure that a 37(2) Agreement(s) is signed between the company and any other sub-contractor which may be appointed.
10. Ensure that sub-contractors have valid Letter of Good Standing from the Department of Labour Compensation Commissioner or a registered private compensation insurer.
11. Prevent any employee or visitor who is under the influence of any alcohol or drugs (in a state of intoxication) on site.
12. Ensure the safety of employees who are taking legal medication.
13. Hand over a consolidated SHE file at the end of the contract to SANBI.
14. Stop employees who are conducting unsafe acts and/or creating an unsafe environment from doing so.
15. Report and all reportable incidents to SANBI and ensure that they are investigated.
16. Ensure work is supervised by competent personnel and that work is done by competent employees.
17. Ensure pre-task risk assessments are done by a competent person and that employees are informed of the risks and the risk control measures in place.
18. Conduct tool box talks to communicate SHE issues in connection with the work being done and any other aspects thereof.
19. Ensure that the appointed personnel as per the SHE file are executing their duties as per the legal appointment made.
20. Ensure a first aid kit is made available in case of any emergency and that a trained certified first aider is available per shift.
21. Ensure that good housekeeping is maintained and that materials are store/stacked properly in designated areas.
22. Make provision for sufficient waste receptacles and ensure that the correct disposal of the different waste materials takes place.
23. Stop any work from being executed that are not in accordance with the rules for the site or which poses a threat to the health and safety of the people.
24. Service provider will be required to provide a signed (by Managing Director/Chief Executive Officer) copy of the Company's health and safety policy to the SHE file.
25. The principal contractor is responsible for the investigation of all accidents and/or incidents where employees and non-employees were injured to the extent that they had to receive medical treatment other than first aid.
26. No fires or open flames are allowed on site unless directly used for construction purposes, e.g. acetylene blowtorch for welding. All available precautions will be taken to prevent the spread of a fire.
27. The Principal Contractor will establish a Personal Protective Equipment Policy and a Personal Protective Equipment study will be conducted to determine the types of Personal Protective Equipment (PPE) to be supplied related to the hazards and risks emanating from the tasks to be performed by its employees and those of sub-contractors.
28. All employees must be provided with PPEs relevant to the hazard associated with the task at hand.

29. All employees shall, as a minimum, be required to wear the following personal protective equipment for the duration of the contract on any of SANBI projects:
 - Protective overalls;
 - Protective hand and footwear;
 - Protective headwear; and
 - Eye, face and ear protection.
30. A pre-emptive risk assessment will be required for any work to be carried out above **two meter** from the ground or any floor level. This work will be classified as “work in elevated positions”.
31. As far as is practicable, any person working in an elevated position will work from a platform, ladder or other device that is at least as safe as if working at ground level.
32. Prohibition signage must be displayed where work is performed.

5. WASTE MANAGEMENT

The following requirements shall be incorporated into the waste management plan to be submitted

Solid Waste:

- Littering on site and the surrounding areas is prohibited.
- Clearly marked litterbins must be provided on site. The Contractor must monitor the presence of litter on the work sites as well as the construction campsite.
- All bins must be cleaned of litter regularly.
- All waste removed from site must be disposed at a municipal/permitted waste disposal site.
- Excess concrete, building rubble or other material must be disposed of in areas designated specifically for this purpose and not indiscriminately over the construction site.
- The entire work area and all construction sites must be swept of all pieces of wire, metal, wood or other material foreign to the natural environment.
- Contaminated soil must be treated and disposed of at a permitted waste disposal site or be removed and the area rehabilitated immediately.
- Waste must be recycled wherever and whenever possible.

Hazardous Waste:

- No hazardous materials must be disposed of in the veld or anyplace other than a registered landfill for hazardous material. Hazardous waste must be stored in containers with tight lids that must be sealed and must be disposed of at an appropriately permitted hazardous waste disposal site. Such containers must not be used for purposes other than those originally designed for. The service provider must maintain a hazardous material register.

7. General competence requirement

The service provider shall ensure that its personnel and sub-contractors' personnel are trained and competent to carry out work safely and without risk to health (Training to be completed before work commences). The service provider shall ensure that follow-up and refresher training is conducted as the work progresses and whenever the scope or nature of the work changes

Prepared by: OHS Department
15 September 2018 / 02 January 2020

CONSTRUCTION BASELINE RISK ASSESSMENT

Introduction and Overview

1. There is an implied legal requirement under the Health and Safety Act N0.85 of 1993 Section 8(2) for an employer to carry out risk assessments.
2. Risk Assessments are important to the management of health and safety within SANBI. The process is a tool for management to identify those risks that pose a threat to the health and safety of employees, visitors, contractors and all other people who are affected by our work activities.
3. An assessment of risk is nothing more than a careful examination of anything at work that may cause harm to people. This is known as identifying significant hazards that might cause harm or illness to anyone including the general public. The Risk Assessment is not restricted to possible physical harm but includes work related occupational health issues such as stress.
4. These issues need to be evaluated to decide whether existing precautions are adequate, or if more needs to be done or even whether the activity should be modified or not undertaken at all. Any specific job recommendation must be followed.
5. Area SHE reps must be consulted to provide any advice required on the process of risk assessment but it primarily should be undertaken by those with specific expertise in that area of activity.
6. Principal contractor must appoint competent person to do activities risk assessment.

Construction baseline Risk Assessment**Centre Name: ALL**

STEP 1.													
Operation Name:		CONSTRUCTION			DATE:		02/01/2020			Compartment No.			
Activity / Task Description:		INSTALLATION IN CONSTRUCTIONS											
Ref No.	SPECIFIC TASK / ACTIVITY STEPS	IDENTIFIED POTENTIAL HAZARDS	RISK	CLAS S	RISK RANKING			RISK CONTROL MEASURES -Elimination -Administration -Engineering -Personal Protection Equipment(PPE) -Written safe work procedure (WSWP)	RESIDUAL RISK				
				S	Likelihood	Consequence	Risk Rating		Likelihood	Consequence	Residual Risk		
				H									
				E									
1.	Site establishment	Mobile plant and equipment	-Crushing injuries -Hearing impairment due to noise -Dust and fumes inhalation -Muscle strain due to vibration -Trips and falls -Pollution	S H	4	5	20	-Use of competent person -WSWP -Equipment Safety guards	3	3	9		
2.	Construction	Working at heights	Falls from heights, potential for fatality or serious injury Collapse of structure – falls, crushing	S	4	5	20	-Training and daily risk assessment WSWP PPE	3	3	9		
		Mobile plant including mobile platform.	Falls from heights, potential for fatality or serious injury	S	4	5	20	WSWP -Enforcement of use of PPE	3	3	9		

			Manual handling injuries when erecting platform								
		Powered tools and non-powered tools including brick saw, rotating saw, angle grinder, electric mixer	Contact with electricity ,Amputation or laceration, Eye or face injury Musculoskeletal disorders caused by equipment vibration	S	4	5	20	WSWP PPE	3	3	9
		Unlevelled terrain and construction debris	Falls, Cuts and struck injuries	S	4	4	16	WSWP PPE	2	3	6
		Cement products and mortar	Dermatitis, Allergic reactions, Vapour inhalation and Mortar splashes in eyes	S,H	4	4	16	WSWP PPE	2	3	6
		Manual handling (bending, reaching, stretching, pulling, lifting, repetitive motions, awkward posture)	Musculoskeletal disorders including sprains and strains	H	4	5	20	WSWP	3	3	9
		Noise	Long-term exposure to excessive noise can lead to hearing loss	H	4	4	16	PPE WSWP	2	3	6
		Overhead obstructions, electrical cable conduits	Accidental contact with electrical cable could result in electric shock or electrocution	S,H	4	5	20	PPE WSWP	2	3	6
		Hot weather conditions	Heat rashes, heat cramps, heat stress, dehydration, sunburn	H	4	4	16	PPE WSWP	2	3	6
		Electricity	Electrocution	S	3	5	15	Enforcement of lock-out procedure WSWP	2	2	4
		Fire	Property damage	S E	3	4	12	-Enforcement of hot work permit	2	2	4

								-Proper house keeping			
		Oil Spill	Environmental risk	E	3	4	12	-WSWP -Keep tools in proper working conditions	2	2	4

Residual Risk	APPROVAL REQUIRED TO PROCEED	Approval Signature	Approval Date:
Extreme (E)	Stop Activity and seek approval from the Centre manager/immediate manager		
High (H)	Approval must be obtained from immediate manager/Responsible Supervisor and when all control measures are in place.		
Moderate (M)	Work can commence after supervisors' approval and all control measures are in place		
Low (L)	Work can commence when the supervisor/SHE rep has approved this risk assessment, & all identified control measures are in place.		

** Discretion for Centre/immediate manager to approve Extreme / High risk work to proceed only applies where there is a risk to production loss/plant. This discretion does not apply to work if the Ext/High residual risk relates to the potential for personal injury or environment risk. In this case work should stop and seek professional safety advice.*

Step 12.

By signing below, participants acknowledge they have read and understand the risk assessment and agree to comply with all steps and control measures:

NAME	SIGN ON	DATE	SIGN OFF	DATE	NAME	SIGN ON	DATE	SIGN OFF	DATE

RISK CALCULATOR (Risk Rating = Consequences x Likelihood)

LIKELIHOOD	CONSEQUENCE				
	Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
Almost Certain (5)	M (11)	H (13)	E (20)	E (23)	E (25)
Likely (4)	M (7)	H (12)	H (17)	E (21)	E (24)
Possible (3)	L (4)	M (8)	H (16)	E (18)	E (22)
Unlikely (2)	L (2)	L (5)	M (9)	H (15)	E (19)
Rare (1)	L (1)	L (3)	M (6)	M (10)	H (14)

STEP	QUICK GUIDE OF WHAT TO DO	MORE DETAILED INFORMATION ON EACH PROJECT/TASK RISK ASSESSMENT STEP
1.	Complete a description of the <u>Activity / Task</u>	- At the top of the risk assessment record the task name, a brief description of the task, and the relevant work area and section. Keep as simple as possible, but with enough information to identify the task. - If the Risk Assessment is being used to develop a Safe Work Procedure (WSWP), the risk assessment task name should correspond with the title of the WSWP.
2.	Detail specific <u>task steps</u>	- In the first column “Ref No.” write the step no. starting from 1. Up until however many steps/tasks there are in the task. If applicable, these should align with any associated WSWP to enable cross referencing. - List each of the specific tasks, activities and/or steps associated with the activity/task that will be undertaken.
3.	<u>Identify potential Hazards</u> for each Task/Activity in Step 2. Use <i>Hazard Prompt Sheet</i> (Appendix 2) for help.	- In the column next to listed tasks/activities, identify all potential hazards relevant to each item. Record each hazard on a separate line. - A common mistake is to refer to a hazard as the actual harm or the health effects it caused rather than the hazard. E.g. If the task was hosing down an area, the hazard is the wet floor not the potential harm caused e.g. fall / cut knee. - If no hazards are found for a task/step or the risk has been addressed in a previous hazard, the task still needs to be listed to show it has been considered, and to keep the steps/tasks in line with any associated WSWP.
4.	Evaluate the possible <u>Consequence</u> of the Hazard Use Risk Calculator above	Simply put if someone was exposed to the hazard, what would be the reasonable consequence? It is not always the “worst” case scenario; e.g. if you fell 1m off a ladder you could be killed as an extreme (e.g. land on your head), but the most likely consequence would be you might sprain your wrist or break a leg. Therefore the consequence is more likely to be moderate rather than catastrophic.

5.	Evaluate the <u>Likelihood</u> of that Consequence ▪ Use Risk Calculator above	▪ Ask yourself will it ever happen; if so what factors are needed for it to happen, and how often would those factors be around. Then ask yourself what you think the reasonable frequency would be, before determining the Likelihood.
6.	Determine <u>Risk Ratings</u> of hazards ▪ Use Risk Calculator above	▪ Determine each hazard's risk rating by intersecting the "Consequence" and "Likelihood" levels on the Risk Calculator table. ▪ For more detailed information on determining risk levels, refer to the Risk Matrix.
7.	Identify <u>Controls</u> to reduce hazard risk	▪ Control measures need to reduce hazard risk ratings to an acceptable level if the current risk level is unacceptable; aim for a low risk. ▪ Apply the Hierarchy of Control when determining control measures.
8.	Evaluate the <u>Residual Risk</u> (risk rating with controls in place)	▪ After control measures have been identified, you need to reassess each hazards risk rating to determine what the remaining risk would be with the controls in place from Step 7 (follow the principles in Steps 4 & 5 above). ▪ The aim is to achieve a Low Risk; if not achieved review controls again and/or ask for help.
9.	Determine <u>highest remaining residual risk</u>	▪ If the highest residual risk on the risk assessment is a Low Risk, or a Moderate Risk the task/project can commence once all control measures are in place and the risk assessment has been reviewed and approved. ▪ If a High or Extreme risk still remains, then the task/project must not commence and further review must be undertaken involving the Budget Centre manager/ Senior Management Team such as SHEQ (an Elected Safety Representative should also be involved). <i>Exemption: In exceptional circumstances, if the "Ext" or "High" risk rating does not apply to personal injury or environmental damage (e.g. potential for property damage only), and the Centre manager/R. Supervisor in consultation with the DD OHS believe it is an acceptable risk for the Company, the task may be approved. This does not apply for Personal injury or Environmental risks; an "M" (Moderate) risk is the highest ranking allowable.</i>
10.	<u>Approval / WSWP development</u>	▪ Once the risk assessment is complete, all participants should record their name at the bottom of the sheet, document any consultation that was had (e.g. tabled at SHE Committee) and the Centre manager / R forester or delegate should sign off the task for approval. ▪ Specify if a safe work procedure (SWP) is required to be developed (e.g. for routine / regular tasks). If yes, this should be done in accordance with the Minimum Standard - Safe Work Procedure Development.
11.	<u>Sign on / off</u>	▪ All persons involved in a project/task must acknowledge they have read and understood a risk assessment and agree to comply with all steps and control measures.
12.	Document <u>Actioners</u>	▪ Reference the initials of the person responsible for ensuring a particular control is implemented before progressing with the task/project.

APPENDIX 2		Hazard Prompt Sheet		Centre Name:	
ACTIVITY / TASK PREPARATION CONSIDERATIONS INCLUDE:					
Minimum PPE	☐ Safety glasses ☐ Double eye / Face shield ☐ Earplugs (Specify class: _____) ☐ Helmet ☐ High-visibility ☐ Safety boots ☐ Long sleeves/trousers ☐ Coveralls ☐ Respirator (Specify type: _____) ☐ UV protection (Hat, glasses, etc) ☐ Gloves (Specify type: _____) ☐ Other:	Emergency Response / Plant / Equipment / Access	☐ 1 st aid equipment/Trained first aiders ☐ Fire equipment ☐ Other emergency response ☐ Chemicals approved for job ☐ Chemical/Oil spill kit ☐ Vehicular type / access / parking ☐ Amenities / Facilities / Hours of work ☐ Signage / Barricades ☐ Communication equipment ☐ Registered plant	Training / Competency / Compliance	☐ High risk licenses ☐ Certificates of competency ☐ Experience ☐ Induction training required ☐ Project / Area Supervisor ☐ Any relevant legislation ☐ Consultation / Notifications ☐ Any literacy issues
POTENTIAL HAZARDS ASSOCIATED WITH THE ACTIVITY/TASK RESULTING FROM (but not limited to):					
CATEGORY	CONSIDER	CATEGORY	CONSIDER	CATEGORY	CONSIDER
Chainsaw	☐ A chain brake ☐ A chain catcher ☐ A throttle lock ☐ A rear hand guard ☐ Anti-vibration rubbers. ☐ An exhaust muffler ☐ An anti-kickback chain.	Manual Handling (Ergonomic) / Human / Muscular 	☐ Repetition / Overuse ☐ High / Low reach ☐ High force / Heavy loads ☐ Awkward / Unbalanced loads ☐ Pushing / Pulling / Twisting ☐ Carrying & walking ☐ Over exertion (e.g. fatigue) ☐ Design / Layout ☐ Personal characteristics e.g. height	Mechanical	☐ Unguarded moving parts (e.g. crush) ☐ Drawing in / cutting points (e.g. nips) ☐ Impact and crushing areas ☐ Uncontrolled movement ☐ Tearing / Shearing (e.g. abrasions) ☐ Unsafe access ☐ Auto-start equipment ☐ Inadequate isolation points ☐ Hand & power tool condition ☐ Stored energy (e.g. vessels) ☐ Failure of plant (e.g. loss of load, plant ejection, collapse, fragmentation)
Emergency	☐ Working alone / Remote work				
Fire / Explosion	☐ Inappropriate chemical storage/use ☐ Self-ignition combustibles (e.g. dust) ☐ Fire (e.g. burns)	Thermal 	☐ Steam / Condensate ☐ Hot or cold materials/surfaces ☐ Heat stress / Cold		
Gravitational  Injured by people or objects falling	☐ Working at height / Unguarded edge ☐ Struck by falling/lowering object ☐ Rolling/Sliding objects ☐ Ascending/Descending stairs / ramp / ladders / platform / mobile equipment ☐ Lifting equipment (e.g. crane, sling) ☐ Holes/Gaps or Slip/Trip hazards ☐ Scaffolding ☐ Unbalanced ladders ☐ Structural failure / Exceeding load ratings	Chemical / Environment 	☐ Hazardous Subs/Dangerous Goods ☐ Inadequate storage/bunds/labelling ☐ Gas / Dust / Fumes (e.g. explosion) ☐ Poor ventilation ☐ Inhalation / Absorption / Skin contact ☐ Waste/Contamination e.g. soil/water/air	Pressure 	☐ Compressed gases ☐ Hydraulic / Vacuum ☐ HP steam / Water
		Procedural	☐ Inadequate training / experience ☐ Incorrect equipment selection / use	General Work Area 	☐ Time of day and illumination/glare ☐ Wet / Slippery / Uneven surfaces ☐ Weather & outdoors e.g. wind, UV, fog ☐ Unauthorised personnel entry ☐ Noise / Vibration ☐ Biological – fluids, sharps, insects ☐ Inadequate maintenance/inspections ☐ Restricted work area
		Kinetic Energy /	☐ Traffic / pedestrian interaction ☐ Vehicle instability e.g. rollover		

Electrical 	<i>Hazards resulting in electrocution / burns; E.g.</i> ☐ Cables: Unsafe condition/location ☐ No earth leakage protection ☐ High voltage / Switch rooms	Mobile Plant / Pedestrians	☐ Exceeding rated capacity ☐ Obstructed / Poor Visibility ☐ Being hit by the activities of another person, moving vehicle or object	☐ Any foreseeable abnormal conditions? ☐ Any other hazardous conditions? ☐ Dead trees ☐ Sharp slash points
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