SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE (SANBI)

Bid No. SANBI: G559/2025

DOCUMENTS

PROCUREMENT DOCUMENT

OCTOBER 2025

Issued by:

South African National Biodiversity Institute
Private Bag X101
Silverton
0184
Gauteng

Contact:

Supply Chain Management
E-mail: sanbi.tenders@sanbi.org.za

Prepared by:

Techi Engineers (Pty) Ltd
8 Dann Road
Kempton Park AH
1619
Gautang

Contact:

Mr M. L. Mhindurwa

E-mail: mucha@techi.co.za

Name of tenderer: .....

Address: .....

Tel no.: ..... **Fax no.:** .....

Email: .....

Any reference to the 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”.

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PART T: THE TENDER
Part T1: Tendering Procedures

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
CONTRACT NO:	

Advertising date:	**24 October 2025**	**Closing date:**	**10 November 2025**
Closing time:	**11:00**	**Validity period:**	**90 Days**

T1.1 Tender Notice and Invitation to Tender

THE SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE INVITES TENDERERS FOR THE PROVISION OF:
Request for bids for the appointment of a contractor for construction and refurbishment works at The Mokopane Biodiversity Conservation Centre

It is estimated that tenderers should have a CIDB contractor grading of **6GB** or higher.

Tender documents will be available as from **24 October 2025** and will be available **ONLINE ONLY** on:

- SANBI website www.sanbi.org (click on “Opportunities”)
- CIDB Website
- National e-Tender Publication Portal

A compulsory briefing session will take place on site on **03 November 2025 at 11:00** at the Mokopane Biodiversity Conservation Centre. Bidders are encouraged to direct all technical and bidding procedure enquiries to the email address below.

Bidders are encouraged to direct all technical and bidding procedure enquiries to the email address below.

Department:	Supply Chain Management
Email:	sanbi.tenders@sanbi.org.za
Cc:	mucha@techi.co.za and L.Cungcu@sanbi.org.za
Cut-off date for enquiries:	**05 November 2025 at 11:00**

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. M. L. Mhindurwa Techi Engineers (Pty) Ltd mucha@techi.co.za.
SANBI SCM Representative	sanbi.tenders@sanbi.org.za

The closing time and date for the receipt of tenders is **11:00** on **10 November 2025.**

Any reference to the 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”.

The tenders will **NOT** be opened in public (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.

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PART T: THE TENDER
Part T1: Tendering Procedures

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
CONTRACT NO:	**G559/2025**

T1.2 Tender Data

The conditions of tender are the Standard Conditions of Tender as contained in Annex C of the CIDB Standard for Uniformity in Engineering and Construction Works Contracts – August 2019. (See www.cidb.org.za).

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
C.1.1.1	The Employer is: South African National Biodiversity Institute (SANBI): The Employer's domicilium citandi et executandi (permanent physical business address) is: Pretoria National Botanical Garden 2 Cussonia Avenue, Biodiversity Centre Brummeria, Pretoria The Employer's address for communication relating to this project is: Private Bag X101 Silverton 0184
C.1.2	The Tender Documents issued by the Employer comprise the following documents: **PART T: 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 T2.2 - Returnable documents/schedules **PART C: THE CONTRACT** **Part C1: Agreements and Contract data** C1.1 - Form of offer and acceptance C1.2 - Contract data C1.3 - Construction guarantee C1.4 - Occupational Health & Safety Agreement 37(2) **Part C2: Pricing Data** C2.1 - Pricing Instructions C2.2 - Bill of Quantities

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Clause number	Tender Data
	Part C3: Scope of Works C3.1 - Description of the works C3.2 - Construction **Part C4: Site Information** C4.1 - Site location **Annexures** Annexure A – Health and Safety Specification Annexure B – Geotechnical Report Annexure C– Drawings
C.1.4	The employer's agent is: Techi Engineers (Pty) Ltd **Contact Person: M. L. Mhindurwa** **Tel: 083 480 1305** **E-mail: mucha@techi.co.za**
C.2.1	Only those tenderers who satisfy the following eligibility criteria are eligible to submit tenders Only those tenderers who score the minimum score in respect of the quality criteria stated in C.3.11.1 of this Tender Data shall be considered responsive and have their tenders evaluated further. (a) CIDB registration Only those tenderers who are registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations, for a **6GB** class of construction work, are eligible to have their tenders evaluated. Joint ventures are eligible to submit tenders provided that: 1. Every member of the joint venture is registered with the CIDB. 2. The lead partner has a contractor grading designation in the **6GB** class of construction work; and 3. the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a **6GB** class of construction work or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations. (b) National Treasury Central Supplier Database Tenderers who are not registered on the National Treasury Central Supplier Database at the close of tender, shall submit a copy of their application of registration, with their tender submission. Tenders received from such tenderers who have not submitted proof of their registration within 21 days after the closing date for tender submissions, will not be considered.
C.2.6	Failure to apply instructions contained in addenda may render a tenderer's offer non-responsive in terms of clause C.3.8.
C.2.7	The arrangements for a compulsory clarification meeting are as stated in the Tender Notice and Invitation to Tender.

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Clause number	Tender Data
	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
C.2.8	Request clarifications at least 7 working days before the closing time.
C.2.12	Main tender offers are required to be submitted together with alternative tenders. 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 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 detailed design.
C.2.13.6	A two-envelope procedure will be followed as described in clause C.2.13.7.
C.2.13.7	Tenderers shall note the specific requirements for packaging of their tender documents and include only the following: Two (2) original documents marked Original: Document A "FINANCIAL ENVELOPE and Original Document B "TECHNICAL ENVELOPE". • Original Document A "FINANCIAL ENVELOPE" pack of original documents with pricing included e.g. Form of Offer and Acceptance, bill of quantities, costing models and cash flows. • "Original Document B "TECHNICAL ENVELOPE" pack of original documents **excluding** pricing e.g. Form of Offer and Acceptance, bill of quantities, costing models and cash flows and a USB with a Copy of "Original Document B" TECHNICAL ENVELOPE excluding pricing e.g. Form of Offer and Acceptance, bill of quantities, costing models and cash flows. Financial or pricing details should **ONLY** be included in the envelope marked "Original Document A FINANCIAL ENVELOPE". **NB:** Failure to submit in the prescribed manner WILL lead to the bid being disqualified. The Service Provider is to ensure that the provided USB includes the proposal, is readable and is not corrupt. Failure to comply will lead to the bid being considered non-responsive. Please put the USB in the "Original Document B" TECHNICAL ENVELOPE (original document and USB in one envelope).

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Clause number	Tender Data
	INCLUSION OF ANY PRICING INFORMATION ANYWHERE ON THE USB WILL LEAD TO THE BID BEING DISQUALIFIED. The original document and the USB will be placed in one envelope and on the envelope sealed bearing the following: • The address as stated in C.2.15.1 below • The identification details as stated in C.2.15.1 below • Name of the Tenderer
C.2.13.9	Telephonic, telegraphic, telex, facsimile or e-mailed tender offers will not be accepted.
C.2.15.1	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 **Physical address:** Pretoria National Botanical Garden 2 Cussonia Avenue Brummeria Pretoria **Identification details:** Tender number: **Title of Tender:** Request for bids for the appointment of a contractor for construction and refurbishment works at The Mokopane Biodiversity Conservation Centre
C.2.15.2	The closing time for submission of tender offers is as stated in the Tender Notice and Invitation to Tender.
C.2.16.1	The tender offer validity period is **90 days**.
C.2.16.3	Where a tenderer, at any time after the opening of his tender offer but prior to entering into a contract based on his tender offer: (1) withdraws his tender; (2) gives notice of his inability to execute the contract in terms of his tender; or (3) fails to comply with a request made in terms of C.2.17, C.2.18 or C.3.9 such tenderer shall be barred from tendering on any of the Employer's future tenders for a period to be determined by the Employer, but not less than six (6) months, from the date of tender closure. The Employer may fully or partly exempt a tenderer from the provisions of this condition if he is of the opinion that the circumstances justify the exemption
C.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.
C.2.22	Tender Documents will **not be returned** to bidders

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Clause number	Tender Data
C.2.23	The tenderer is required to submit with his tender following **(failure to provide below documentation will result in the tender being rejected)**: 1) A copy of the Central Suppliers Database (CSD) registration report. 2) A printed copy of the Active Contractor's Listing off the CIDB website (www.cidb.org.za) 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. 4) In the case of a Joint Venture/Consortium the tax Compliance status Pin or Compliant tax status on CSD report must be submitted for each member of the Joint Venture/Consortium." 5) The signed compulsory site briefing certificate. 6) Plant Documentation: Equipment owned by Contractor: registration documents must be provided. or Equipment to be rented (if any): letter of intent to hire with preferred rental companies (registration documents must be attached) 7) A professional Construction Health & Safey Officer with more than 5 years' experience with a Valid Professional Registration with **SACPCMP**. CV for proposed professional CHS Officer indicating: • Previous work experience of similar projects in the last five years • Total number of years' working experience in construction • Certified copies of Qualifications certification or other recognised training courses completed
C.3.1.1	The Employer shall respond to clarifications received up to 7 working days before the tender closing time.
C.3.2	The Employer shall issue addenda until 5 working days before the tender closing time.
C.3.4.1	The tenders will not be opened in public
C.3.5.1	Follow procedure as described in clause C.2.13.7
C.3.7	In the event of disqualification, the Employer may, at his sole discretion, impose a specified period during which tender offers will not be accepted from the offending tenderer and report same to the CIDB and National Treasury.
C.3.11.1	The procedure for the evaluation of responsive tenders is stated in **Annexure A**.
C.3.13	In addition to the requirements of the Condition of Tender, offers will only be accepted if: a) the tenderer submits a copy of the CSD registration report or registration number (refer to T2.1.12); b) the tenderer is registered with the Construction Industry Development Board in an appropriate contractor grading designation (refer to T2.1.11); c) 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; d) 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 T2.1.14); e) the tenderer is registered and in good standing with the compensation fund issued by the Department of Labour (Letter of good standing with COIDA);

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	f) 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. g) A copy of Tax Compliance Status Pin or Tax compliant CSD report. h) Plant Documentation: Equipment owned by Contractor: registration documents must be provided. or Equipment to be rented (if any): letter of intent to hire with preferred rental companies (registration documents must be attached) i) A professional Construction Health & Safey Officer with more than 5 years' experience with a Valid Professional Registration with **SACPCMP**. CV for proposed professional CHS Officer indicating: • Previous work experience of similar projects in the last five years • Total number of years' working experience in construction • Certified copies of Qualifications certification or other recognised training courses completed

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Annexure A

This annexure contains all the criteria that the Employer shall use to evaluate tenders. In accordance with clause C.3.11 of the Standard conditions of tender. No other factors, methods or criteria shall be used. The tenderer shall provide all the information requested in the forms included in Part T2.2 – Returnable schedules.

Tenders shall be evaluated in three stages as follows

- Stage 1 – Evaluation of Eligibility and Administrative compliance
- Stage 2 – Evaluation of Functionality
- Stage 3 – Evaluation of Tender Price and Preference

1 Stage 1: Eligibility and Administrative compliance

The first stage will determine whether bids are compliant with all mandatory and disqualifiable submission requirements. Bidders that are deemed compliant will be eligible for further evaluation.

The criteria as identified in Clauses C.2.23 and C.3.13 in the Tender Data will be used to determine the tender's eligibility.

For administrative compliance the tenderers must complete all the returnable forms in Part T2.2, the Bill of Quantities and the Offer section in Part C1.1.

2 Stage 2: Functionality

The tenderers who complied with the eligibility and administrative criteria in stage 1 are considered for further evaluation on their capability to execute the project.

In this stage tenders will be evaluated on functionality according to the criteria listed below. Tenderers who fail to score a minimum of 70 points out of a possible 100 points on functionality criteria will not be eligible for further consideration.

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.

FUNCTIONALITY CRITERIA		
ID	**CRITERIA**	**POINTS**
1	Implementation method and project plan or programme **(a) Project methodology** • Method to be followed in delivering this project, the methodology and approach must be specific to the project and location of works (this should include the PMBOK knowledge areas as well as all relevant project life cycle stages). • A team organogram of the people who will be working on the project tendered must be included. • Time and quality management of the project must be provided. • A list of subcontractors (if any) to be utilised for various disciplines and how the work will be dispatched to subcontractors considering the reasonable response time	**25** (15)

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Sub-Criteria	Points
No Methodology	0
Poor Methodology	3
Average Methodology	6
Above Average Methodology	9
Good Methodology	12
Comprehensive (Exceptional) Methodology	15

(b) Weekly plan/programme with milestones

- The programme should indicate the sequence of work execution.
- Milestones and resources linked to the activity must be included.
- The programme should be practical, realistic and include all activities linked to the project.

Sub-Criteria	Points
No Programme	0
Poor Programme	2
Average Programme	4
Above Average Programme	6
Good Programme	8
Comprehensive (Exceptional) Programme	10

(10)

2

Contractor's Experience

40

- Three relevant reference letters regarding work of similar scope and scale completed in the last ten (10) years

Sub-Criteria	Points
One relevant reference letter	5
Two relevant reference letters	10
Three relevant reference letters or more	15

(15)

- List of at least five other similar projects with appointment letters, completion certificates and telephonic references indicating work of similar value completed in the last ten (10) years.

Sub-Criteria	Points
One relevant project	5
Two relevant projects	10
Three relevant projects	15
Four relevant projects	20
Five relevant projects	25

(25)

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<table>
<tr><td></td><td>Notes:
Supporting documents required to support the claims above, (corresponding orders/appointment letters, completion certificates and reference letters for projects must be submitted as proof). Bidders must submit all the requested documents as proof in order to be awarded the points.
• Both appointment letters and reference letters must be on the employer’s letterhead, dated and signed by the <u>employer</u>.
• Failure to complete and sign schedule of the tenderer`s experience will result in the bidder forfeiting these points.</td><td></td></tr>
<tr><td>3</td><td>Contractor's Resources – Personnel and Plant
Proposed personnel:
• CVs for proposed key personnel (At least 2 – Contracts Manager, Site Agent) indicating:
o Previous work experience
o Total number of years’ working experience in construction
o Individual experience on relevant similar work in last five years
o Certified copies of qualifications or artisan’s certification or other recognised training courses completed
o Valid Registration for Contracts Manager and Site Agent (ECSA or SACPCMP)

Contracts manager:
<table>
<tr><th>Sub-Criteria</th><th>Points</th></tr>
<tr><td>CV experience of less than 5 years</td><td>0</td></tr>
<tr><td>CV experience of more than 5 years</td><td>5</td></tr>
<tr><td>CV experience of more than 10 years</td><td>10</td></tr>
<tr><td>CV experience of more than 15 years</td><td>15</td></tr>
<tr><td>CV experience of more than 20 years</td><td>20</td></tr>
</table>
Site Agent
<table>
<tr><th>Sub-Criteria</th><th>Points</th></tr>
<tr><td>CV experience of less than 5 years</td><td>0</td></tr>
<tr><td>CV experience of more than 5 years</td><td>5</td></tr>
<tr><td>CV experience of more than 10 years</td><td>10</td></tr>
<tr><td>CV experience of more than 15 years</td><td>15</td></tr>
</table></td><td>35
(20)
(15)</td></tr>
<tr><td colspan="2">TOTAL</td><td>100</td></tr>
</table>

Functionality shall be scored by not less than three evaluators in accordance with the following schedules:

Each evaluation criterion will be assessed in terms of five indicators – no response, poor, satisfactory, acceptable, good and very good. Scores ranging from of 0 to 5 will be allocated to no response, very poor, poor, acceptable,

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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 stage 3 of the evaluation

3 Stage 3: Tender Price and Preference

The tenderers who complied with the functionality criteria in stage 2 are considered for further evaluation in terms of their Tender Price and Preference points.

3.1 Correction of arithmetical errors

Pursuant to clause C.3.9 of the standard conditions of tender as amended in the Tender Data, correction of arithmetical errors shall be undertaken.

3.2 Calculation of score for Tender Price

The score for Tender Price shall be calculated using the following formula:

$$N_F = W_f \times \left[1 - \left(\frac{P_t - P_{min}}{P_{min}}\right)\right]$$

Where:

N_F = the score for Tender Price awarded for the tender under consideration

W_f = the weighting given to financial offer, determined as follows:

- 90 where the Tender Price, inclusive of VAT, of all responsive tender offers received has a value in excess of R50 000 000,00; or
- 80 where the Tender Price, inclusive of VAT, of one or more responsive tender offers has a value that equals or is less than R50 000 000,00.

P_t = Tender Price of the tender under consideration

P_{min} = Tender Price of the lowest responsive tender

In the event that the calculated value of N_F is negative, the allocated score shall be 0

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3.3 Financial and Preference

After calculation of the scores for Tender Price and for Preference, a combined score will be calculated as follows:

NT = NF + NP

Where:

NT = Total score for tender under consideration

NF = Score for Tender Price

NP = Score for Preference

The tender with the highest score should be recommended for appointment.

SANBI reserves the right, at its sole discretion to award this tender to a bidder that did not score the highest total number of points, only in accordance with section 2(1)(f) of the PPPFA (Act 5 of 2000)as per below objective criterion :

- Not to appoint any service provider that has demonstrated unsatisfactory performance in any previous or current contract with SANBI or any other organ of state.
- SANBI reserves the right to obtain and consider additional information regarding a bidder's past performance, even if such information is not included in the bid's returnable documents.

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Annexure C

Standard Conditions of Tender

C.1 General

C.1.1 Actions

C.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 C.2 and C.3, timeously and with integrity, and behave equitably, honestly and transparently, comply with all legal obligations and not engage in anticompetitive practices.

C.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.

C.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.

C.1.2 Tender Documents

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

C.1.3 Interpretation

C.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.

C.1.3.2 These conditions of tender, the tender data and tender schedules which are required for tender evaluation purposes, shall form part of any contract arising from the invitation to tender.

C.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 fulfill his or her duties impartially;

ii) an individual or tenderer 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 tenderer who employs that employee.

b) **comparative offer** means the price after the factors of a non-firm price and all unconditional discounts it can be utilised to have been taken into consideration;

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;

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“Tender” or “Tenderer”.

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;

C.1.4 Communication and employer's agent

Each communication between the employer and a tenderer shall be to or from the employer's agent 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.

C.1.5 Cancellation and Re-Invitation of Tenders

C.1.5.1 An employer may, prior to the award of the tender, cancel a tender if-

a) due to changed circumstances, there is no longer a need for the engineering and construction works specified in the invitation;

b) funds are no longer available to cover the total envisaged expenditure; or

c) no acceptable tenders are received.

d) there is a material irregularity in the tender process.

C.1.5.2 The decision to cancel a tender invitation must be published in the same manner in which the original tender invitation was advertised

C.1.5.3 An employer may only with the prior approval of the relevant treasury cancel a tender invitation for the second time.

C.1.6 Procurement procedures

C.1.6.1 General

Unless otherwise stated in the tender data, a contract will, subject to C.3.13, be concluded with the tenderer who in terms of C.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.

C.1.6.2 Competitive negotiation procedure

C.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 C.3.4, the employer shall announce only the names of the tenderers who make a submission. The requirements of C.3.8 relating to the material deviations or qualifications which affect the competitive position of tenderers shall not apply.

C.1.6.2.2 All responsive tenderers or at least a minimum of not less than three responsive tenderers that are highest ranked in terms of the evaluation criteria stated in the tender data shall be invited to enter into competitive negotiations based on the principle of equal treatment, keeping confidential the proposed solutions and associated information.

Notwithstanding the provisions of C.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.

C.1.6.2.3 At the conclusion of each round of negotiations, tenderers shall be invited by the employer to revise their 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.

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

Any reference to the 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".

C.1.6.3 Proposal procedure using the two stage-system

C.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.

C.1.6.3.2 Option 2

C.1.6.3.2.1 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.

C.1.6.3.2.2 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.

C.2 Tenderer's obligations

C.2.1 Eligibility

C.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.

C.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.

C.2.2 Cost of tendering

C.2.2.1 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.

C.2.2.2 The cost of the tender documents charged by the employer shall be limited to the actual cost incurred by the employer for printing the documents. Employers must attempt to make available the tender documents on its website so as not to incur any costs pertaining to the printing of the tender documents.

C.2.3 Check documents

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

C.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.

C.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.

C.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.

Any reference to the 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".

C.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.

C.2.8 Seek clarification

Request clarification of the tender documents, if necessary, by notifying the employer at least five (5) working days before the closing time stated in the tender data.

C.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.

C.2.10 Pricing the tender offer

C.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 fourteen (14) days before the closing time stated in the tender data.

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

C.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.

C.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.

C.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.

C.2.12 Alternative tender offers

C.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.

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

C.2.12.3 An alternative tender offer must only be considered if the main tender offer is the winning tender.

C.2.13 Submitting a tender offer

C.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 identified in the contract data and described in the scope of works, unless stated otherwise in the tender data.

C.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.

C.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.

Any reference to the 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”.

C.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.

C.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.

C.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.

C.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.

C.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.

C.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.

C.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.

C.2.15 Closing time

C.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.

C.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.

C.2.16 Tender offer validity

C.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.

C.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.

C.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. If the validity period stated in C.2.16 lapses before the employer evaluating tender, the contractor reserves the right to review the price based on Consumer Price Index (CPI).

C.2.16.4 Where a tender submission is to be substituted, a tenderer must submit a substitute tender in accordance with the requirements of C.2.13 with the packages clearly marked as “SUBSTITUTE”.

C.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 C.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.*

C.2.18 Provide other material

Any reference to the 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”.

C.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), referencing 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.

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

C.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.

C.2.20 Submit securities, bonds and policies

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.

C.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.

C.2.22 Return of other tender documents

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

C.2.23 Certificates

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

C.3 The employer's undertakings

C.3.1 Respond to requests from the tenderer

C.3.1.1 Unless otherwise stated in the tender Data, respond to a request for clarification received up to five (5) working days before the tender closing time stated in the Tender Data and notify all tenderers who collected tender documents.

C.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.

C.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 (3) working 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 collected tender documents.

Any reference to the 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".

C.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.

C.3.4 Opening of tender submissions

C.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.

C.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, number of points claimed for specific goals and time for completion for the main tender offer only.

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

C.3.5 Two-envelope system

C.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.

C.3.5.2 Evaluate functionality 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 functionality evaluation more than the minimum number of points for functionality stated in the tender data, and announce the score obtained for the technical proposals and the total price and any points claimed on Specific Goals. Return unopened financial proposals to tenderers whose technical proposals failed to achieve the minimum number of points for functionality.

C.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.

C.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.

C.3.8 Test for responsiveness

C.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.

C.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*,*

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"Tender" or "Tenderer".

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.

C.3.9 Arithmetical errors, omissions and discrepancies

C.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.

C.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 C.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.

C.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.

C.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.

C.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.

C.3.11 Evaluation of tender offers

The Standard Conditions of Tender standardize the procurement processes, methods and procedures from the time that tenders are invited to the time that a contract is awarded. They are generic in nature and are made project specific through choices that are made in developing the Tender Data associated with a specific project.

Conditions of tender are by definition the document that establishes a tenderer's obligations in submitting a tender and the employer's undertakings in soliciting and evaluating tender offers. Such conditions establish the rules from the time a tender is advertised to the time that a contract is awarded and require employers to conduct the process of offer and acceptance in terms of a set of standard procedures.

The CIDB Standard Conditions of Tender are based on a procurement system that satisfies the following system requirements:	
Requirement	**Qualitative interpretation of goal**

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

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Fair	The process of offer and acceptance is conducted impartially without bias, providing simultaneous and timely access to participating parties to the same information.
Equitable	Terms and conditions for performing the work do not unfairly prejudice the interests of the parties.
Transparent	The only grounds for not awarding a contract to a tenderer who satisfies all requirements are restrictions from doing business with the employer, lack of capability or capacity, legal impediments and conflicts of interest.
Competitive	The system provides for appropriate levels of competition to ensure cost effective and best value outcomes.
Cost effective	Cost effective

The activities associated with evaluating tender offers are as follows:

a) Open and record tender offers received

b) Determine whether or not tender offers are complete

c) Determine whether or not tender offers are responsive

d) Evaluate tender offers

e) Determine if there are any grounds for disqualification

f) Determine acceptability of preferred tenderer

g) Prepare a tender evaluation report

h) Confirm the recommendation contained in the tender evaluation report

C.3.11.1 General

The employer must appoint an evaluation panel of not less than three persons conversant with the proposed scope of works to evaluate each responsive tender offer using the tender evaluation methods and associated evaluation criteria and weightings that are specified in the tender data.

C.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.

C.3.13 Acceptance of tender offer

Accept the tender offer; if in the opinion of the employer, it does not present any 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, under Business Rescue as provided for in chapter 6 of the Companies Act No. 2008, bankrupt or being wound up, has his/her affairs administered by a court or a judicial officer, has suspended his/her 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.

Any reference to the 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".

C.3.14 Prepare contract documents

C.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.

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

C.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.

C.3.16 Registration of the award

An employer must, within twenty-one (21) working days from the date on which a contractor's offer to perform a construction works contract is accepted in writing by the employer, register and publish the award on the CIDB Register of Projects.

C.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.

C.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.

Any reference to the 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”.

PART T: THE TENDER
Part T2: Returnable Documents

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
CONTRACT NO:	**G559/2025**

T2.1 List of Returnable Documents

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 JV's (T2.1.02) (If Applicable)	2 Pages	■ Yes □ No
Special Resolution of Consortia or JV's (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 points claim form in terms of the Preferential Procurement Regulations 2022 (T2.1.06)	6 Pages	■ Yes □ No
Resources to be employed in terms of organization and staffing (T2.1.07)	2 Pages	■ Yes □ No
Estimated Monthly Expenditure (T2.1.08)	1 Page	■ Yes □ No
Compensation of Occupational Injuries and Disease Act (COIDA) (T2.1.18)	1 Page	■ Yes □ No

2. OTHER DOCUMENTS REQUIRED FOR TENDER EVALUATION PURPOSES

Tender document name	Number of pages issued	Returnable document
Bidders Disclosure (T2.1.10)	2 Pages	■ Yes □ No
Medical Certificate for the confirmation of permanent disabled status (T2.1.11)	1 Page	■ Yes □ No
Proof of registration with Construction Industry Development Board (T2.1.12)	1 Page	■ Yes □ No
Copy of CSD Registration Certificate (T2.1.14)	1 Page	■ Yes □ No
Financial Reference (T2.1.15)	1 Page	■ Yes □ No

Any reference to the 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".

Equipment Datasheets (T2.1.20)	1 Page	■ Yes □ No
Proof of Liability Insurance (T2.1.22)	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 (T2.1.16)	1 Page	■ Yes □ No
Compulsory Enterprise Questionnaire (T2.1.17)	3 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	122 Pages	■ Yes □ No

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

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

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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 (1 COPY)

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 JV's (If Applicable)	
T2.1.03	Special Resolution of Consortia or JV's (If Applicable)	
T2.1.04	Schedule of proposed sub-contractors	
T2.1.05	Capacity of Tenderer	
T2.1.06	Preference points claim form in terms of the Preferential Procurement Regulations 2022	
T2.1.07	Resources to be employed in terms of organization and staffing	
T2.1.09	Site Inspection Certificate	
T2.1.10	Bidders Disclosure	
T2.1.11	Medical Certificate for the confirmation of permanent disabled status	
T2.1.12	Proof of registration with Construction Industry Development Board (T2.1.12)	
T2.1.13	Original Valid Tax Clearance Certificate	
T2.1.14	CSD Registration Certificate	
T2.1.15	Financial Reference	
T2.1.16	Record of Addenda to Tender Documents	
T2.1.17	Compulsory Enterprise Questionnaire	
T2.1.18	Compensation of Occupational Injuries and Disease Act (COIDA)	
T2.1.22	Proof of Liability Insurance	

Any reference to the 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".

B FINANCIAL ENVELOPE (ORIGINAL DOCUMENT)

The entire original 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	

Any reference to the 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”.

PART T: THE TENDER
Part T2: Returnable Documents

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
CONTRACT NO:	**G559/2025**

T2.2 Returnable documents/Schedules

Any reference to the 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”.

T2.1.01: 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 the 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:

1. 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 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 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.

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

Name of Contractor	Proportion (%)

4. The Enterprise accepts joint and several liability 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 the 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”.

5. 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

Any reference to the 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”.

T2.1.03: 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)*

   *Mr/Mrs/Ms: .....

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

Any reference to the 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”.

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.

B. The Enterprises constituting the Consortium/Joint Venture, notwithstanding its composition, shall conduct all business under the name and style of: .....

C. The Enterprises to the Consortium/Joint Venture accept joint and several liabilities 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.

D. 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.

E. 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.

F. 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)

Any reference to the 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".

	Name	Capacity	Signature
1			
2			
3			
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.*

Any reference to the 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”.

T2.1.04: SCHEDULE OF PROPOSED SUBCONTRACTORS

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
CONTRACT NO:	**G559/2025**

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:	

T2.1.05: CAPACITY OF TENDERER

Any reference to the 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”.

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
CONTRACT NO:	**G559/2025**

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 technicians employed		**Unskilled employees employed**	
Categories of technicians	**Number**	**Categories of employees**	**Number**

1.1. Provide full particulars of:

Machinery	**Equipment**	**Workshops**

Any reference to the 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								

2.2. Previous projects:

Any reference to the 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”.

	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 the 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

SBD 6.1

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022

This preference form must form part of all tenders invited. It contains general information and serves as a claim form for preference points for specific goals.

NB: BEFORE COMPLETING THIS FORM, TENDERERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF THE TENDER AND PREFERENTIAL PROCUREMENT REGULATIONS, 2022

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to invitations to tender:

- the 80/20 system for requirements with a Rand value of 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 To be completed by the organ of state

(*delete whichever is not applicable for this tender*).

a) The applicable preference point system for this tender is the 90/10 preference point system.

b) The applicable preference point system for this tender is the 80/20 preference point system.

c) Either the 90/10 or 80/20 preference point system will be applicable in this tender. The lowest/ highest acceptable tender will be used to determine the accurate system once tenders are received.

1.3 Points for this tender (even in the case of a tender for income-generating contracts) shall be awarded for:

(a) Price; and

(b) Specific Goals.

1.4 To be completed by the organ of state:

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	80
SPECIFIC GOALS	20
Total points for Price and SPECIFIC GOALS	**100**

1.5 Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed.

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”.

1.6 The organ of state reserves the right to require of a tenderer, either before a tender is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the organ of state.

2. DEFINITIONS

(a) **"tender"** means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation;

(b) **"price"** means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts;

(c) **"rand value"** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;

(d) **"tender for income-generating contracts"** means a written offer in the form determined by an organ of state in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the organ of state and a third party that produces revenue for the organ of state, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions; and

(e) **"the Act"** means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1. POINTS AWARDED FOR PRICE

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

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

80/20 **or** **90/10**

$$Ps = 80\left(1 - \frac{Pt - P\,min}{P\,min}\right) \quad \text{or} \quad Ps = 90\left(1 - \frac{Pt - P\,min}{P\,min}\right)$$

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmin = Price of lowest acceptable tender

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. POINTS AWARDED FOR SPECIFIC GOALS

4.1. In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:

4.2. In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 or 90/10 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of—

(a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system; or

(b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system,

then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

Table 1: Specific goals for the tender and points claimed are indicated per the table below.

(Note to organs of state: Where either the 90/10 or 80/20 preference point system is applicable, corresponding points must also be indicated as such.

***Note to tenderers: The tenderer must indicate how they claim points for each preference point system.*)**

The specific goals allocated points in terms of this tender	Number of points allocated (90/10 system) (To be completed by the organ of state)	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed (90/10 system) (To be completed by the tenderer)	Number of points claimed (80/20 system) (To be completed by the tenderer)
Categories of persons historically disadvantaged by unfair discrimination on the basis of race. Information will be verified on the CSD report. Points will be allocated based on the percentage of ownership per goal Black Ownership = 10 Points		(10)		
Categories of persons historically disadvantaged by unfair discrimination on the basis of gender.		(10)		

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”.

Information will be verified on the CSD report. Points will be allocated based on the percentage of ownership per goal Female Ownership = 10 Points				
Total		20		

DECLARATION WITH REGARD TO COMPANY/FIRM

4.3. Name of company/firm…….

4.4. Company registration number: ……...

4.5. TYPE OF COMPANY/ FIRM

- ϒ Partnership/Joint Venture / Consortium
- ϒ One-person business/sole propriety
- ϒ Close corporation
- ϒ Public Company
- ϒ Personal Liability Company
- ϒ (Pty) Limited
- ϒ Non-Profit Company
- ϒ State Owned Company

[TICK APPLICABLE BOX]

4.6. I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I 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 paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;

iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –

(a) disqualify the person from the tendering 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) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted 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, if deemed nec

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".

……
SIGNATURE(S) OF TENDERER(S)

SURNAME AND NAME: ……
DATE: ……

ADDRESS: ……

……

……
……

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”.

T2.1.07: 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.

DESIGNATION	NAME AND NATIONALITY OF: (i) NOMINEE (ii) ALTERNATE	SUMMARY OF QUALIFICATIONS, EXPERIENCE AND PRESENT OCCUPATION
HEADQUARTERS Partner/Director Project manager Other key staff (give designation)		

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”.

DESIGNATION	NAME AND NATIONALITY OF: (i) NOMINEE (ii) ALTERNATE	SUMMARY OF QUALIFICATIONS, EXPERIENCE AND PRESENT OCCUPATION
SITE OFFICE Site Agent Site Engineer/Technician Construction supervisor (give designation) Other key staff (give designation)		

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: ESTIMATED MONTHLY EXPENDITURE

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

The amounts for contingencies and Contract Price Adjustment must not be included ****OR*** the amount for contingencies must not be included.

MONTH	VALUE
1 2 3	R ..... R ..... R ..... COMPLETION OF CONTRACT
TOTAL	R .....

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”.

T2.2.09: Compulsory Site Inspection Meeting Certificate

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
BID No.:	**G559/2025**

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 Principal Agent	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”.

T2.1.10: Bidders Disclosure

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
CONTRACT NO:	**G559/2025**

1. PURPOSE OF THE FORM

Any person (natural or juristic) may make an offer or offers in terms of this invitation to bid. In line with the principles of transparency, accountability, impartiality, and ethics as enshrined in the Constitution of the Republic of South Africa and further expressed in various pieces of legislation, it is required for the bidder to make this declaration in respect of the details required hereunder.

Where a person/s are listed in the Register for Tender Defaulters and / or the List of Restricted Suppliers, that person will automatically be disqualified from the bid process.

2. Bidder's declaration

2.1 Is the bidder, or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest[1] in the enterprise,
employed by the state? **YES/NO**

2.1.1 If so, furnish particulars of the names, individual identity numbers, and, if applicable, state employee numbers of sole proprietor/ directors / trustees / shareholders / members/ partners or any person having a controlling interest in the enterprise, in table below.

Full Name	Identity Number	Name of State institution

2.2 Do you, or any person connected with the bidder, have a relationship with any person who is employed by the procuring institution? **YES/NO**

2.2.1 If so, furnish particulars:
……
……

2.3 Does the bidder or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest in the enterprise have any interest in any other related enterprise whether or not they are bidding for this contract? **YES/NO**

2.3.1 If so, furnish particulars:
……

[1] the power, by one person or a group of persons holding the majority of the equity of an enterprise, alternatively, the person/s having the deciding vote or power to influence or to direct the course and decisions of the enterprise.

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 DECLARATION

I, the undersigned, (name)…… in submitting the accompanying bid, do hereby make the following statements that I certify to be true and complete in every respect:

3.1 I have read and I understand the contents of this disclosure;

3.2 I understand that the accompanying bid will be disqualified if this disclosure is found not to be true and complete in every respect;

3.3 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 consortium[2] will not be construed as collusive bidding.

3.4 In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications, prices, including methods, factors or formulas used to calculate prices, market allocation, the intention or decision to submit or not to submit the bid, bidding with the intention not to win the bid and conditions or delivery particulars of the products or services to which this bid invitation relates.

3.4 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.

3.5 There have been no consultations, communications, agreements or arrangements made by the bidder with any official of the procuring institution in relation to this procurement process prior to and during the bidding process except to provide clarification on the bid submitted where so required by the institution; and the bidder was not involved in the drafting of the specifications or terms of reference for this bid.

3.6 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.

I CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 1, 2 and 3 ABOVE IS CORRECT.
I ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME IN TERMS OF

PARAGRAPH 6 OF PFMA SCM INSTRUCTION 03 OF 2021/22 ON PREVENTING AND

COMBATING ABUSE IN THE SUPPLY CHAIN MANAGEMENT SYSTEM SHOULD THIS

DECLARATION PROVE TO BE FALSE.

…… ……
Signature Date

…… ……
Position Name of bidder

[2] 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”.

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

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
CONTRACT NO:	**G559/2025**

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.....

OFFICIAL STAMP OF
MEDICAL PRACTITIONER

.....
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".

T2.1.12: PROOF OF REGISTRATION WITH CONSTRUCTION INDUSTRY DEVELOPMENT BOARD

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
CONTRACT NO:	**G559/2025**

The Tenderer shall provide a printed copy of the Active Contractor's Listing off the CIDB website. (www.cidb.org.za). In the case of a joint venture, a printed copy of the Active Contractor's listing must be provided for each member of the joint venture.

Name of Contractor: .....

Contractor Grading Designation: .....

CIDB Contractor Registration Number: .....

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".

T2.1.14: COPY OF CSD REGISTRATION CERTIFICATE

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
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A copy of Central Suppliers Database (CSD) Registration Certificate must be included for evaluation purposes.

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: FINANCIAL REFERENCES

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
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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 C3.8.

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	

T2.1.16: RECORD OF ADDENDA TO TENDER DOCUMENTS

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
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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 words "Tender" or "Tenderer".

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

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

T2.1.17: 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: PSIRA registration number, if any: .....

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”.

Section 4: 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 5: Particulars of companies and close corporations

Company registration number: .....

Close corporation number: .....

Tax reference number: .....

Section 6: 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

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”.

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.

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”.

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: .....

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”.

T2.1.18: COMPENSATION OF OCCUPATIONAL INJURIES AND DISEASE ACT (COIDA)

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
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Letter of Good Standing from the office of the Compensation Commissioner as required by the Compensation for Occupational Injuries and Diseases Act (COIDA) must be included for evaluation purposes. The letter should be issued by the Department of Labour.

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”.

T2.1.22: PROOF OF LIABILITY INSURANCE

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
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The tender shall append their Proof of Liability Insurance behind this page.

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”.

PART C: THE CONTRACT
Part C1: Agreement and Contract Data

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
CONTRACT NO:	**G559/2025**

C1.1 Form of Offer and Acceptance

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract for:

REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE

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 .....

.....

[Failure of a Tenderer to complete and sign this form will invalidate the tender]

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 .....

.....

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".

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.

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”.

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 .....

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”.

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

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”.

PART C: THE CONTRACT
Part C1: Agreement and Contract Data

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
CONTRACT NO:	**G559/2025**

C1.2 Contract Data

The Conditions of Contract are the **JBCC Series 2000 Principal Building Agreement (Edition 6.2 – May 2018)** published by the Joint Building Contract Committee. Copies of these documents may be obtained from the **Association of South African Quantity Surveyors** (011-315 4140), the **Master Builders Association** (011-205 9000), the **South African Association of Consulting Engineers** (011-463 2022) or the **South African Institute of Architects** (011-486 0684).

The JBCC Principal Building Agreement Contract Data EC and the JBCC Principal Building Agreement Contract Data CE form an integral part of this agreement.

The **ASAQS Preliminaries (Edition 6.2 – May 2018)** published by the Association of South African Quantity Surveyors for use with the said JBCC Principal Building Agreement shall be deemed to be incorporated in the bills of quantities.

The **Model Preambles for Trades (2008 Edition)** as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in the bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained.

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”.

Section C1.2.1: Contract Data: Employer to Contractor (EC)

Employer Addendum Code 2101-EC

For information purposes only. To be signed on appointment.

Introduction

This addendum contains all variables referred to in the **Principal Building Agreement** that are the responsibility of the Contractor to provide the appropriate information that is necessary for the Contractor to complete his tender. The Addendum must be completed in full and included in the tender documents. The Addendums "Contract Data – EC", "Contract Data – CE", "Contract Data – ES" and "Contract Data – SE" form part of the contract between the parties.

Definitions

The definitions used in this document and the interpretation thereof are as listed in the Principal Building Agreement. The work or phrase of a definition is in bold text and shall bear the meaning assigned to it in the Principal Building Agreement. Where such word or phrase is not highlighted it shall bear the meaning consistent with the context of its use. The listed defined word or phrase does not quality as a definition where information required to be stated in the contract data has not been provided.

Provision of Contract Data

Spaces requiring information must be filled in, shown as "not applicable" or deleted and not left blank. Where choices are offered, the non-applicable items are to be clearly struck out. Where insufficient space is provided the additional information should be annexed hereto and cross referenced to the applicable clause of the contract data.

Reference Clauses

Where relevant the Principal Building Agreement clause applicable to the required information is printed in italics under the Contract Data clause number i.e. [27.4.2]

TABLE OF CONTENTS

Section No.	Description
1.0	CONTRACTING AND OTHER PARTIES
2.0	CONTRACT AND SITE INFORMATION
3.0	INSURANCES AND SECURITIES
4.0	PRACTICAL COMPLETION DATES AND PENALTIES
5.0	DOCUMENTS AND GENERAL
6.0	CHANGES MADE TO THE STANDARD JBCC DOCUMENT
7.0	DECLARATION BY THE PRINCIPAL AGENT

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".

CONTRACT DATA – EMPLOYER

1.0 CONTRACTING AND OTHER PARTIES

1.1 *[1.2]*	**Employer:**	South African National Biodiversity Institute		
	Postal Address:	Private Bag X101, Silverton, Gauteng	**Code:**	0184
	Physical Address:	Pretoria National Botanical Garden 2 Cussonia Avenue, Brummeria, Gauteng	**Code:**	0184
	Tel no.:	012 843 5000	**Fax no.:**	012 843 5205
	VAT no.			
	E-mail:			
1.2 *[5.1]*	**Principal Agent:**	Techi Engineers	**Person:**	Mr. M. L. Mhindurwa
	Postal Address:	17 The Cedars, 58 Cecil Awret, Illiondale, Gauteng	**Code:**	1609
	Tel no.:	083 480 1305	**Fax no.:**	
	E-mail:	mucha@techi.co.za		
1.2 *[5.2]*	**Agent (1):**		**Person:**	
	Agent's Service:			
	Postal Address:		**Code:**	
	Tel no.:		**Fax no.:**	
	E-mail:			
1.3 *[5.2]*	**Agent (2):**		**Person:**	
	Agent's Service:			
	Postal Address:		**Code:**	
	Tel no.:		**Fax no.:**	
	E-mail:			
1.4 *[5.2]*	**Agent (3):**		**Person:**	
	Agent's Service:			
	Postal Address:		**Code:**	
	Tel no.:		**Fax no.:**	
	E-mail:			
1.5 *[5.2]*	**Agent (4):**		**Person:**	
	Agent's Service:			
	Postal Address:		**Code:**	

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".

	Tel no.:		**Fax no.:**	
	E-mail:			
1.6 *[5.2]*	**Agent (5):**		**Person:**	
	Agent's Service:			
	Postal Address:		**Code:**	
	Tel no.:		**Fax no.:**	
	E-mail:			
1.7 *[5.2]*	**Agent (6):**		**Person:**	
	Agent's Service:			
	Postal Address:		**Code:**	
	Tel no.:		**Fax no.:**	
	E-mail:			
1.8 *[5.2]*	**Agent (7):**		**Person:**	
	Agent's Service:			
	Postal Address:		**Code:**	
	Tel no.:		**Fax no.:**	
	E-mail:			

1.9 *[5.5]* **Interest of principal agent or other agent in the project.** (Yes / No) **No**

Details where "yes": **N/A**

1.10 The **principal agent** named in 1.2 above is responsible for the preparation of the **contract data** schedule and must be contacted should the **contractor** be uncertain of the information provided or to be provided. Failure to complete the **contract data** schedule in full may result in the tender being disqualified.

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".

2.0 CONTRACT AND SITE INFORMATION

2.1 *[1.7]*	The **law** applicable to this **agreement**:	(Country / State)	**RSA**
2.2 *[1.1]*	**Works** identification:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**	
2.3 *[1.1]*	Site description:	**Mokopane Biodiversity Conservation Centre, Mokopane**	
2.4 *[15.2.1]*	Possession of the **site** is to be given on:	(Date)	**Within 5 (five) working days after receipt of documentary evidence that:** • **Insurances have been effected *[12.2];*** • **Security has been provided to the Employer *[14.1];*** • **Contractor's Lien has been signed;** • **Safety Plan has been approved by the Employer.**
2.5 *[15.3]*	Period for the commencement of the **works** after the contractor takes possession of the **site:**	(Working days)	**14 (Fourteen)**
2.6 *[15.4], [28.0]*	Completion of the works in **sections** is required.	(Yes / No) **No**	(No. of sections) **N/A**
2.7 *[3.3], [31.16.2]*	Waiver of the **contractor's** lien or right of continuing possession is required.	(Yes / No)	**No**
2.8 *[16.1]*	Defined restrictions to the **site** area. Where "yes" the specific requirements are described below or detailed in the **contract documents**.	(Yes / No)	**Yes**
2.9 *[16.4]*	Geotechnical investigation of the **site** has been undertaken. Where "yes" the results are included in the **contract documents.**	(Yes / No)	**N/A**
2.10 *[16.6]*	Existing premises will be occupied. Where "yes" the specific requirements are described below or detailed in the **contract documents.**	(Yes / No)	**No**
2.11 *[16.7]*	Provision of temporary services is required. Where "yes" the specific requirements are described below or detailed in the **contract documents.**	(Yes / No)	**Yes**
2.11.1	**Water**	Option A Contractor – his cost Option B Employer – free of charge Option C Contractor – metered (contractor cost)	(A, B or C) **B**
2.11.2	**Electricity**	Option A Contractor – his cost Option B Employer – free of charge Option C Contractor – metered (contractor cost)	(A, B or C) **B**
		Option A Contractor – his cost	

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".

2.11.3	**Telecom**	Option B Option C	Employer – free of charge Contractor – metered (contractor cost)	(A, B or C)	**A**
2.11.4	**Ablutions**	Option A Option B Option C	Contractor – his cost Employer – free of charge Contractor – metered (contractor cost)	(A, B or C)	**A**
2.12 *[16.8]*	Protection of existing trees and shrubs is required. Where "yes" the specific requirements are described below or detailed in the **contract documents.**			(Yes / No)	**No**

3.0 INSURANCE AND SECURITIES

3.1 *[10.1.1], [12.6]*	Contract works insurance to be effected by:	(Employer / Contractor)	**Contractor**
	For the sum of:	(Amount)	**Contract Sum Plus 20%**
	With a deductible of:	(Amount)	**R20 000**
3.2 *[10.1.2], [11.1-3], [12.6]*	Supplementary / Special insurance to be effected by:	(Employer / Contractor)	**N/A**
	For the sum of:	(Amount)	**N/A**
	With a deductible of:	(Amount)	**N/A**
3.3 *[10.1.3], [12.6]*	Public liability insurance to be effected by:	(Employer / Contractor)	**Contractor**
	For the sum of:	(Amount)	**R5 000 000 per claim**
	With a deductible of:	(Amount)	**R20 000**
3.4 *[11.1.1]*	Support insurance to be effected by:	(Employer / Contractor)	**N/A**
	For the sum of:	(Amount)	**N/A**
	With a deductible of:	(Amount)	**N/A**
3.5	Special insurance to be effected by:	(Employer / Contractor)	**N/A**

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".

[11.1.2-3], [12.1]		
	Type: **N/A**	
	For the sum of: (Amount)	**N/A**
	With a deductible of: (Amount)	**N/A**

4.0 PRACTICAL COMPLETION DATES AND PENALTIES

		Date	**Penalty Amount**
4.1 *[24.3.1], [30.1-36]*	For the **works** as a whole: The date for **practical completion** and the **penalty** per **calendar day** is:	**7 months after date of site handover (Excl. Builders Holiday)**	**R5 000-00 per calendar day (Excl. VAT)**

Or

4.2 *[20.1], [24.1]* For the **works** in **sections**:
The date for **practical completion** and the **penalty** per **calendar day** is:

	Date	**Penalty Amount**
Section 1	**N/A**	**R**
Section 2	**N/A**	**R**
Section 3	**N/A**	**R**
Section 4	**N/A**	**R**

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”.

5.0 DOCUMENTS AND GENERAL

5.1 *[5.4]*	The **priced document** may be used as a specification of **materials and goods** and work methods.	(Yes / No)	**Yes**		
5.2 *[12.2]*	The **contractor** shall provide a schedule of rates.	(Yes / No)	**No**	(Addendum No.)	**Refer to Bill of Quantities**
5.3 *[3.11]*	Changes made to **JBCC** standard documents.	(Yes / No)	**No**	(Addendum No.)	
5.4 *[15.1.1]*	On acceptance of the tender the **priced document** is to be submitted within the stated **working days.**	(No. of days)	**Priced document to be submitted with Tender**		
5.5 *[7.2]*	Work to be undertaken by **direct contractors.**	(Yes / No)	**No**	(Addendum No.)	**N/A**
5.6 *[19]*	On achievement of practical completion the **contractor** is to hand over all certificates and manuals etc. related to the works.				
5.7 *[25.2]*	Interim **payment certificate** to be issued by:	(Date of Month)	**25th**		

5.8 *[7.3]* The following items of works shall be designed by the Contractor:

(1)	Timber trusses certification	(2)	All guarantees
(3)		(4)	
(5)		(6)	

6.0 DECLARATION BY THE PRINCIPAL AGENT

I, the Principal Agent named in 1.2 above, declare that the information provided above is complete and accurate at the time of calling for tenders. Where necessary, should any of the above information need to be varied, tenderers will be forthwith informed thereof in writing,

……
Principal Agent

……
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”.

Section C1.2.2: Contract Data: Contractor to Employer (CE)

Contractor Addendum Code 2101-CE

Introduction

This addendum contains all variables referred to in the Principal Building Agreement that are the responsibility of the Contractor to provide the appropriate information that is necessary for the Contractor to complete his tender. The Addendum must be completed in full and included in the tender documents. The Addendums "Contract Data – EC", "Contract Data – CE", "Contract Data – ES" and "Contract Data – SE" form part of the contract between the parties.

Definitions

The definitions used in this document and the interpretation thereof are as listed in the Principal Building Agreement. The work or phrase of a definition is in **bold text** and shall bear the meaning assigned to it in the Principal Building Agreement. Where such word or phrase is not highlighted it shall bear the meaning consistent with the context of its use. The listed defined word or phrase does not quality as a definition where information required to be stated in the **contract data** has not been provided.

Provision of Contract Data

Spaces requiring information must be filled in, shown as "not applicable" or deleted and not left blank. Where choices are offered, the non-applicable items are to be clearly struck out. Where insufficient space is provided the additional information should be annexed hereto and cross referenced to the applicable clause of the **contract data**.

Reference Clauses

Where relevant the Principal Building Agreement clause applicable to the required information is printed in italics under the Contract Data clause number i.e. *[27.4.2]*

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Section No.	Description
1.0	CONTRACTING PARTY
2.0	SECURITIES
3.0	PAYMENT AND ADJUSTMENT OF PRELIMINARIES
4.0	EMPLOYER CHANGES TO JBCC STANDARD DOCUMENTS
5.0	THE TENDER

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".

CONTRACT DATA – CONTRACTOR

1.0 CONTRACTING PARTY

1.1 *[1.2]* **Contractor:** _____

Postal Address:	_____	**Code:**	_____
Physical Address:	_____	**Code:**	_____
	_____	**E-mail:**	_____
Tel no.:	_____	**Fax no.:**	_____
VAT no.:	_____		

2.0 SECURITIES

2.1 The security provisions selected are:

2.1.1 *[14.3]*	Variable Construction Guarantee	(Yes / No)	
2.1.2 *[14.4]*	Fixed Construction Guarantee and Payment Reduction	(Yes / No)	
2.1.3 *[14.5]*	Advanced Payment is required. Where "Yes"	Amount	**N/A**
2.1.4 *[14.5]*	An Advance Payment Guarantee to be provided	(Yes / No)	**No**

3.0 PAYMENT AND ADJUSTMENT OF PRELIMINARIES

3.1 **Payment of preliminaries**

The payment of preliminaries shall be according to the option selected by the **contractor**. The amount included in each monthly **payment certificate** in respect of preliminaries as stated in the **contract data** shall be:

3.1.1 **Option A**

Assessed by the **principal agent** as an amount prorated to the value of the work duly executed in the same ratio as the preliminaries bears to the **contract sum** excluding:

- The amount for preliminaries
- Any contingency sum
- Any amount in respect of **CPAP**

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".

All inclusive of **tax.**

3.1.2 **Option B**

Calculated from the priced items in the **bills of quantities / lump sum document**. The **contractor** and the **principal agent** shall agree on a division of the priced preliminaries items into:

- An initial or establishment charge
- A monthly charge
- A final or disestablishment charge

All inclusive of **tax.**

In arriving at such a division cognizance shall be taken of such factors as:

- Premiums for annually renewable insurance policies.
- Plant, scaffolding and the like remaining the property of the **contractor** or the hiring company and the capital costs thereof not treated as part of the initial charge.

Where the initial **construction period** is extended the monthly charge shall be recalculated on the same basis as was originally applied but taking into account the revised **construction period** and the amounts already paid to the **contractor.**

Should the **contractor** and the **principal agent** be unable to agree such division then the **principal agent** shall make a division of the amount of preliminaries to be incorporated in the valuations of each monthly **payment certificate.**

3.2 **Adjustment of preliminaries**

The amount of items of preliminaries shall be adjusted to take account of the theoretical financial effect which changes in time and/or value have on preliminaries. Such ad adjustment shall be based on the particulars provided by the **contractor** for this purpose in terms of Option A or B and shall preclude any further adjustment of preliminaries.

Adjustment of preliminaries in terms of Options A or B shall apply notwithstanding the actual employment of resources by the **contractor** in the execution of the **works**. The adjustment of preliminaries shall be based on the options as selected in the **contractor's tender.**

For the adjustment of the preliminaries both the **contract sum** and the **contract value** shall exclude:

- The amount of preliminaries
- Any contingency sum
- Any amount in respect of **CPAP**

All inclusive of **tax.**

3.2.1 **Option A**

The amount of preliminaries shall be adjusted in the following categories:

- An amount which shall not be varied.
- An amount which shall be varied in proportion to the **contract value** as compared with the **contract sum.**
- An amount which shall be varied in proportion to the **construction period** as compared to the initial **construction period** excluding revisions to the **construction period** for which the **contractor** is not entitled to adjustment of the **contract value** in terms of the **agreement.**

The **contractor** shall, within fifteen (15) working days of taking possession of the **site**, give the **principal agent** a breakdown, subdivided into the above categories, of the amount for preliminaries in tabulated form, all to the satisfaction of the **principal agent.**

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".

Should the **contractor** fail to provide such information within the period stipulated then the amount for preliminaries shall be deemed to be subdivided into the following proportions:

- 10% (ten percent) which amount shall not be varied.
- 15% (fifteen percent) which amount shall be varied in proportion to the **contract value** as compared with the **contract sum.**
- 75% (seventy-five percent) which amount shall be varied in proportion to the **construction period** as compared with the initial **construction period.**

For a lump sum document, should the contractor fail to identify the amount for preliminaries, then such an amount shall be deemed to be 7,5% (seven and a half percent) of the contract sum excluding:

- Any contingency sum
- Any amount in respect of **CPAP**

All inclusive of **tax.**

Where sectional completion is required in terms of the agreement, the contractor shall provide the **principal agent** with the division of the above categorised amounts into sections. Should the **contractor** fail to provide such information within the period stipulated the categorised amounts shall be prorated to the value of each section.

3.2.2 **Option B**

The **contractor** shall, within fifteen (15) **working days** of taking possession of the site, provide the **principal agent** with a detailed breakdown of the amount for preliminaries. This breakdown shall set out, among others, full particulars of administrative, supervisory and other personnel, plant, transport and other resources and charges included in the amount for preliminaries. The **contractor** shall show the periods to which the individual items related with the charge rate for such items by means of a **programme** all to the satisfaction of the **principal agent.**

Where sectional completion is required in terms of the **agreement,** the **contractor** shall provide the **principal agent** with details of the resources required for each section and those that are common to sections. Should the **contractor** fail to provide such information within the period stipulated, Option A shall apply.

3.2.3 **Payment certificate cash flow**

The **contractor** shall provide all reasonable assistance to the **principal agent** in the preparation of cash flow projections of claims for **payment certificates** where required by the **employer**. The projections shall be based on the **programme** and shall be updated as and when the **programme** requires updating. The cooperation of the **contractor** in terms of this item shall not prejudice his right to receive payment in terms of the **agreement.**

3.2.4	The **contract value** shall be adjusted according **CPAP** [3.1]	(Yes / No)	**No**
3.2.5	Payment of preliminaries [3.1.1-2]	(A or B)	
3.2.6	Adjustment of preliminaries [3.2.1-2]	(A or B)	

4.0 EMPLOYER CHANGES TO JBCC STANDARD DOCUMENTS

4.1	Changes (if any) in terms of the Employer's Contract Data are accepted [3.11]. Where "no" an addendum referenced to this clause is to be attached.	(Yes / No)	**Yes. Refer to EC 6**

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".

5.0 THE TENDER

5.1 This tender is to be submitted to the principal agent at the street address provided in the invitation to tender before the tender closing date and time stated herein.

5.2 By the submission of this tender to the **employer** the tenderer offers and agrees to contract for, execute and complete the **works** for the tender sum as stated below.

5.3 Tenders will be opened in public directly after the stated closing time. Only the total tender sum as stated in each tender will be announced.

5.4 The lowest or any tender will not necessarily be accepted.

5.5 This tender shall remain in full legal force for **one hundred and twenty (120) calendar days**. The tenderer accepts liability for damages as may be suffered by the **employer** should the tender validity period not be honoured.

5.6 This tender takes into account all listed items [4.0] for the purpose of preparing and submitting this tender.

5.7 The successful tenderer will be appointed in terms of the JBCC Principal Building Agreement.

5.8 **TENDER SUM COMPILATION**	**Amount**
5.8.1 Tenderer's work including **prime cost amounts**	R
5.8.2 **Employer allowances** stated by the **principal agent**	R
5.8.3 **SUB TOTAL**	R
5.8.4 *Add* **tax** on 5.8.3	R
5.8.5 **TOTAL TENDER SUM inclusive of tax**	R

5.8.6 Tender Sum in words

Thus done and signed at ..... on .....

....
Name of Signatory Capacity of Authorised Signatory

....

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".

As witness	for and on behalf of the Tenderer who warrants authorisation hereto

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”.

PART C: THE CONTRACT
Part C1: Agreement and Contract Data

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
CONTRACT NO:	**G559/2025**

C1.3 Form of Construction Guarantee (Pro Forma)

C1.3.1 FIXED CONSTRUCTION GUARANTEE - JBCC 2000 PRINCIPAL BUILDING AGREEMENT (Edition 6.2 – May 2018)

To:
South African National Biodiversity Institute
Private Bag X101
Silveron
0184

Sir,

FIXED CONSTRUCTION GUARANTEE FOR THE EXECUTION OF A CONTRACT IN TERMS OF JBCC 2000 (Edition 6.2 – May 2018)

1. With reference to the contract between ..... (hereinafter referred to as the "Contractor") and the South African National Biodiversity Institute (hereinafter referred to as the "Employer"), Contract/Tender No: **REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**

(hereinafter referred to as the "contract") in the amount of

R ……..(insert amount), … .....

.....(insert amount in words), (hereinafter referred to as the contract sum),

I / We, ...

in my/our Capacity as ..... and hereby

representing .....

(hereinafter referred to as the "**Guarantor**") advise that the **Guarantor** holds at the **Employer's** disposal the sum of R....., (insert amount in figures)

.....(insert amount in words) being 5% of the contract sum (excluding VAT), for the due fulfillment of the contract.

2. The **Guarantor** hereby renounces the benefits of the exceptions *non numeratae punia; non causa debiti; excussionis et divisionis;* and *de duobus vel pluribus reis debendi* which could be pleaded against the enforcement of this guarantee, with the meaning and effect whereof I/we declare myself/ourselves to be conversant, and undertake to the **Employer** the amount guaranteed, on receipt of a written demand from the **Employer** to do so, stating that the **Employer** has a right of recovery against the **Contractor** in terms of 33.0 of the contract.
3. Subject to the above, but without in any way detracting from the **Employer's** rights to adopt any of the procedures provided for in the contract, the said demand can be made by the **Employer**, at any stage prior to the expiry of this guarantee.
4. The amount id by the **Guarantor** in terms of this guarantee may be retained by the **Employer** on condition that upon the issue of the last final **payment certificate**, the **Employer** shall account to the **Guarantor** showing how this amount has been expended and refund any balance due to the **Guarantor**.

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".

5. The **Employer** shall have the absolute right to arrange his affairs with the **Contractor** in any manner which the **Employer** deems fit and the **Guarantor** shall not have the right to claim his release on account of any conduct alleged to be prejudicial to the **Guarantor**. Without derogating from the aforegoing, any compromise, extension of the **construction period**, indulgence, release or variation of the **Contractor's** obligation shall not affect the validity of this guarantee.

6. The **Guarantor** reserves the right to withdraw from this guarantee at any time by depositing the guaranteed amount with the **Employer**, whereupon the Guarantor's liability seizes.

7. This guarantee is neither negotiable nor transferable, and

   (a) must be surrendered to the **Guarantor** at the time when the **Employer** accounts to the **Guarantor** in terms of clause 4 above, or
   (b) shall lapse on the date of the last **certificate of practical completion**.

8. This guarantee shall not be interpreted as extending the **Guarantor's** liability to anything more than payment of the amount guaranteed.

Signed at ..... on this ..... day of ..... 20.....

AS WITNESS

1. .....

2. .....

.....
By and on behalf of

.....

.....

(insert the name and physical address of the Guarantor)

Name: .....

Capacity: .....
(Duly authorised thereto by resolution attached marked Annexure A)

Date: .....

A. No alterations and/or additions of the wording of this form will be accepted.
B. The physical address of the Guarantor must be clearly indicated and will be regarded as the Guarantor's *domicilium citandi et executandi,* for all purposes arising from this guarantee.
C. This GUARANTEE must be returned to: .....
.....

C1.3.2: VARIABLE CONSTRUCTION GUARANTEE - JBCC 2000 PRINCIPAL BUILDING AGREEMENT (Edition 6.2 – May 2018)

To:
South African National Biodiversity Institute
Private Bag X101
Silverton
0184

Sir,

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".

VARIABLE CONSTRUCTION GUARANTEE FOR THE EXECUTION OF A CONTRACT IN TERMS OF JBCC 2000 (Edition 6.2 – May 2018)

5. With reference to the contract between ..... (hereinafter referred to as the "**Contractor**") and the **South African National Biodiversity Institute** (hereinafter referred to as the "**Employer**"), **Contract/Tender No: REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE MOKOPANE** (hereinafter referred to as the "contract") in the amount of (hereinafter referred to as the "contract") in the amount of

R ……..(insert amount), ….....

.....(insert amount in words),
(hereinafter referred to as the contract sum),
I / We, ...

in my/our Capacity as ..... and hereby

representing .....

(hereinafter referred to as the "**Guarantor**") advise that the **Guarantor** holds at the **Employer's** disposal

the sum of R....., (insert amount in figures)

.....(insert amount in words)
being 10% of the contract sum (excluding VAT), for the due fulfillment of the contract.

1. I / We advise that the **Guarantor's** liability in terms of this guarantee shall be as follows:

   (a) From and including the date on which this guarantee is issued and up to and including the date of payment of the amount in the last final **payment certificate**, the **Guarantor** will be liable in terms of this guarantee to the maximum amount of 10% of the **contract sum** (excluding VAT);

   (b) The **Guarantor's** liability shall reduce to 3 % of the **contract value** (excluding VAT) as determined at the date of the last **certificate of practical completion**, subject to such amount not exceeding 10% of the **contract sum** (excluding VAT).

   (c) The **Guarantor's** liability shall reduce to 1 % of the **contract value** (excluding VAT) as determined at the date of the last **certificate of final completion**, subject to such amount not exceeding 10 % of the **contract sum** (excluding VAT).

   (d) This guarantee shall expire on the date of the last **final payment certificate**.

   (e) The **practical completion certificate** and the **final completion certificate** referred to in this guarantee shall mean the certificates issued in terms of the contract.

2. The **Guarantor** hereby renounces the benefits of the exceptions *non numeratae punia; non causa debiti; excussionis et divisionis;* and *de duobus vel pluribus reis debendi* which could be pleaded against the enforcement of this guarantee, with the meaning and effect whereof I/we declare myself/ourselves to be conversant, and undertake to y the **Employer** the amount guaranteed on receipt of a written demand from the **Employer** to do so, stating that the **Employer** has a right of recovery against the **Contractor** in terms of 33.0 of the contract.

4. Subject to the above, but without in any way detracting from the **Employer's** rights to adopt any of the procedures provided for in the contract, the said demand can be made by the **Employer** at any stage prior to the expiry of this guarantee.

5. The amount id by the **Guarantor** in terms of this guarantee may be retained by the **Employer** on condition that upon the issue of the last **final payment certificate**, the **Employer** shall account to the **Guarantor** showing how this amount has been expended and refund any balance due to the **Guarantor**.

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. The **Employer** shall have the absolute right to arrange his affairs with the **Contractor** in any manner which the **Employer** deems fit and the **Guarantor** shall not have the right to claim his release on account of any conduct alleged to be prejudicial to the **Guarantor**. Without derogating from the aforegoing, any compromise, extension of the construction period, indulgence, release or variation of the **Contractor's** obligation shall not affect the validity of this guarantee.

7. The **Guarantor** reserves the right to withdraw from this guarantee at any time by depositing the amount guaranteed with the **Employer**, whereupon the **Guarantor's** liability ceases.

8. This guarantee is neither negotiable nor transferable, and

   (a) must be surrendered to the **Guarantor** at the time when the **Employer** accounts to the **Guarantor** in terms of clause 5 above, or
   (b) shall lapse in accordance with clause 2(d) above.

9. This guarantee shall not be interpreted as extending the **Guarantor's** liability to anything more than the payment of the amount guaranteed.

Signed at ..... on this ..... day of ..... 20.....

AS WITNESS

1. .....

2. .....

.....
By and on behalf of

.....

.....

(insert the name and physical address of the Guarantor)

Name: .....

Capacity: .....
(Duly authorised thereto by resolution attached marked Annexure A)

Date: .....

A. No alterations and/or additions of the wording of this form will be accepted.

B. The physical address of the Guarantor must be clearly indicated and will be regarded as the Guarantor's *domicilium citandi et executandi*, for all purposes arising from this guarantee.

C. This GUARANTEE must be returned to: .....

.....

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".

PART C: THE CONTRACT
Part C1: Agreement and Contract Data

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
CONTRACT NO:	**G559/2025**

C1.4 Occupational Health and Safety Agreement 37(2)

AGREEMENT MADE AND ENTERED INTO BETWEEN THE

SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE (SANBI)

(Hereinafter called the **"EMPLOYER"**)

.....

(Contractor / Mandatary / Company / CC Name)

IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT, ACT NO. 85 OF 1993 AS AMENDED

I, ..., representing

....., as an Employer in its own right, do hereby undertake to ensure, as far as is reasonably practicable, that all work will be performed, and all equipment, machinery or plant used in such a manner as to comply with the provisions of the Occupational Health and Safety Act (OHSA) and the Regulations promulgated there under.

I furthermore confirm that I am / we are registered with the Compensation Commissioner and that all registration and assessment monies due to the Compensation Commissioner have been fully paid or that I / we are insured with an approved licensed compensation insurer.

COID ACT Registration Number: .....

Or Compensation Insurer: ..... Policy No.: .....

I undertake to appoint, where required, suitable competent persons, in writing, in terms of the requirements of OHSA and the Regulations and to charge him / them with the duty of ensuring that the provisions of OHSA and Regulations as well as the Council's Special Conditions of Contract, Way Leave, Lock-Out and Work Permit Procedures are adhered to as far as reasonably practicable.

I further undertake to ensure that any Sub-contractors employed by me will enter into an Occupational Health and Safety Agreement separately, and that such Sub-contractors comply with the conditions set.

I hereby declare that I have read and understand the appended Occupational Health and Safety Conditions and undertake to comply therewith at all times.

I hereby also undertake to comply with the Occupational Health and Safety Specification and Plan.

Signed at ..... this ..... day of..... 20.....

....
WITNESS MANDATARY

Signed at ..... this ..... day of..... 20.....

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".

.....	.....
WITNESS	FOR AND ON BEHALF OF THE EMPLOYER

OCCUPATIONAL HEALTH AND SAFETY CONDITIONS

1. The Chief Executive Officer of the Contractor shall assume the responsibility in terms of Section 16(1) of the Occupational Health and Safety Act (as amended). Should the Contractor assign any duty in terms of Section 16(2), a copy of such assignment shall immediately be provided to the representative of the Employer as defined in the Contract.

2. All work performed on the Employer's premises shall be performed under the supervision of the construction supervisor who understand the hazards associated with any work that the Contractor performs on the site in terms of Construction Regulations 2003.

3. The Contractor shall appoint a Competent Person who shall be trained on any occupational health and safety aspect pertaining to them or to the work that is to be performed.

4. The Contractor shall ensure that he familiarises himself with the requirements of the Occupational Health and Safety Act and that he, his employees, and any sub-contractors, comply with them.

5. Discipline in the interests of occupational health and safety shall be strictly enforced.

6. Personal protective equipment shall be issued by the Contractor as required and shall be worn at all times where necessary.

7. Written safe work procedures and appropriate precautionary measures shall be available and enforced, and all employees shall be made conversant with the contents of these practices.

8. No substandard equipment/machinery/articles or substances shall be used on the site.

9. All incidents referred to in terms of Section 24 of the Occupational Health and Safety Act shall be reported by the Contractor to the Department of Labour and the Employer.

10 The Employer hereby obtains an interest in the issue of any formal inquiry conducted in terms of Section 32 of the Occupational Health and Safety Act and into any incident involving a Contractor and/or his employees and/or his Sub-Contractor/s.

11. No use shall be made of any of the Employer's machinery / plant / equipment / substance / personal protective equipment or any other article without prior arrangement and written approval.

12. No alcohol or any other intoxicating substance shall be allowed on the site. Any person suspected of being under the influence of alcohol or any other intoxicating substance shall not be permitted access to, or allowed to remain on the site.

13. Prior to commencement of any work, verified copies of all documents mentioned in the agreement, must be presented to the Employer.

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".

PART C: THE CONTRACT
Part C2: Pricing Data and Bill of Quantities

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
CONTRACT NO:	**G559/2025**

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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 words “Tender” or “Tenderer”.

PART C: THE CONTRACT
Part C2: Pricing Instruction and Bill of Quantities

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
CONTRACT NO:	**G559/2025**

C2.1 Pricing Instructions

1. GENERAL INFORMATION

a. Bills of Quantities
The **bills of quantities** forms part of and must be read and priced in conjunction with all the other documents forming part of the **contract documents**, the Standard Conditions of Tender, Conditions of Contract, Specifications, Drawings and all other relevant documentation.

b. Value Added Tax
The **contract sum** must include for Value Added Tax (VAT). All rates, provisional sums, etc. in the **bills of quantities** must however be net (exclusive of VAT) with VAT calculated and added to the total value thereof in the Final Summary.

c. Fixed Price Contract
Tenderers are to take note that contract price adjustments are not applicable to this contract. Tenderers should therefore make provision in the **contract sum**, schedule of rates, etc., for possible price increases during the contract period, as no claims in this regard shall be entertained.

2. PRICING INFORMATION

1. These schedules of quantities contain sequentially numbered pages as indicated in the contents list. Tenderers are required to check that the pages in their schedules of quantities are complete. If any pages are duplicated or omitted, or if any quantity or typing is unclear or if the schedules of quantities contain any obvious errors, the tenderer shall immediately notify the engineer so that the problem may be rectified. No responsibility for any errors arising from any of the above shall be accepted by the engineer.

2. The schedules of quantities form part of and shall be read in conjunction with the specification, which contains full description of the work required to be performed and the materials and equipment to be supplied and used in the execution of the works. Tenderers shall refer to the specification for the full meaning and description of work to be executed and materials and equipment to be supplied or used in the execution of the work.

3. Tenders shall be submitted with schedules of quantities completed in full. Non or partial completion of the schedules of quantities shall render tenders liable for disqualification.

4. The total tender price as carried forward to the tender form, after correction for arithmetic extension errors, etc. shall be the contract price as awarded to the successful tenderer. Tenderers are requested to check multiplication and addition of the schedules of quantities. The rate submitted shall be regarded as the price offered per item.

5. No changes, additions or omissions to the contents of the schedules of quantities shall be permitted. If any changes, additions or omissions are made these shall not be recognised and the original wording of the schedules of quantities shall apply.

6. The priced schedules of quantities of tender shall be checked by the principal agent. The principal agent reserves the right to request adjustments to one or more individual tender prices and to rectify contradictions and thereby alter the total tender price as submitted. The acceptance of this

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”.

tender does not preclude the principal agent from querying or requesting of the contractor to adjust the rates at any stage during the contract period or any extension thereto.

7. The responsibility of the accuracy of the quantities included in the schedules, remains with the person who prepared the schedules. The tenderer is relieved from the responsibility of the measurement of quantities at tender stage and the tender amounts shall be for the quantities as listed in the schedules. It is however expected from the tenderer to include for minor construction items such as would be required for the complete execution of works in accordance with the specification.

8. The quantities in these schedules of quantities shall not be used for the ordering of materials.

9. Changes in the scope of works included in the schedule of quantities shall be permitted and shall be measured and priced at the tariffs as included in the schedules of quantities and shall form an addition to or omission from the total of the schedule of quantities. Any changes not covered by any rates in the schedules of quantities shall be agreed and priced as non-schedule items in accordance with the conditions of contract.

10. The extent and value of variations shall be in accordance with the conditions of contract. Variations to the works prior to the execution thereof shall be priced as above. Variations to work already executed shall not necessarily be priced in accordance with the schedule of quantities and shall be judged individually on merit.

11. Except where the separate rate for the material and labour components of any item is specifically called for, the unit price of such item shall be deemed to include the supply and installation of that item.

    The description of any items shall, except where otherwise specified, allow for the purchase, delivery, off-loading, storage, packing, lifting, placing, positioning and fixing in position, cutting and wastage, dies and patterns, models and equipment, temporary work, return of packing material, fixing costs, profit or other obligations of the contract arising out of the conditions of contract.
    All items prices shall exclude VAT but include any other tax or levy as applicable.

    All items are measured to the net final quantity as indicated on the drawings with the completed work in the position as indicated on the drawing. All prices and rates shall allow for wastage for whatever reason, irrespective of any other standard measurement which may be currently used elsewhere.

12. Should the contractor identify any additional issues or items which in his opinion are necessary for the complete and proper execution of the works, he shall identify such items in a covering letter attached to his tender and submit rates for these items. Mistakes in the physical measurement of items in the schedules of quantities shall be rectified but no claim shall be considered for the non-measurement of doubtful or minor items or claims resulting of criticism of method of measurement used or descriptions given. The priced schedule of quantities shall not be adjusted on the grounds of the items which in the opinion of the tenderer should have been brought into account unless so detailed in the accompanying letter.

13. The schedule of quantities shall be adjusted to reflect the quantities of materials used on completion of whole or part of the works as a result of remeasurement, qualification or variations. The remeasured quantities shall form the basis for the calculation of payment certificates. The schedules of quantities are not intended for the ordering of materials, etc. and the contractor is advised to extract the quantities for the ordering of materials directly from the drawings and specification. Any order placed directly from the schedules of quantities shall be solely at the contractor's risk.

14. The unit rates as entered in the schedule of quantities with the exclusion of dayworks items shall in all cases include any present and applicable sales tax or similar statutory duties.

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”.

PART C: THE CONTRACT
Part C2: Pricing Data and Bill of Quantities

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
CONTRACT NO:	**G559/2025**

C2.2 Bill of Quantities

PART C: THE CONTRACT
Part C3: Scope of Work

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
CONTRACT NO:	**G559/2025**

		Page
C3.1	DESCRIPTION OF THE WORKS	225
C3.2	CONSTRUCTION	227
C3.3	MANAGEMENT	229

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”.

CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 1
Item No.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	BILL NO. 1				
	PRELIMINARIES AND GENERAL				
	MEANING OF TERMS "TENDER / TENDERER"				
	Any reference to the words "Tender" or "Tenderer" herein and/or in any other documentation shall be construed to have the same meaning as the words "Bid" or "Bidder"				
	PRELIMINARIES				
	The JBCC Preliminaries, May 2018 edition for use with the JBCC Principal Building Agreement Edition 6.2 is taken to be incorporated herein. The tenderer is deemed to have referred to these documents for the full intent and meaning of each clause. These clauses are referred to by number and heading only. Where standard clauses or options are not applicable to the contract such modifications or corrections as are necessary are given under each relevant clause. Where an item is not relevant to this specific contract such item is marked "N/A" signifying "Not Applicable"				
	PRICING OF PRELIMINARIES				
	Should Option A, as set out in clause B10.3.1 hereinafter be used for the adjustment of preliminaries then each item priced is to be allocated to one or more of the three categories Fixed, Value Related or Time Related the spaces provided under each item				
	Items not priced in these Preliminaries shall be deemed to be included elsewhere in these Bills of Quantities				
	SECTION A: JBCC PRINCIPAL BUILDING AGREEMENT				
	DEFINITIONS AND INTERPRETATION				
1	A1.0 **DEFINITIONS AND INTERPRETATION**				
	Clause 1.0				
	Clause 1.1 Definition of "**Commencement Date**" is added:				
	"COMMENCEMENT DATE" means the date that the agreement, made in terms of the Form of Offer and Acceptance, comes into effect				
	Clause 1.1 Definition of **"Construction Guarantee"** is amended by replacing it with the following:				
	"CONSTRUCTION GUARANTEE" means a guarantee at call obtained by the **contractor** from an institution approved by the **employer** in terms of the **employer's** construction guarantee form as selected in the **schedule**				
	Clause 1.1 Definition of **"Construction Period"** is amended by replacing it with the following:				
	"CONSTRUCTION PERIOD" means the period commencing on the commencement date and ending on the date of practical completion				
	Clause 1.1 Definition of **"Corrupt Practice"** is added:				
	"CORRUPT PRACTICE" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution				
BILL No. 1	**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**				

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CONTRACT NUMBER: G540/2024		CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 1
ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Clause 1.1 Definition of **"Fraudulent Practice"** is added: "**FRAUDULENT PRACTICE**" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of any tenderer and includes collusive practice among tenderers (prior to or after the tender submission) designed to establish tender prices at artificial non- competitive levels and to deprive the tenderer of the benefits of free and open competition Clause 1.1 Definition of **"Interest"** is amended by replacing it with "**INTEREST**" means the interest rates applicable on this contract, whether specifically indicated in the relevant clauses or not, will be 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) Clause 1.1 Definition of **"Principal Agent"** is amended by replacing it with the following: "**PRINCIPAL AGENT**" means the person or entity appointed by the employer and named in the **schedule**. In the event of a **principal agent** not being appointed, then all the duties and obligations of a **principal agent** as detailed in the **agreement** shall be fulfilled by a representative of the **employe**r as named in the **schedule** Clause 1.1 Definition of **"Security"** is amended by replacing it with the following: "**SECURITY**" means the form of security provided by the employer or contractor, as stated in the schedule, from which the contractor or employer may recover expense or loss No clause Fixed:_____Value related:_____Time related:_____□	Item			
2	**A2.0**	**LAW, REGULATIONS AND NOTICES** Clause 2.0 Note: A separate clause has been included in Section C : Specific Preliminaries of the bills of quantities / lump sum document for the contractor to have the opportunity to price for all the requirements of the Occupational Health and Safety Act, Construction Regulations and Health and Safety Specification Fixed:_____Value related:_____Time related:_____□	Item			
3	**A3.0**	**OFFER AND ACCEPTANCE** Clause 3.0 Fixed:_____Value related:_____Time related:_____□	Item			
4	**A4.0**	**CESSION AND ASSIGNMENT** Clause 4.0 Fixed:_____Value related:_____Time related:_____□	Item			
BILL No. 1		**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**				

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CONTRACT NUMBER: G540/2024		CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 1
ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
5	A5.0	**DOCUMENTS** Clause 5.0 Clause 5.7 is amended by the addition of the following: The contractor shall supply and keep a copy of the JBCC Series 2000 Principal Building Agreement and Preliminaries applicable to this contract on the site, to which the employer, principal agent and agents shall have access at all times Fixed:_____Value related:_____Time related:_____□	Item			
6	A6.0	**EMPLOYER'S AGENTS** Clause 6.0 Clause 6.1 is amended by the addition of the following: This clause is amended to include clauses 26.7 in terms of which the employer has retained its authority and has not given a mandate to the principal agent and in terms of which the employer sign all documents Fixed:_____Value related:_____Time related:_____□	Item			
7	A7.0	**DESIGN RESPONSIBILITY** Clause 7.0 Clause 7.3 is amended by replacing it with the following: No clause Fixed:_____Value related:_____Time related:_____□	Item			
		INSURANCES AND SECURITIES				
8	A8.0	**WORKS RISK** Clause 8.0 Fixed:_____Value related:_____Time related:_____□	Item			
9	A9.0	**INDEMNITIES** Clause 9.0 Fixed:_____Value related:_____Time related:_____□	Item			
10	A10.0	**INSURANCES** Clause 10.0 Clause 10.0 is amended by the addition of the following clauses: **10.11 Damage to the Works** (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 the **contractor** may deem necessary				
BILL No. 1		**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**				

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CONTRACT NUMBER: G540/2024		CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 1
ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	(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 materials paid for by the **employer** that is the result of the excepted risks as set out in 10.12				
	(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 27.0 hereof				
	10.12	**Injury to Persons or loss of or damage to Properties**				
	(a)	The **contractor** shall be liable for and hereby indemnifies the **employer** against any **liability**, loss, claim or proceeding whether arising in common law or by statute, consequent upon personal injuries to or the death of any person whomsoever arising out of or in the course of or caused by the execution of the **works** unless due to any act or negligence of any person for whose actions the **employer** is legally liable				
	(b)	The **contractor** shall be liable for and hereby indemnifies the employer against any **liability**, loss, claim or proceeding consequent upon loss of or damage to any moveable or immovable or personal property or property contiguous to the **site**, whether belonging to or under the control of the **employer** or any other body or person, arising out of or in the course of or by reason of the execution of the **works** unless due to any act or negligence of any person for whose actions the **employer** is legally liable				
	(c)	The **contractor** shall, upon receiving a **contract instruction** from the **principal agent**, cause the same to be made good in a perfect and workmanlike manner at his own cost and in default thereof the **employer** shall be entitled to cause it to be made good and to recover he cost thereof from the **contractor** or to deduct the same from amounts due to the **contractor**				
	(d)	The **contractor** shall be responsible for the protection and safety of such portions of the premises placed under his control by the **employer** for the purpose of executing the **works** until the issue of the **certificate of practical completion**				
	(e)	Where the execution of the **works** involves the risk of removal of or interference with support to adjoining properties including land or structures or any structures to be altered or added to, the **contractor** shall obtain adequate insurance and will remain adequately insured or insured to the specific limit stated in the contract against the death of or injury to persons or damage to such property consequent on such removal or interference with the support until such portion of the **works** has been completed				
BILL No. 1		**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**				

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”.

CONTRACT NUMBER: G540/2024		CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 1
ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	(f)	The **contractor** shall at all times proceed immediately at his own cost to remove or dispose of any debris and to rebuild, restore, replace and/or repair such property and to execute the **works**				
	10.13	**High risk insurance** In the event of the project being executed in a geological area classified as a "High Risk Area", that is an area which is subject tohighly unstable subsurface conditions that might result in catastrophic ground movement evident by sinkhole or doline formation the following will apply:				
	10.13.1	**Damage to the works** The **contractor** shall, from the **commencement date** of the **works** until the date of the **certificate of practical** completion bear the full risk of and hereby indemnifies and holds harmless the **employer** against any damage to and/or destruction of the **works** consequent upon a catastrophic ground movement as mentioned above. The **contractor** shall take such precautions and security measures and other steps for the protection of the **works** as he may deem necessary When so instructed to do so by the **principal agent**, the contractor shall proceed immediately to remove and/or dispose of any debris arising from damage to or destruction of the **works** and to rebuild, restore, replace and/or repair the **works**, at the **contractor's** own costs				
	10.13.2	**Injury to persons or loss of or damage to property** The **contractor** shall be liable for and hereby indemnifies and holds harmless the **employer** against any liability, loss, claim or proceeding arising at any time during the period of the contract whether arising in common law or by statute, consequent upon personal injuries to or the death of any person whomsoever resulting from, arising out of, or caused by a catastrophic ground movement as mentioned above The **contractor** shall be liable for and hereby indemnifies the **employer** against any and all liability, loss, claim or proceeding consequent upon loss of or damage to any moveable or immovable or personal property or property contiguous to the **site**, whether belonging to or under the control of the **employer** or any other body or person whomsoever arising out of or caused by a catastrophic ground movement, as mentioned above, which occurred during the period of the contract				
	10.13.3	It is the responsibility of the contractor to ensure that he has adequate insurance to cover his risk and liability as mentioned in 10.7.1 and 10.7.2. Without limiting the **contractor's** obligations in terms of the contract, the **contractor** shall, within twenty-one (21) **calendar days** of the **commencement date** but before commencement of the **works**, submit to the **employer** proof of such insurance policy, if requested to do so				
		Fixed:_____Value related:_____Time related:_____□	Item			
BILL No. 1		**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 1
ITEM NO	PAYMENT REFERS TO	DESCRIPTION			AMOUNT
11	A11.0	**SECURITIES**			
		Clause 11.0			
		Clauses 11.1 - 11.10 are amended by replacing them with the following			
	11.1	In respect of contracts with a **contract sum** up to R1 million, the **security** to be provided by the **contractor** to the **employer** will be a payment reduction of five per cent (5%) of the value certified in the **payment certificate** (excluding VAT)			
	11.1.1	The payment reduction of the value certified in a **payment certificate** shall be mutatis mutandi in terms			
	11.1.2	The **employer** shall be entitled to recover expense and loss from the payment reduction in terms of 27.0 provided that the **employer** complies with the provisions of 27.4 in which event the **employer's** entitlement shall take precedence over his obligations to refund the payment reduction **security** or portions thereof to the contractor			
	11.2	In respect of contracts with a **contract sum** above R1 million, the **contractor** shall have the right to select the **security** to be provided in terms of 11.3, 11.4, 11.5, 14.6, or 11.7 as stated in the **schedule**. Such **security** shall be provided to the **employer** within twenty-one (21) **calendar days** from **commencement date**. Should the **contractor** fail to select the **security** to be provided or should the **contractor** fail toprovide the **employer** with the selected **security** within twenty-one (21) **calendar days** from **commencement date**, the **security** in terms of 11.7 shall be deemed to have been selected			
	11.3	Where security as a cash deposit of ten per cent (10%) of the **contract sum** (excluding VAT) has been selected:			
	11.3.1	The **contractor** shall furnish the **employer** with a cash deposit equal in value to ten per cent (10%) of the **contract sum** (excluding VAT) within twenty- one (21) **calendar days** from commencement date			
	11.3.2	Within twenty-one (21) **calendar days** of the date of **practical completion** of the works the **employer** shall reduce the cash deposit to an amount equal to three percent (3%) of the **contract value** (excluding VAT), and refund the balance to the contractor			
	11.3.3	Within twenty-one (21) **calendar days** of the date of **final completion** of the **works** the **employer** shall reduce the cash deposit to an amount equal to one per cent (1%) of the **contract value** (excluding VAT) and refund the balance to the **contractor**			
	11.3.4	On the date of payment of the amount in the final **payment certificate**, the **employer** shall refund the remainder of the cash deposit to the **contractor**			
	11.3.5	The **employer** shall be entitled to recover expense and loss from the cash deposit in terms of 33.0 provided that the **employer** complies with the provisions of 33.4 in which event the **employer's** entitlement shall take precedence over his obligations to refund the cash deposit security or portions thereof to the **contractor**			
BILL No. 1	**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 1
Item No.	**DESCRIPTION**	**UNIT**	**QUANTITY**	**RATE**	**AMOUNT**
	11.3.6 The parties expressly agree that neither the **employer** nor the **contractor** shall be entitled to cede the rights to the deposit to any third party 11.4 Where **security** as a variable construction guarantee of ten percent (10%) of the contract sum (excluding VAT) has been selected: 11.4.1 The **contractor** shall furnish the **employer** with an acceptable variable **construction guarantee** equal in value to ten per cent (10%) of the **contract sum** (excluding VAT) within twenty-one (21) **calendar days** from **commencement date** Clause 11.4.1 is deemed to be amended by the addition of the following sentence; No interest will be paid on such amounts withheld 11.4.2 The variable **construction guarantee** shall reduce and expire in terms of the Variable **Construction Guarantee** form included in the invitation to tender 11.4.3 The **employer** shall return the variable **construction guarantee** to the contractor within fourteen (14) **calendar days** of it expiring 11.4.4 Where the **employer** has a right of recovery against the **contractor** in terms of 33.0, the **employer** shall issue a written demand in terms of the variable **construction guarantee** 11.5 Where **security** as a fixed **construction guarantee** of five percent (5%) of the **contract sum** (excluding VAT) and a five per cent (5%) payment reduction of the value certified in the **payment certificate** (excluding VAT) has been selected: 11.5.1 The **contractor** shall furnish a fixed **construction guarantee** to the **employer** equal in value to five per cent (5%) of the contract sum (excluding VAT) 11.5.2 The fixed **construction guarantee** shall come into force on the date of issue and shall expire on the date of the last certificate of **practical completion** 11.5.3 The **employer** shall return the fixed **construction guarantee** to the **contractor** within fourteen (14) **calendar days** of it expiring 11.5.4 The payment reduction of the value certified in a **payment certificate** shall be in terms of clause 25. 11.5.5 Where the **employer** has a right of recovery against the **contractor** in terms of 27.0, the **employer** shall be entitled to issue a written demand in terms of the fixed **construction guarantee** or may recover from the payment reduction or may do both 11.6 Where **security** as a cash deposit of five per cent (5%) of the **contract sum** (excluding VAT) and a payment reduction of five per cent (5%) of the value certified in the **payment certificate** (excluding VAT) has been selected:				
BILL No. 1	**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**				

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CONTRACT NUMBER: G540/2024		CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 1
ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	11.6.1	The **contractor** shall furnish the employer with a cash deposit equal in value to five per cent (5%) of the **contract sum** (excluding VAT) within twenty- one (21) **calendar days** from commencement date				
	11.6.2	Within twenty-one (21) **calendar days** of the date of **practical completion** of the works the employer shall refund the cash deposit in total to the **contractor**				
	11.6.3	The payment reduction of the value certified in a **payment certificate** shall be *mutatis mutandi* in terms of 25				
	11.6.4	Where the **employer** has a right of recovery against the **contractor** in terms of 27.0, the **employer** may issue a written notice in terms of 27.4 or may recover from the payment reduction or may do both				
	11.7	Where **security** as a payment reduction of ten percent (10%) of the value certified in the **payment certificate** (excluding VAT) has been selected:				
	11.7.1	The payment reduction of the value certified in a **payment certificate** shall be *mutatis mutandi* in terms of 25				
	11.7.2	The **employer** shall be entitled to recover expense and loss from the payment reduction in terms of 27.0 provided that the **employer** complies with the provisions of 27.4 in which event the **employer's** entitlement shall take precedence over his obligations to refund the payment reduction or portions thereof to the **contractor**				
	11.8	Payments made by the guarantor to the **employer** in terms of the fixed or variable construction guarantee shall not prejudice the rights of the employer or contractor in terms of this agreement				
	11.9	11.9Should the contractor fail to furnish the security in terms of 11.2, the employer, in his sole discretion and without notification to the contractor, is entitled to change the contractor's selected form of security to that of a ten per cent (10%) payment reduction of the value certified in the payment certificate (excluding VAT), whereafter 11.7 shall be applicable				
		Fixed:_____Value related:_____Time related:_____□	Item			
		EXECUTION				
12	A12.0	**OBLIGATIONS OF THE PARTIES**				
		Clause 12.0				
		Clause 12.1.1 is amended by replacing it with:				
		No clause				
		Clause 12.2.4 is amended by the addition of the following clause:				
	12.2.4	An acceptable health and safety plan, required in terms of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), within twenty-one (10) **calendar days** of **commencement date**				
		Clause 12.2.7 is amended by replacing it with the following clause:				
BILL No. 1		**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 1
ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Give the **contractor** possession of the site within ten (10) **working days** of the **contractor** complying with the terms of 12.2.4 Fixed:_____Value related:_____Time related:_____□	Item			
13	A13.0	**SETTING OUT OF THE WORKS** Clause 13.0 Fixed:_____Value related:_____Time related:_____□	Item			
14	A14.0	**NOMINATED SUBCONTRACTORS** Clause 14.0 Clause 14.1.5 is amended by replacing it with the following: Note: See item B9.1 hereinafter for adjustment of attendance on **nominated subcontractors** executing work allowed for under provisional sums Fixed:_____Value related:_____Time related:_____□	Item			
15	A15.0	**SELECTED SUBCONTRACTORS** Clause 15.0 Clause 15.1.2 to 15.5 and 15.2 to 15.5 is amended by replacing it with: The **Contractor** and **principal agent** shall appoint a **selected subcontractor** in accordance with the CIDB practice #7 Fixed:_____Value related:_____Time related:_____□	Item			
16	A16.0	**DIRECT CONTRACTORS** Clause 16.0 Fixed:_____Value related:_____Time related:_____□	Item			
17	A17.0	**CONTRACT INSTRUCTIONS** Clause 17.0 Fixed:_____Value related:_____Time related:_____□	Item			
		COMPLETION				
18	A18.0	**INTERIM COMPLETION** Clause 18.0 Fixed:_____Value related:_____Time related:_____□	Item			
19	A19.0	**PRACTICAL COMPLETION** Clause 19.0 Fixed:_____Value related:_____Time related:_____□	Item			
20	A20.0	**COMPLETION IN SECTIONS** Clause 20.0 Fixed:_____Value related:_____Time related:_____□	Item			
BILL No. 1		**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**				

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CONTRACT NUMBER: G540/2024		CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 1
ITEM NO	PAYMENT REFERS TO	DESCRIPTION				AMOUNT
21	A21.0	**DEFECTS LIABILITY PERIOD AND FINAL COMPLETION** Clause 21.0 Add the following to the end of sub-clause 21.1.2: "All civil, electrical, electronic, HVAC, fire detection, gas suppression and other specialist installations are subject to a three hundred and sixty-five (365) calendar days defects liability and maintenance period. The contractor shall attend to defects during the works completion and defects liability periods on a progressive basis, to the satisfaction of the principal agent and will not be permitted to wait until the end of the defects liability period or until the amount of defects accumulate in order to attend to a comprehensive list of defects." Fixed:_____Value related:_____Time related:_____□	Item			
22	A22.0	**LATENT DEFECTS LIABILITY PERIOD** Clause 22.0 Fixed:_____Value related:_____Time related:_____□	Item			
23	A23.0	**REVISION OF DATE FOR PRACTICAL COMPLETION** Clause 23.0 (i) The addition of the following clauses:- Sub-clause 23.9 "Revision to the date for practical completion shall only be considered when work on the critical path of the agreed programme for the works is delayed." (ii) Sub-clause 23.10 – Acceleration Sub-clause 23.10.1 "Irrespective of whether or not the principal agent rules that the contractor is entitled to an extension of time or a revision of the date for practical completion, the principal agent shall nevertheless, at any time, be entitled to instruct the contractor in writing to accelerate the progress of the remaining works to ensure that the works are completed by the original date for practical completion or revised date as the case may be." Sub-clause 23.10.2 "Upon receipt of such instruction, the contractor shall take all necessary steps to ensure that the works are completed timeously including the provision by him of additional resources, plant, manpower, etc and the working overtime or additional overtime beyond that contemplated at the time of tender (at all times adhering to the regulations and requirements of all authorities) and by all other adequate and proper means and methods. The contractor shall prove that such steps are being taken if called upon to do so." Sub-clause 23.10.3 "The contractor's entitlement to compensation arising out of or in respect of any revision to the date for practical completion that may have been granted by the principal agent or alternatively where the principal agent has instructed the contractor to accelerate, shall be adjudicated strictly in terms of clause 32." Fixed:_____Value related:_____Time related:_____□	Item			
BILL No. 1		**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**				

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ITEM NO	**PAYMENT REFERS TO**	**DESCRIPTION**			**AMOUNT**
24	**A24.0**	**PENALTY FOR LATE AND NON-COMPLETION**			
	Clause 24.0				
	Fixed:_____Value related:_____Time related:_____□		Item		
	Failure to achieve practical completion				
	Provision for termination of contractor due to delay or failure to achieve Practical Completion, including recovery costs, re-tendering, delay-related costs, administrative overheads, additional site supervision, and provision for unfruitful and wasteful expenditure.				
	Delays in achieving Practical Completion		Days	-R5,000.00	
	PAYMENT				
25	**A25.0**	**PAYMENT**			
	Clause 25.0				
	Notwithstanding this or any other clause, materials and goods stored off site shall not be included in the amount authorized for payment.				
	The first sentence of sub-clause 25.10 is deemed to be deleted and replaced with the following:				
	The employer shall pay the contractor the amount certified within thirty (30) calendar days of the date.				
	Fixed:_____Value related:_____Time related:_____		Item		
26	**A26.0**	**ADJUSTMENT TO THE CONTRACT VALUE**			
	Clause 26.0				
	Adjustment to the contract value (Clause 26.0) Where prices are submitted by the contractor or nominated/selected subcontractors during the progress of the works in respect of contract instructions or in regard to a claim under the terms of the contract and notwithstanding the fact that such prices may be used in an interim payment certificate, there is to be no presumption of acceptance. Should the principal agent wish to accept any such prices prior to the issue of the final certificate, it will be in writing				
	Fixed:_____Value related:_____Time related:_____		Item		
27	**A27.0**	**ADJUSTMENT TO THE CONTRACT VALUE**			
	Clause 27.0				
	Clause 27.2 is amended by adding the following sub-clauses:				
	27.2.11	The contractor's failure or neglect to commence with the works on the dates prescribed in the contract.			
	27.2.12	The contractor's failure or neglect to proceed with the works in terms of the contract.			
	27.2.13	The contractor's failure or neglect for any reason to complete the works in accordance with the contract.			
	27.2.14	The contractor's refusal or neglect to comply strictly with any of the conditions of contract or any contract instructions and/or orders in writing given in terms of the contract.			
BILL No. 1	**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**				

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ITEM NO	**PAYMENT REFERS TO**	**DESCRIPTION**			**AMOUNT**
	27.2.15	The contractor's estate being sequestrated or surrendered in terms of the Insolvency laws in force within the Republic of South Africa."			
		Fixed:_____Value related:_____Time related:_____	Item		
		SUSPENSION AND TERMINATION			
28	**A28.0**	**SUSPENSION BY CONTRACTOR**			
		Clause 28.0			
		Fixed:_____Value related:_____Time related:_____	Item		
29	**A29.0 TERMINATION**				
		Clause 29.0			
		Add the following sub-clauses 29.1.4 to 29.1.6 under 29.1 to read as follows:			
	29.1.4	The contractor's refusal or neglect to comply strictly with any of the conditions of contract.			
	29.1.5	The contractor's estate being sequestrated, liquidated or surrendered in terms of the insolvency laws in force with the Republic of South Africa.			
	29.1.6	The contractor, in the judgment of the employer, has engaged in corrupt or fraudulent practices in competing for or in executing the contract.			
		Replace clause 29.3 with the following: the employer may give notice of cancellation should the contractor remain in default for ten (10) working days after the date of of issue of such a notice of default			
		Clause 29.25.4			
		Replace "Sixty (60)" with "one hundred and twenty (120)".			
		Add the following sub-clauses 29.29 under 29 to read as follows: Notwithstanding any clause to the contrary, on cancellation of this agreement either by the employer or the contractor, or for any reason whatsoever, the contractor shall on written instruction, discontinue with the works on a stated date and withdraw himself from the site. The contractor shall not be entitled to refuse to withdraw from the works on the grounds of any lien or right of retention or on the grounds of any other right whatsoever.			
		Fixed:_____Value related:_____Time related:_____	Item		
		DISPUTE RESOLUTION			
30	**A30.0**	**DISPUTE RESOLUTION**			
		Clause 30.0			
		Fixed:_____Value related:_____Time related:_____	Item		
BILL No. 1	Bill No. 1 PRELIMINARIES AND GENERAL carried to collection				

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION				AMOUNT
		SECTION B: JBCC PRELIMINARIES				
		B1.0 DISPUTE RESOLUTION				
31		***B1.1 Definitions and interpretation***				
		See also clause A1.0 of Section A for additional and/or amended definitions which shall apply equally to this Section				
		Fixed:_____Value related:_____Time related:_____	Item			
		B2.0 DOCUMENTS				
32		***B2.1 Checking of documents***				
		Fixed:_____Value related:_____Time related:_____	Item			
33		***B2.2 Provisional bills of quantities***				
		Fixed:_____Value related:_____Time related:_____	Item			
34		***B2.3 Availability of construction documentation***				
		Fixed:_____Value related:_____Time related:_____	Item			
35		***B2.4 Interests of agents***				
		Fixed:_____Value related:_____Time related:_____	Item			
36		***B2.5 Priced documents***				
		Fixed:_____Value related:_____Time related:_____	Item			
37		***B2.6 Tender submission***				
		Clause 2.6 is amended by replacing "JBCC Form of Tender" with "Form of Offer and Acceptance"				
		Fixed:_____Value related:_____Time related:_____	Item			
		B3.0 THE SITE				
38		***B3.1 Defined works area***				
		Fixed:_____Value related:_____Time related:_____	Item			
39		***B3.2 Geotechnical investigation***				
		Fixed:_____Value related:_____Time related:_____	Item			
40		***B3.3 Inspection of the site***				
		Fixed:_____Value related:_____Time related:_____	Item			
41		***B3.4 Existing premises occupied***				
		Fixed:_____Value related:_____Time related:_____	Item			
42		***B3.5 Previous work - dimensional accuracy***				
		Fixed:_____Value related:_____Time related:_____	Item			
43		***B3.6 Previous work - defects***				
		Fixed:_____Value related:_____Time related:_____	Item			
BILL No. 1		Bill No. 1 PRELIMINARIES AND GENERAL carried to collection				

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION				AMOUNT
44	B3.7	***Services - known***				
		Fixed:_____Value related:_____Time related:_____	Item			
45	B3.8	***Services - unknown***				
		Fixed:_____Value related:_____Time related:_____	Item			
46	B3.9	***Protection of trees***				
		Fixed:_____Value related:_____Time related:_____	Item			
47	B3.10	***Articles of value***				
		Fixed:_____Value related:_____Time related:_____	Item			
48	B3.11	***Inspection of adjoining properties***				
		Fixed:_____Value related:_____Time related:_____	Item			
	B4.0	**MANAGEMENT OF CONTRACT**				
49	B4.1	***Management of the works***				
		Fixed:_____Value related:_____Time related:_____	Item			
49	B4.1	***Management of the works***				
		Fixed:_____Value related:_____Time related:_____	Item			
50	B4.2	***Programme for the works***				
		Fixed:_____Value related:_____Time related:_____	Item			
51	B4.3	***Progress meetings***				
		Fixed:_____Value related:_____Time related:_____	Item			
52	B4.4	***Technical meetings***				
		Fixed:_____Value related:_____Time related:_____	Item			
53	B4.5	***Labour and plant records***				
		Fixed:_____Value related:_____Time related:_____	Item			
	B5.0	**SAMPLES, SHOP DRAWINGS AND MANUFACTURERS' INSTRUCTIONS**				
54	B5.1	***Samples of materials***				
		Fixed:_____Value related:_____Time related:_____	Item			
55	B5.2	***Workmanship samples***				
		Fixed:_____Value related:_____Time related:_____	Item			
56	B5.3	***Shop drawings***				
		Fixed:_____Value related:_____Time related:_____	Item			
57	B5.4	***Compliance with manufacturers' instructions***				
		Fixed:_____Value related:_____Time related:_____	Item			
BILL No. 1	Bill No. 1 PRELIMINARIES AND GENERAL carried to collection					

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION				AMOUNT
	B6.0	**TEMPORARY WORKS AND PLANT**				
58	***B6.1***	***Deposits and fees***				
		Fixed:_____Value related:_____Time related:_____	Item			
59	***B6.2***	***Enclosure of the works***				
		Fixed:_____Value related:_____Time related:_____	Item			
60	***B6.3***	***Advertising***				
		Fixed:_____Value related:_____Time related:_____	Item			
61	***B6.4***	***Plant, equipment, sheds and offices***				
		Fixed:_____Value related:_____Time related:_____	Item			
62	***B6.5***	***Main notice board***				
		Fixed:_____Value related:_____Time related:_____	Item			
63	***B6.6***	***Subcontractors' notice board***				
		Fixed:_____Value related:_____Time related:_____	Item			
	B7.0	**TEMPORARY SERVICES**				
64	***B7.1***	***Location***				
		Fixed:_____Value related:_____Time related:_____	Item			
65	***B7.2***	***Water***				
		Fixed:_____Value related:_____Time related:_____	Item			
66	***B7.3***	***Electricity***				
		Fixed:_____Value related:_____Time related:_____	Item			
67	***B7.4***	***Telecommunication facilities***				
		Fixed:_____Value related:_____Time related:_____	Item			
68	***B7.5***	***Ablution facilities***				
		Fixed:_____Value related:_____Time related:_____	Item			
	B8.0	**PRIME COST AMOUNTS**				
69	***B8.1***	***Responsibility for prime cost amounts***				
		Fixed:_____Value related:_____Time related:_____	Item			
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ITEM NO	**PAYMENT REFERS TO**				**AMOUNT**
	B9.0 ATTENDANCE ON N/S SUBCONTRACTORS				
70	***B9.1 General attendance***				
	Fixed:_____Value related:_____Time related:_____	Item			
71	***B9.2 Special attendance***				
	Fixed:_____Value related:_____Time related:_____	Item			
72	***B9.3 Commissioning - fuel, water and electricity***				
	Fixed:_____Value related:_____Time related:_____	Item			
	B10.0 FINANCIAL ASPECTS				
73	***B10.1 Statutory taxes, duties and levies***				
	Fixed:_____Value related:_____Time related:_____	Item			
74	***B10.2 Payment for preliminaries***				
	Fixed:_____Value related:_____Time related:_____	Item			
75	***B10.3 Adjustment of preliminaries***				
	Clauses B10.3.1 and B10.3.2 are amended by replacing "within fifteen (15) working days of taking possession of the site" with "when submitting his priced bills of quantities / lump sum document"				
	Fixed:_____Value related:_____Time related:_____	Item			
76	***B10.4 Payment certificate cash flow***				
	Fixed:_____Value related:_____Time related:_____	Item			
	B11.0 GENERAL				
77	***B11.1 Protection of the works***				
	Fixed:_____Value related:_____Time related:_____	Item			
78	***B11.2 Protection / isolation of existing / sectionally occupied works***				
	Fixed:_____Value related:_____Time related:_____	Item			
79	***B11.3 Security of the works***				
	Fixed:_____Value related:_____Time related:_____	Item			
80	***B11.4 Notice before covering work***				
	Fixed:_____Value related:_____Time related:_____	Item			
81	***B11.5 Disturbance***				
	Fixed:_____Value related:_____Time related:_____	Item			
82	***B11.6 Environmental disturbance***				
	Fixed:_____Value related:_____Time related:_____	Item			
BILL No. 1	**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**				

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION				AMOUNT
83	B11.7	***Works cleaning and clearing***				
		Fixed:_____Value related:_____Time related:_____	Item			
84	B11.8	***Vermin***				
		Fixed:_____Value related:_____Time related:_____	Item			
85	B11.9	***Overhand work***				
		Fixed:_____Value related:_____Time related:_____	Item			
86	B11.10	***Instruction manuals and guarantees***				
		Fixed:_____Value related:_____Time related:_____	Item			
87	B11.11	***As built information***				
		Fixed:_____Value related:_____Time related:_____	Item			
88	B11.12	***Tenant installations***				
		Fixed:_____Value related:_____Time related:_____	Item			
	B12.0	**SCHEDULE OF VARIABLES**				
89	B12.1	***Schedule of variables***				
		Fixed:_____Value related:_____Time related:_____	Item			
		This schedule contains all variables referred to in this document and is divided into pre-tender and post-tender categories. The pre-tender category must be completed in full and included in the tender documents. Both the pre-tender and post-tender categories form part of these Preliminaries Spaces requiring information must be filled in, shown as "not applicable" or deleted and not left blank. Where choices are offered, the non-applicable items are to be deleted. Where insufficient space is provided the information should be annexed hereto and cross-referenced to the applicable clause of the schedule. Key cross reference clauses are italicised in [ ] brackets				
BILL No. 1		**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**				

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ITEM NO	**PAYMENT REFERS TO**	**DESCRIPTION**			**AMOUNT**
	12.1	**PRE-TENDER INFORMATION**			
	12.1.1 *[2.2]*	**Provisional bills of quantities** The quantities are provisional *YES/NO*			
	12.1.2 *[2.3]*	**Availability of construction documentation** *Construction documentation is complete* *YES/NO*			
	12.1.3 *[2.4]*	***Interests of agents*** Details:			
	12.1.4 *[3.1]*	***Defined works area*** Details:			
	12.1.5 *[3.2]*	***Geotechnical investigation*** Details:			
	12.1.6 *[3.4]*	***Existing premises occupied*** Details:			
	12.1.7 *[3.5]*	***Previous work - dimensional accuracy*** Details:			
	12.1.8 *[3.6]*	***Previous work - defects*** Details:			
	12.1.9 *[3.7]*	***Services - known*** Details:			
	12.1.10 *[3.9]*	***Protection of trees*** Details:			
	12.1.11 *[3.11]*	***Inspection of adjoining properties*** Details:			
	12.1.12 *[6.2]*	***Enclosure of the works*** Details:			
	12.1.13 *[6.4.3]*	***Offices*** Specific requirements: The contractor shall provide, maintain and remove on completion of the works an office for the exclusive use of the principal agent, minimum size 4 x 3 x 3m high internally, suitably insulated and ventilated, provided with electric lighting and fitted with boarded floor, desk, chair, drawing stool, drawing board and lock-up drawers for drawings. The office shall be kept clean and fit for use at all times				
BILL No. 1	**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**				

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION			AMOUNT
	12.1.14 *[6.5]*	***Main notice board*** Specific requirements: The contractor shall provide, erect where directed, maintain and remove on completion of the works a notice board size 3 x 3m as per Drawing, constructed of suitable boarding with flat smooth surface and with edging bead 19mm thick round outer edges and projecting 12mm from face of boarding and rounded on front edge. The board shall be securely fixed to hoarding, where hoarding is provided, or fixed to and including a suitable supporting structure of timber or tubular posts and braces. The board is to be painted ivory white and the bead and 12mm wide dividing lines dark green. All wording shall be inscribed in dark green as per the coat of arms for SA. All wording shall be inscribed in dark green painted sans serif lettering				
	12.1.15 *[7.2]*	***Subcontractors' notice board*** *A notice board is required* *YES/NO* Specific requirements:			
	12.1.16 *[7,3]*	***Water*** *Option A (by **contractor**)* *YES/NO* *Option B (by **employer** - free of charge)* *YES/NO* *Option C (by **employer** - metered)* *YES/NO*			
	12.1.17 *[6.6]*	***Electricity*** *Option A (by **contractor**)* *YES/NO* *Option B (by **employer** - free of charge)* *YES/NO* *Option C (by **employer** - metered)* *YES/NO*			
	12.1.18 *[7.4]*	***Telecommunications*** *Option A (by **contractor**)* *YES/NO* *Option B (by **employer** - free of charge)* *YES/NO* *Option C (by **employer** - metered)* *YES/NO*			
	12.1.19 *[7.5]*	***Ablution facilities*** *Option A (by **contractor**)* *YES/NO* *Option B (by **employer**)* *YES/NO*			
	12.1.20 *[11.2]*	***Protection of existing/sectionally occupied works*** *Option A (by **contractor**)* *YES/NO*			
BILL No. 1	**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**				

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION				AMOUNT
	12.1.19 *[7.5]*	***Ablution facilities*** *Option A (by **contractor**)* *YES/NO* *Option B (by **employer**)* *YES/NO*				
	12.1.20 *[11.2]*	***Protection of existing/sectionally occupied works*** *Option A (by **contractor**)*				
	12.1.21 *[9.2]*	***Special attendance*** **Subcontractor** (1) details: **Subcontractor** (2) details: **Subcontractor** (3) details: **Subcontractor** (4) details:				
	12.1.22 *[11.1]*	***Special attendance*** Specific requirements:				
	12.1.23 *[11.1]*	***Disturbance*** Specific requirements: The contractor shall keep the site, structures, etc well-watered during operations to prevent dust and shall provide and erect and remove on completion of the works all necessary temporary dust screens all to the satisfaction of the principal agent				
	12.1.24 *[11.6]*	***Environmental disturbance*** Specific requirements:				
	12.2	**POST-TENDER INFORMATION**				
	12.1.19 *[7.5]*	***Payment of preliminaries*** *Option A (prorated)* *YES/NO* *Option B (calculated)* *YES/NO*				
	12.2.2 *[10.3]*	***Adjustment of preliminaries*** *Option A (prorated)* *YES/NO* *Option B (calculated)* *YES/NO*				
	12.2.3	***Additional agreed preliminaries items*** *Details:*				
		SECTION C: SPECIFIC PRELIMINARIES Section C contains specific preliminary items which apply to this contract except where N/A (Not Applicable) appears against an item				
90	**C1.0**	**CONTRACT DRAWINGS** ** Select relevant paragraph and delete whichever is not applicable depending on whether the contract is based on a **bills of quantities or lump sum document***				
BILL No. 1	**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**					

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ITEM NO	**PAYMENT REFERS TO**	**DESCRIPTION**			**AMOUNT**
		*The drawings issued with the tender documents do not comprise the complete set but serve as a guide only for tendering purposes and for indicating the scope of the work to enable the tenderer to acquaint himself with the nature and extent of the **works** and the manner in which they are to be executed *A full set of drawings is issued with the tender documents indicating the full scope of the work to enable the tenderer to acquaint himself with the nature and extent of the **works** and the manner in which they are to be executed Should any part of the drawings not be clearly understood by the tenderer he shall, before submitting his tender, obtain clarification in writing from the **principal agent** Fixed:_____Value related:_____Time related:_____	Item		
91	**C2.0**	**GENERAL PREAMBLES** The document "Specification of Materials and Methods to be used (PW371)" is obtainable on the Department's website (http://www.publicworks.gov.za/ under "Consultants Guidelines"), and shall be read in conjunction with the **bills of quantities / lump sum document** and be referred to for the full descriptions of work to be done and materials to be used Fixed:_____Value related:_____Time related:_____	Item		
92	**C3.0**	**TRADE NAMES** Wherever a trade name for any product has been described in the **bills of quantities / lump sum document**, the tenderer's attention is drawn to the fact that any other product of equal quality may be used subject to the written approval of the **principal agent** being obtained prior to the closing date for submission of tenders If prior written approval for an alternative product is not obtained, the product described shall be deemed to have been tendered for Fixed:_____Value related:_____Time related:_____	Item		
93	**C4.0**	**IMPORTED MATERIALS AND EQUIPMENT** Where imported items are listed in the tender documents, the tenderer shall provide all the information called for, failing which the price of any such item, materials or equipment shall be excluded from currency fluctuations. (refer to Schedule of Imported Materials and Equipment DPW-23(EC) to be completed by tenderer) Notwithstanding any provisions elsewhere regarding the adjustment of contract prices, the price of any item, material or equipment listed in terms of this clause shall be excluded from the Contract Price Adjustment Provisions (if applicable) Fixed:_____Value related:_____Time related:_____	Item		
94	**C5.0**	**IMPORTED MATERIALS AND EQUIPMENT** The site is situated in a security area and the tenderer must arrange with the unit commander or other responsible officer to obtain permission to enter the site for tendering purposes Fixed:_____Value related:_____Time related:_____	Item		
BILL No. 1	**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 1
ITEM NO	**PAYMENT REFERS TO**	**DESCRIPTION**			**AMOUNT**
95	**C6.0**	**COMMENCEMENT OF WORKS IN SECURITY AREAS** As the **works** falls within a security area the contractor must give the unit commander or other responsible officer notice before commencement of the works. Should the **contractor** fail to make such arrangements, admission to the site may be refused and any additional costs will be for the contractor's account Fixed:_____Value related:_____Time related:_____	Item		
96	**C7.0**	**ENTRANCE PERMITS TO SECURITY AREAS** As the **works** falls within a security area the contractor shall obtain entrance permits for his personnel and workmen entering the area and shall comply with all regulations and instructions which may be issued from time to time regarding the protection of persons and property under the control of the Defence Force, Police or chief security officer Fixed:_____Value related:_____Time related:_____	Item		
97	**C8.0**	**SECURITY CHECK OF PERSONNEL** The **principal agent** may require the contractor to have his personnel and workmen, or a certain number of them, security classified In the event of the **principal agent** requesting the removal of a person or persons from the **works** for security reasons, the **contractor** shall do so forthwith and shall thereafter ensure that such person or persons are denied access to the **works** and the site and/or to any document or information relating to the **works** Fixed:_____Value related:_____Time related:_____	Item		
98	**C9.0**	**PROHIBITION ON TAKING OF PHOTOGRAPHS** In terms of article 119 of the Defence Act, 44 of 1957, it is prohibited to sketch or to take photographs of any military site or installation or any building or civil works thereon or to be in possession of a camera or other apparatus used for taking of photographs except when authorized thereto by or on behalf of the Minister The same prohibition is also applicable to all correctional institutions in terms of article 44.1(e) of the Correctional Services Act 8 of 1959 Fixed:_____Value related:_____Time related:_____	Item		
99	**C10.0**	**HIV/AIDS AWARENESS** It is required of the contractor to thoroughly study the HIV/AIDS Specification (PW 1544) of the Department that must be read together with and is deemed to be incorporated under this Section of the **bills of quantities / lump sum document**. Provision for pricing of HIV/AIDS awareness is made under items C10.1 to C10.5 hereafter and it is explicitly pointed out that all requirements of the aforementioned specification are deemed to be priced hereunder, as the said items represent the only method of measurement and no additional items or extras to the contract in this regard shall be entertained			
BILL No. 1	**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**				

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION				AMOUNT
		The contractor must take note that compliance with the HIV/AIDS Specification is compulsory. In the event of partial or total non-compliance, the principal agent, notwithstanding the provisions of clause A 31.0 of Section A or any other clause to the contrary, reserves the right to delay issuing any progress payment certificate until the contractor provides satisfactory proof of compliance. The contractor shall not be entitled to any compensation of whatsoever nature, including interest, due to such delay of payment				
		Fixed:_____Value related:_____Time related:_____	Item			
100	C10.1	**AWARENESS CHAMPION**				
		Selection, appointment, briefing and making available of an Awareness Champion including provision of all relevant services, all in accordance with the HIV/AIDS Specification				
		Fixed:_____Value related:_____Time related:_____	Item			
101	C10.2	**AWARENESS WORKSHOPS**				
		Selection and appointment of a competent Service Provider approved by the **principal agent**, provision of a Service Provider Workshop Plan and a suitable venue, conducting of awareness workshops by means of traditional and/or modern multi-media techniques, including follow-up courses, making available all tuition material and performing assessment procedures, all in accordance with the HIV/AIDS Specification				
		Fixed:_____Value related:_____Time related:_____	Item			
102	C10.3	**POSTERS, BOOKLETS, VIDEOS, ETC.**				
		Provision, displaying, maintaining and replacing, when necessary, of four plastic laminated posters, booklets and educational videos, etc. for the duration of the **construction period**, all in accordance with the HIV/AIDS Specification				
		Fixed:_____Value related:_____Time related:_____	Item			
103	C10.4	**ACCESS TO CONDOMS**				
		Provision and maintenance of condom dispensers fixed in position, including male and female condoms, replenishing male and female condoms daily as required for the duration of the **construction period**, all in accordance with the HIV/AIDSSpecification				
		Fixed:_____Value related:_____Time related:_____	Item			
104	C10.5	**MONITORING**				
		Monitoring HIV/AIDS awareness of workers, providing the **principal agent** with access to information including making available all reports, thoroughly completed and reflecting the correct information, for the duration of the **construction period** and close out, all in accordance with the HIV/AIDS Specification				
		Fixed:_____Value related:_____Time related:_____	Item			
BILL No. 1		**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**				

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION	Page No.			AMOUNT
105	C11.0	**OCCUPATIONAL HEALTH AND SAFETY ACT** The **contractor** shall comply with all the requirements set out in the Construction Regulations, 2003 issued under the Occupational Health and Safety Act, 1993 (Act No 85 of 1993) It is required of the **contractor** to thoroughly study the Health and Safety Specification that must be read together with and is deemed to be incorporated under this Section of the **bills of quantities / lump sum document** The **contractor** must take note that compliance with the Occupational Health and Safety Act, Construction Regulations and Health and Safety Specification is compulsory. In the event of partial or total non-compliance, the **principal agent**, notwithstanding the provisions of clause A31.0 of Section A or any other clause to the contrary, reserves the right to delay issuing any progress **payment certificate** until the **contractor** provides satisfactory proof of compliance. The **contractor** shall not be entitled to any compensation of whatsoever nature, including interest, due to such delay of payment Provision for pricing of the Occupational Health and Safety Act, Construction Regulations and Health and Safety Specification is made under this clause, and it is explicitly pointed out that all requirements of the aforementioned are deemed to be priced hereunder and no additional claims in this regard shall be entertained Fixed:_____Value related:_____Time related:_____	Item		
		PPE				
106	C11.1	**HI-VISIBILTY CONTI-SUIT** Annual/ As required or needing replacing Fixed:_____Value related:_____Time related:_____	Item			
107	C11.2	**HI-VISIBILTY T-SHIRTS** Annual/ As required or needing replacing Fixed:_____Value related:_____Time related:_____	Item			
108	C11.3	**STEEL TOE-CAPPED SAFETY BOOTS** Annual/ As required or needing replacing Fixed:_____Value related:_____Time related:_____	Item			
109	C11.4	**HI-VISIBILITY SAFETY VEST** Annual/ As required or needing replacing Fixed:_____Value related:_____Time related:_____	Item			
110	C11.5	**SABS APPROVED HARD HAT** Annual/ As required or needing replacing Fixed:_____Value related:_____Time related:_____	Item			
BILL No. 1		**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**				

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION	Page No.		AMOUNT
111	C11.6	**HI-VISIBILITY RAIN SUITS**			
		Annual/ As required or needing replacing			
		Fixed:_____Value related:_____Time related:_____	Item		
112	C11.7	**STEEL TOE CAPPED GUMBOOTS**			
		Annual/ As required or needing replacing			
		Fixed:_____Value related:_____Time related:_____	Item		
113	C11.8	**DUST MASKS (STIPULATE FFP)**			
		Annual/ As required or needing replacing			
		Fixed:_____Value related:_____Time related:_____	Item		
114	C11.9	**SAFETY GLASSES**			
		Annual/ As required or needing replacing			
		Fixed:_____Value related:_____Time related:_____	Item		
115	C11.10	**GLOVES (STIPULATE TYPE):**			
		Annual/ As required or needing replacing			
		Fixed:_____Value related:_____Time related:_____	Item		
116	C11.11	**SAFETY HARNESSES**			
		Annual/ As required or needing replacing			
		Fixed:_____Value related:_____Time related:_____	Item		
117	C11.13	**ISSUE OF DISPOSABLE GLOVES**			
		Annual/ As required or needing replacing			
		Fixed:_____Value related:_____Time related:_____	Item		
118	C11.14	**ISSUE OF FACE SHIELDS**			
		Annual/ As required or needing replacing			
		Fixed:_____Value related:_____Time related:_____	Item		
119	C11.15	**OTHER**			
		Annual/ As required or needing replacing			
		Fixed:_____Value related:_____Time related:_____	Item		
BILL No. 1		**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**			

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION	Page No.		AMOUNT
		TRAINING			
120	C11.16	**SAFETY REPRESENTATIVE TRAINING**			
		Annual/ As required or needing replacing			
		Fixed:_____Value related:_____Time related:_____	Item		
121	C11.17	**FIRST AIDER TRAINING**			
		Annual/ As required or needing replacing			
		Fixed:_____Value related:_____Time related:_____	Item		
122	C11.18	**FIRE FIGHTING TRAINING**			
		Annual/ As required or needing replacing			
		Fixed:_____Value related:_____Time related:_____	Item		
		WORKING AT HEIGHTS			
123	C11.19	**BASIC FALL ARREST (US229998)**			
		Once off or every 3 years			
		Fixed:_____Value related:_____Time related:_____	Item		
124	C11.20	**BASIC FALL ARREST AND RESCUE (US229995 AND US229998)**			
		Once off or every 3 years			
		Fixed:_____Value related:_____Time related:_____	Item		
125	C11.21	**FALL PROTECTION PLANNER (US229998 AND 229994)**			
		Once off or every 3 years			
		Fixed:_____Value related:_____Time related:_____	Item		
		SCAFFOLDING (AS PER SANS10085)			
126	C11.22	**SCAFFOLDING SUPERVISOR**			
		Once off			
		Fixed:_____Value related:_____Time related:_____	Item		
127	C11.23	**SCAFFOLDING INSPECTOR**			
		Once off			
		Fixed:_____Value related:_____Time related:_____	Item		
128	C11.24	**SCAFFOLDING ERECTOR**			
		Once off			
		Fixed:_____Value related:_____Time related:_____	Item		
BILL No. 1	Bill No. 1 PRELIMINARIES AND GENERAL carried to collection				

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION	Page No.			AMOUNT
129	C11.25	**INDUCTION TRAINING INCLUDING COVID AWARENESS**				
		Fixed:_____Value related:_____Time related:_____	Item			
130	C11.26	**OTHER**				
		Fixed:_____Value related:_____Time related:_____	Item			
		HEALTH AND SAFETY SALARIES				
131	C11.27	**CHC MANAGER**				
		Monthly Salary				
		Fixed:_____Value related:_____Time related:_____	Item			
132	C11.28	**CHC OFFICER**				
		Monthly Salary				
		Fixed:_____Value related:_____Time related:_____	Item			
134	C11.30	**OTHER**				
		Monthly Salary				
		Fixed:_____Value related:_____Time related:_____	Item			
		SPECIFIC HEALTH AND SAFETY ITEMS				
135	C11.31	**MEDICALS INCLUDING COVID SCREENING**				
		Pre-placement, Annual and Exist				
		Fixed:_____Value related:_____Time related:_____	Item			
136	C11.32	**SPILL KIT**				
		Once off				
		Fixed:_____Value related:_____Time related:_____	Item			
137	C11.33	**ACCOMMODATION OF TRAFFIC**				
		Accommodation of Traffic as per Client tender BOQ				
		Fixed:_____Value related:_____Time related:_____	Item			
138	C11.34	**INDUCTIONS**				
		Annual				
		Fixed:_____Value related:_____Time related:_____	Item			
BILL No. 1		**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**				

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION	Page No.			AMOUNT
139	C11.35	**FIRST AID KITS**				
		Once off				
		Fixed:_____Value related:_____Time related:_____	Item			
140	C11.36	**FIRE EXTINGUISHERS**				
		Once off				
		Fixed:_____Value related:_____Time related:_____	Item			
141	C11.37	**ABLUTIONS**				
		Once off				
		Fixed:_____Value related:_____Time related:_____	Item			
142	C11.38	**BARRIER NETTING**				
		Once off				
		Fixed:_____Value related:_____Time related:_____	Item			
143	C11.39	**FALL PROTECTION PLAN**				
		Fall Protection Plan drafted by a Fall Protection Planner US22994 and 229998 (once off and ongoing implementation)				
		Fixed:_____Value related:_____Time related:_____	Item			
144	C11.40	**NON-TOUCH THERMOMETER**				
		Fixed:_____Value related:_____Time related:_____	Item			
145	C11.41	**HAND SANITIZER**				
		Fixed:_____Value related:_____Time related:_____	Item			
146	C11.42	**BIOHAZARD BINS AND DISPOSAL**				
		Fixed:_____Value related:_____Time related:_____	Item			
147	C11.43	**OTHER**				
		Fixed:_____Value related:_____Time related:_____	Item			
		SAFETY SIGNAGE				
148	C11.44	**CONSTRUCTION BOARDS**				
		Once off				
		Fixed:_____Value related:_____Time related:_____	Item			
149	C11.45	**FIRE EXTINGUISHER**				
		Once off				
		Fixed:_____Value related:_____Time related:_____	Item			
BILL No. 1		Bill No. 1 PRELIMINARIES AND GENERAL carried to collection				

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION	Page No.			AMOUNT
150	C11.46	**DIRECTIONAL SIGNAGE**				
		Once off				
		Fixed:_____Value related:_____Time related:_____	Item			
151	C11.47	**EMERGENCY ASSEMBLY POINT**				
		Once off				
		Fixed:_____Value related:_____Time related:_____	Item			
152	C11.48	**NO SMOKING SIGNAGE**				
		Once off				
		Fixed:_____Value related:_____Time related:_____	Item			
153	C11.49	**LADIES AND MEN'STOILETS SIGNAGE**				
		Once off				
		Fixed:_____Value related:_____Time related:_____	Item			
154	C11.50	**NO NAKED FLAMES' SIGNAGE**				
		Once off				
		Fixed:_____Value related:_____Time related:_____	Item			
155	C11.51	**OTHER (OTHER SIGNAGE)**				
		Once off				
		Fixed:_____Value related:_____Time related:_____	Item			
		SAFETY DOCUMENTATION				
156	C11.52	**HEALTH AND SAFETY PLAN**				
		Fixed:_____Value related:_____Time related:_____	Item			
157	C11.53	**HEALTH AND SAFETY FILE**				
		Fixed:_____Value related:_____Time related:_____	Item			
158	C11.56	**OTHER**				
		Once off				
		Fixed:_____Value related:_____Time related:_____	Item			
BILL No. 1		**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**				

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION	Page No.			AMOUNT
		C12 EPWP CONDITIONS AND SPECIFICATIONS **EMPLOYMENT TARGETS** Employment Targets The contractor needs to provide a realistic estimate on the number of jobs that the project has the potential to create throughout the project duration as the project will be implemented using labour intensive construction methods on elements where it is economical and feasible for this construction method. No of jobs to be created = [Contractor to fill in an estimated number]				
159		Fixed:_____Value related:_____Time related:_____ Employment requirements Tenderers are advised that this contract will be subject to the Expanded Public Works Program (EPWP) aimed at alleviating and reducing unemployment. Tenderers must allow for any costs for the employment of unskilled labour as per the requirements of the EPWP program; 1. 55% of unskilled labour to be women 2. 55% of unskilled labour to be youth aged between 18 and 35 years 3. 2% of unskilled labour to be people living with disability 4. 100% Unskilled labour utilised must reside within the boundries of the Municipality Ward where this contract is executed, with preference to the local community closest or at the walking distance to the contract site. Wherever possible local skilled tradesmen are to be employed on this contract with the view to maximize utilization of local resources.	Item			
160		Fixed:_____Value related:_____Time related:_____ Labour rate and payment intervals commensurate to the daily task. When determining the rate, consideration should be given to that EPWP beneficiaries are mostly bread winners in their families, as the program intends alleviating poverty. There should also be consideration that the labour rate promotes creation of expanded number of jobs created and person days of work. Contractors should make endeavours to ensure that labourers particularly unskilled are remunerated on fortnight basis and prior notification be made should there be a shortfall on their wages. The labour rate for local unskilled shall also be determined in consideration of the location of the project, i.e. for projects implemented in urbanized municipalities will not be the same as that for rural municipalities.	Item			
161		Fixed:_____Value related:_____Time related:_____	Item			
BILL No. 1		**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**				

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION	Page No.		AMOUNT
		LABOUR INTENSIVE CONSTRUCTION			
		Labour Intensive Construction (LIC) method			
		On site there must a person(s) having competency in managing and implementing LIC methods.			
		*Foreman @ NQF Level 4 the Unit Standard on Implementing LIC methods on site.			
		*Site Agent/ Managers @ NQF level 5 the Unit Standard on Manage Labour- Intensive Skills Programme both must be CETA accredited			
162		Fixed:_____Value related:_____Time related:_____	Item		
		Labour Intensive Construction Method			
		Reference to be made to Guidelines for the implementation of Labour-Intensive Infrastructure projects under EPWP. "Scope of Work in Respect of Work Relating to the Expanded Public Works Programme (EPWP)"			
163		Fixed:_____Value related:_____Time related:_____	Item		
		RECORD KEEPING			
		Every employer must keep in the project site office the following minutes of site progress minutes; contractors' monthly site progress reports; accurately recorded attendance register; proof of payment as means to verify authenticity of data in the EPWP Beneficiary form submitted with payment certificates. Copies of submitted EPWP beneficiary data forms should also be kept in the site office.			
164		Fixed:_____Value related:_____Time related:_____	Item		
		The employer must keep this record for a period of at least three (3) years after the completion of the project in his/her office as the project site office would have been relocated.			
		This should be safely kept for job creation data verifications and periodical audits on projects conducted by National and Provincial Department of Public Works after one (1) or two (2) quarters of submitting captured EPWP Data to the National EPWP coordinating Department.			
165		Fixed:_____Value related:_____Time related:_____	Item		
		EPWP REPORTING as per EPWP DATA FORM			
		At the end of each month as part of site progress report and to be attached to every contractor's progress payment certificate; the contractor shall provide the principal agent & Public Works with a written records, as per EPWP data form; which will be reflecting, beneficiaries full name & surname; ID No and job description of labour employed by main contractor and sub-contractors on site. At the end of each month the contractor must submit the following documents to be attached to the Progress payment certificate: 1. EPWP monthly data collection form 2. Worker monthly payment upload 3. Worker monthly proof of payment i.e 3.1 Acknowledgement of receipt of payment or 3.2 Pay slips			
BILL No. 1		**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**			

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION	Page No.		AMOUNT
		3.3 Bank statement highlighted the workers paid 4. Worker monthly training form 5. Monthly attendance register 6. Certified copies of ID's (once off) 7. ID size photos (once off) 8. Proof of UIF 9. Proof of COIDA			
166		Fixed:_____Value related:_____Time related:_____	Item		
		EPWP PROMOTION EPWP signage board EPWP Program at the project level shall always be promoted through having the projects signage board that embrace EPWP logo at the bottom, correct measurement for this signage board will be provided by the project leader during the site handing over meeting. The standard "HELVETIVA MEDUIM " letters are to be used. Professional title to be 10 mm above line. Line thickness to be 8 mm thick. Space between bottom of the line and bottom of the lettering below the line must be 100 mm. Letter sizes are as follows: Helvetica medium 100 mm black upper case to be for project name and owner. Helvetica medium 75mm black upper case only to be used for professional titles. Project name and owner shall be black lettering on white background. Board sizes are as follows: Board to be minimum 2000mm from ground level and to be constructed from reinforced formed chromadek panels minimum 0,6mm thick chromadek. The contractor is responsible for ensuring that the project board remains neatly and safely erected for the full duration including maintenance period, after which the project board and post are to be dismantled and handed to the client in good order.			
167		Fixed:_____Value related:_____Time related:_____	Item		
		Branding of labour apparel Contractor & Sub-contractors' labourers shall be provided with EPWP branded Personal Protective Equipment (PPE), reflector vest with EPWP wording at the back is an ideal and cost-effective means of promoting program on site.			
168		Fixed:_____Value related:_____Time related:_____	Item		
		COMMUNITY LIAISON OFFICER (CLO) UTILISATION OF A COMMUNITY LIAISON OFFICER The Contractor shall allow for and pay any and all costs necessary for the engagement of the services of a Community Liaison Officer (CLO) for the full duration of this contract In the interest of providing a sound service to both the community and the Contractor, a CLO may only manage one project at a given time. A CLO will be identified by the local structures of the ward areas and appointed following fair and transparent interviewing process, to be conducted in the presence of local structures and the contractor representative, in order to assist the Contractor in the procurement of any local labour, etc. required for this project. The Contractor is to liaise with the CLO and afford him any assistance needed in ensuring sound working relations with the local community.			
BILL No. 1		**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**			

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 1
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		Key Responsibilities of the CLO are envisaged to include and not necessary be limited to: **RFP 17- 2024/25** 1. Assisting local leadership in conducting skills and resources audit which facilitates sourcing labour from within the ward or targeted areas for employment, as required by contractor. 2. Assisting in sourcing labour-only domestic sub-contractors and the procurement of materials from local resources, as required by the contractor. 3. Assisting the contractor by identifying areas of potential conflict and or threats to the project or to stakeholders in the project and recommend appropriate action to the contractor. 4. Assisting contractor and stakeholders in the project in the resolution of any conflict which may arise. 5. Establishing and ensuring that sufficient and open communication channels between the contractor and the work force are maintained. 6. Establish and ensuring that efficient and open communication channels between the contractor and the community are maintained 7. Identifying and reporting to the Contractor regarding issues where communication between stakeholder is necessary, recommend courses of action and facilitate such communications 8. Assisting the Contractor and the work force in the establishment of grievance procedures and necessary recommendations to the Contractor regarding the grievances and solution thereto. 9. Attending to site meetings and project implementation meetings as required by the Contractor and prepare periodic reports as may be required by the Contractor from time to time. 10. Attending to such other duties which are consistent with the functions of a CLO, as may be required by the Contractor from time to time. Tenderers are to price twice the rate of unskilled local labour rate against this item for any and all costs arising out of compliance with the foregoing and in the event of a Tenderer failing to price against this item or making inadequate financial provision against this item for compliance as aforesaid, then no claim for costs or additional cost incurred will be entertained by the Head: Health			
169		Fixed:_____Value related:_____Time related:_____ **SKILLS DEVELOPMENT ON SITE** Contractor in conforming to the object of EPWP that its beneficiaries need to be capacitated with skills that will render them employable in the future. It is then the responsibility of the Contractor that mandatory life skills are provided to 100% of workforce on site and on the job training to labourers from whom the potential for further development has been identified. The latter is not mandatory to all as it covers technical skills.	Item		
BILL No. 1		**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**			

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		Contractor should also make provision for the possibility that there might be local youth that will need to be placed on the project with an intention to be provided support towards improving their level of competency and productivity. Contractor shall also provide all necessary on-the-job training to targeted labour to enable such labour to master and advance on techniques required to undertake the work in accordance with requirements of the contract in a manner that does not compromise workers health and safety.			
170		Fixed:_____Value related:_____Time related:_____ **LABOUR ONLY Sub Contracting for local emerging enterprises** Tenderer's are advised that this contract is subject to the Expanded Public Works Programme (EPWP) and the following criteria will apply: African Equity Ownership a) The Tenderer is to allow for 5% of the total value of works to be undertaken by a Priority Population Group (PPG). This percentage excludes the costs of employing local unskilled labour. The allocation of this percentage from the Project, the screening of people, the selection of skills, will be for the Contractor to adjudicate. b) The Priority Population Group consists of women, youth and disabled people. c) The Contractor is to give first option for prospective PPGs from the surrounding areas of the Project. Should there be insufficient suitable people fitting the criteria of PPG's, the Contractor may hire people from further afield. This is to be done only after consultation with the Department of Works EPWP Co-Ordinator and the Community Liaison Officer (CLO). d) A Mentor is to be employed by the Contractor, in consultation with the Department of Works for the purposes of quality control and liaison between the Contractor and the selected PPGs on site. The mentor will be responsible for ensuring an acceptable level of quality workmanship and that such work carried out by the PPG's is executed within the time frames stipulated. In so far as possible, the Contractor is encouraged to expand the PPGs skills, knowledge and performance levels.	Item		
171		Fixed:_____Value related:_____Time related:_____ **TENDERER'S TO NOTE CONDITIONS** a) The contract to be entered into between the Contractor and the PPG's will be a LABOUR ONLY sub-contract. b) The Contractor will be responsible for ensuring that all materials for use by the PPG's in the works are to be on site timeously. The Contractor shall liaise with The Mentor and PPG to determine the nature and extent of materials required and the lead time necessary.	Item		
BILL No. 1		**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**			

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	c)	The Contractor shall be responsible for the overall programming of the Works, and he is to allow for monitoring the PPG's programme and progress.				
	d)	In conjunction with the Mentor, he is to allow for the supervision and mentoring (where necessary) of the PPG to ensure quality and adherence to standard building practice				
	e)	The Contractor is to allow for extra storage facilities on site for the PPG's tools and equipment.				
	f)	Basic tools shall be provided by the PPG's and where these are not available; the Contractor will supply him with the necessary tools and equipment and deduct the costs thereof from the interim claims made by the PPG.				
	g)	Work requiring specialized tools will be provided free of charge by the Contractor with the provision that these be returned upon completion of the Work.				
		CO-ORDINATION The Contractor is to co-ordinate the work of all the PPG's, Sub-Contractors and Nominated Sub- Contractors appointed direct by the Employer in such a manner and at all times as will suit the building programme and he is to allow adequate access, for the PPGs, where required, to carry out their work in an efficient manner as no claims for extras in this connection will be entertained.				
172		Fixed:_____Value related:_____Time related:_____	Item			
		ATTENDANCE The Contractor may allow for attendance upon the PPG's concerned to execute the work. The Contractor is to allow the PPG's the use of any scaffolding belonging to him while it remains so erected on the site. Where scaffolding is necessary for the use by any PPG and the Contractor has not erected any for his own use or has removed same after his own use, the Contractor shall supply sufficient scaffolding to the PPG to be erected and dismantled by the PPG and returned to the Contractor. This attendance upon PPG's to execute the work is to include for the scaffolding provisions as aforesaid and, in addition, is to include for co-operating to the fullest extent with all the parties, attending on off-loading materials, providing suitable storage for tools and materials used by the PPG's, use of general facilities such as latrines, etc., supply and cost of power, lighting, water and the like.				
173		Fixed:_____Value related:_____Time related:_____	Item			
		EPWP CONTRACT FOR LABOUR It is compulsory that shortly after the contractor and or sub-contractor has appointed local labour, the employment contract should be signed by both parties, prior to commencement with works on site. The employment contract forms part of the Ministerial Determination or from the regional EPWP officials. Each contract will lapse at the end of each financial year therefore requiring the Contractor to do a renewal of each contract should the need of employment still exist for that particular labourer.				
174		Fixed:_____Value related:_____Time related:_____	Item			
BILL No. 1		**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**				

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		EPWP SCOPE of WORK			
		Note:			
		Contractors are to price any item on the Bill of Quantities having below, bearing in mind that they are regarded as main sources of job creation, whether subcontracted or undertaken by the main contractor.			
		Elements on the scope of work where application of Labour-Intensive Construction methods are regarded feasible are as follows.			
		i) Excavating trenches for foundations and any other civil works with the depth not more than 1.5 m			
		ii) All masonry works which include concrete mixing on site; brickwork; plastering; screed works; jointing; etc.			
		iii) Painting, Plumbing, Ironmongery; roof cladding; glazing; tilling; carpentry; flooring; waterproofing; etc.			
175		Fixed:_____Value related:_____Time related:_____	Item		
		Note:			
		It is a general requirement of this contract that persons normally resident in the ward of the works (local labour) be given preference for employment on the contract. Provided, however, that should adequate and appropriate labour is not available within the ward, others may be employed subject to satisfactory proof being provided that every reasonable endeavour has been made to employ local labour (Local Sub-contractor(s); Skilled; Semi-Skilled and Unskilled). The contractor shall in consultation with the local community leaders with the purpose of negotiating with them regarding the utilization of local resources in the construction process. In this regard, the contractor shall furthermore give preference, wherever possible to the employment of single heads of households, women and youth as well as families declared as most indigent by War on Poverty/ Sukuma Sakhe program profiling process. The contractor should aim, in general, to maximise the involvement of the local community, however workers from other communities should not exceed 20% of all persons working on the project, where local employees possess skills at level of competency that meet contractors requirements.The Contractor and subcontractors will employ and utilise local labour within a 10 km radius from the sites of construction. Local specialised and general labour will be used for skilled and unskilled work, placing responsibility on the Contractors to provide the required on-site training to achieve a competent work force.			
		Payment for the labour-intensive component of the works			
		Payment for works identified in the Scope of Work as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the Scope of Work. Any non-payment for such works shall not relieve the Contractor in any way from his obligations either in contract or in delict.			
		Linkage of payment for labour-intensive component of works to submission of project data			
BILL No. 1		**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**			

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		The Contractor's payment invoices shall be accompanied by labour information for the corresponding period in a format specified by the employer. If the contractor chooses to delay submitting payment invoices, labour returns shall still be submitted as per frequency and timeframe stipulated by the Employer. The contractor's invoices shall not be paid until all pending labour information has been submitted. Applicable labour laws The current Ministerial Determination (also downloadable at www.epwp.gov.za) Expanded Public Works Programmes, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice, shall apply to works described in the scope of work as being labour-intensive and which are undertaken by unskilled or semi-skilled workers.				
176		Fixed:_____Value related:_____Time related:_____	Item		
177		**PENALTIES FOR SERIOUS VIOLATION**			
		Protection of site and environmental responsibilities			
		(a) Penalty for unnecessary removal or damage to trees:			
		(i) 2,600 mm girth or less	No.		-R5,000.00
		(ii) Greater than 2,600 mm, but less than 6,180 mm girth	No.		-R10,000.00
		(iii) Greater than 6,180 mm girth	No.		-R3,000.00
		(b) Penalty for serious violations:			
		(i) Hazardous chemical/oil spill and/or dumping non-approved sites	No.		-R10,000.00
		(ii) General damage to sensitive environments	No.		-R5,000.00
		(iii) Damage to cultural and historical sites	No.		-R5,000.00
		(iv) Pollution of water sources	No.		-R10,000.00
		(v) Unauthorized blasting activities	No.		-R5,000.00
		(vi) Uncontrolled/unmanaged erosion (depending on environmental impacts, plus rehabilitation at Contractor's cost)	No.		-R1,000.00
		(viii) Damage to sensitive vegetation within "no-go" areas (depending on vegetation damaged, plus rehabilitation thereof at Contractor's cost)			-R5,000.00
BILL No. 1		**Bill No. 1 PRELIMINARIES AND GENERAL carried to collection**			

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	(c)	Penalty for less serious violations:				
		(i) Littering on site	No.		-R1,000.00	
		(ii) Lighting of illegal fires on site	No.		-R1,000.00	
		(iii) Persistent or un-repaired fuel and oil leaks	No.		-R500.00	
		(iv) Any person related to the Contractor's operations found within the designated "no-go" areas	No.		-R3,000.00	
		(v) Excess dust or excess noise emanating from site	No.		-R1,000.00	
		(vi) Dumping of milled material in side drains or on grassed areas	No.		-R1,000.00	
		(vii) Possession or use of intoxicating substances on site	No.		-R500.00	
BILL No. 1		Bill No. 1 PRELIMINARIES AND GENERAL carried to collection				

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BILL No. 1	Bill No. 1 PRELIMINARIES AND GENERAL Carried Forward				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 1
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		COLLECTION			
		Total Brought Forward from Page No.	120		
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			122		
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			124		
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BILL No. 1		Bill No. 1 PRELIMINARIES AND GENERAL carried to Summary			

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 2
Item No.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	BILL NO. 2 **ALTERATION & REMOVAL WORKS** **SUPPLEMENTARY PREAMBLES** **REMOVAL OF EXISTING WORK** **SPECIAL PREAMBLES** **REMOVE** The term "remove" shall mean breaking out as required to remove the item described, disposal of all rubble and old materials, and making good all work disturbed to match existing. Remove walls or partitions shall mean breaking down complete to structure of walls, etc. and trimming up edges and disposal of rubble and all old materials from site (old materials as elsewhere described). Prices shall include for protecting adjacent surfaces against damage and .repairing such damage should it occur. **OLD MATERIAL BECOMES THE PROPERTY OF THE CONTRACTOR** Old material from the alterations except where described for re-use or handing over, will become the property of the Contractor for which Credit must be allowed. **OLD MATERIAL MUST BE CARTED AWAY** Old material from the alterations except where described for re-use or handing over, as well as all debris must regularly be carted away from site and not be accumulated on site. **OLD MATERIAL MAY NOT BE RE-USED** No old material may be re-used for new work except where it is specifically described as set aside for re-use. **DISPOSAL OF DEBRIS, ETC** The Contractor shall be responsible for the removal from the site of all materials, debris and rubbish resulting from the . alterations/demolitions **GENERAL** Damage To Persons And Property All demolitions, pulling down, alterations etc., are to be carried out carefully and in the safest possible manner. The Contractor is to . ascertain that all alterations are structurally practicable and safe and he will be held solely responsible for any damage to property or work adjoining the pulling down and must make good at his own expense Programming Of The Works The programming of demolitions and alterations will have to be co-ordinated with the Principal Agent.				
BILL No. 2	**Bill No. 2 ALTERATION & REMOVAL WORKS carried to collection**				

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Care Of Utility Services Special care is to be exercised not to interfere with any drains, electrical supply, data, or telephone cables and fittings to same. Notice is to be given to the Principal Agent when any d isconnections, removal of wires etc. are necessary and the Contractor is to afford every facility to the workmen carrying out this work. Permission must be obtained from the Principal Agent before any services are cut off at any time. Temporary Shoring Etc. Prices are to include for providing, fixing and maintaining in position generally as required all temporary shoring, needling, strutting etc., necessary for the proper execution of the alterations in this Contract and for removing same. Supervision The demolition work is to be executed in a workmanlike, practical and safe manner under the continual supervision of a competent foremen. Protection of existing structures/features etc. The contractor's rates is to allow for provision for protecting all existing structures, walls, trees etc. within the vicinity of works during construction. Reinstatement of existing areas The contractor to note as per architects specifications that areas worked on and around are to be reinstated to its original condition and state where specified. Treatment of cut surfaces The contractor's rates is to allow for treating all cut surfaces of timber/wooden components with approved enseal. **REMOVAL OF EXISTING WORK** Prices for removal must include for cutting and breaking down into manageable sizes bearing in mind the restrictions which apply to means of disposal. Contractors, where possible, must provide a credit to the Employer for all items that may have any salvage value. Tenderers are advised to study the Model Preambles for Trades before pricing this bill. **TEMPORARY BARRIERS, SCREENS, ETC** **Temporary barriers, screens, hoarding, etc. including removal and making good upon completion**				
1		Fencing 1.8m high to Principal Agents Approval including netting fixed to fence, corners, stays etc.	m	200		
2		Extra over fencing for single pedestrian gate 900mm x 1800mm high including frame, hinges, lockset and handles to temporary fencing	No	1		
		CONCRETE **Breaking through existing in-situ slab for new apron**				
3		Break out and remove reinforced concrete	m^3	85		
BILL No. 2		Bill No. 2 ALTERATION & REMOVAL WORKS carried to collection				

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		CLEANING EXISTING WALLS				
		Cleaning down existing face brick and stone surfaces Thoroughly clean down existing surfaces by means of high pressure water jet (minimum 250 bar) and chemicals, remove all flaking substances, fungal marks, grease and all other contaminants, etc. as described in the specification				
4		Vertical and horizontal face brickwork and stone cladding	m²	414		
		ROOF COVERING/STRUCTURE				
		Examing of existing roof and making good				
5		Examining roofs check for roof leaks, check and fix loose timber trusses, supports, rafters including ridge cappings and securing loose nails, replacing missing or defective screws and/or nails with 120mm galvanised steel drive screws, making good holes with approved sealant or waterproofing as specified by the architect to render watertight and leave in good order	m²	177		
		Carefully taking down and removing roofs				
6		Roofs including thatch and purlin laths while securing existing trusses in place	m²	177		
7		Treat existing trusses measured net with two coats Powafix or similar and approved creosote protective coating	m²	177		
		Carefully taking down and removing fascias, bargeboards, etc.				
8		Fascias and bargeboards.	m	89		
		CEILINGS, PARTITIONS & ACCESS FLOORING				
		Carefully take down/out and remove ceilings including brandering, hangers, etc.				
9		Ceilings	m²	169		
10		Cornice	m	89		
		METALWORK				
		Carefully taking down and removing				
11		Metal fencing including posts etc.	m²	130		
		PLUMBING & DRAINAGE				
		Carefully taking out and remove sanitary fittings, taps, waste fittings, etc including making safe, disconnecting piping, cutting back, sealing exposed water supply pipes and waste pipes etc. and removing				
12		Gutters and down pipes	m	115		
		PAVING AND KERBING				
		Taking out and remove external paving				
13		Paving bricks/blocks, including sand bedding	m²	338		
14		Concrete kerbing including haunching and bedding	m	450		
BILL No. 2		**Bill No. 2 ALTERATION & REMOVAL WORKS carried to collection**				

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		BUILDING UP OPENINGS				
		Sundries	m	4		
15		Cutting/grinding through existing walls where cracks have occurred in preparation for new sealant (sealant measured elsewhere)				
16		Cutting and toothing new brickwork to existing	m²	1		
		BUDGETARY ALLOWANCES				
		The following Budgetary Allowances are for work to be executed by the Sub-Contractor or specialist suppliers and priced at Bill rates or rates to be agreed and to be used as directed by the Principal Agent and to be deducted in whole or in part if not required				
17		Provide the sum of R50 000.00 (Fifty Thousand) for breaking down/demolishing and removing existing structures from parking lot as directed by architect	Item			R50,000.00
18		Provide the sum of R50 000.00 (Fifty Thousand) for additional general work sill to be designed and will/may be carried out by the contractor	Item			R50,000.00
BILL No. 2		Bill No. 2 ALTERATION & REMOVAL WORKS carried to collection				

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		COLLECTION				
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BILL No. 2		Bill No. 2 ALTERATION & REMOVAL WORKS carried to collection				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 3
Item No.	**DESCRIPTION**	**UNIT**	**QUANTITY**	**RATE**	**AMOUNT**
	BILL NO. 3				
	EARTHWORKS				
	SUPPLEMENTARY PREAMBLES				
	Nature of material to be excavated				
	A geotechnical investigation has been carried out on site and the report is available from the Engineers. The site is located on transported sandy and gravelly soils that are underlain by quartzite bedrock. Descriptions of excavations shall be deemed to include all ground conditions classifiable as "earth" described in the above report and where conditions of a more difficult character are indicated these are separately measured.				
	Carting away of excavated material				
	Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site and disposing of same from site.				
	Subterranean water				
	No information regarding subterranean water is available. The tenderer must acquaint himself of the presence and depth of subterranean water and allow therefor in his prices.				
	Filling and layer work materials				
	References such as "G1", "G2", etc and "C1", "C2", etc in descriptions of filling and layer work materials refer to corresponding references in the document "Guidelines for Road Construction Materials. TRH 14 : 1985" compiled by the Committee of State Road Authorities and the properties set out therein for each kind shall be applicable to the respective materials described hereinafter				
	Testing				
	Descriptions & prices for earth filling, compaction, etc. are deemed to include for all necessary density and other testing required in accordance with the SABS 1200 series and Engineer's specifications				
	EXCAVATION, FILLING, ETC. OTHER THAN BULK				
	Excavation in earth not exceeding 2m deep				
1	Holes	m^3	16		
2	Trenches	m^3	2		
3	Trenches	m^3	11		
4	Reduced levels	m^3	18		
	Extra over trench and hole excavations in earth for excavation in				
5	Soft rock	m^3	5		
6	Hard rock	m^3	10		
BILL No. 3	**Bill No. 3 EARTHWORKS carried to collection**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 3
ITEM NO	**PAYMENT REFERS TO**	**DESCRIPTION**	**UNIT**	**QUANTITY**	**RATE**	**AMOUNT**
		Extra over all excavations for carting away				
7		Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m^3	150		
		Risk of collapse of excavations				
8		Sides of trench and hole excavations not exceeding 1,5m deep	m^2	10		
		Keeping excavations free of water				
9		Keeping excavations free of all water other than subterranean water	Item	1		
		Selected earth filling obtained from the excavations and/or prescribed stock piles on site (compacted to 98% MDD				
10		Backfilling to trenches, holes, etc.	m^3	50		
		Earth filling supplied by the contractor of G5 quality material in layers of 150mm thick compacted to 95% MDD				
11		Under floors, pavings, etc.	m^3	23		
		Compaction of Surfaces				
12		Compaction of ground surface under floors etc. including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% MDD	m^2	337		
13		Compaction of ground surface in trenches, holes etc. including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% MDD	m^2	53		
		Prescribed density tests on filling				
14		Modified MDD test	No	3		
		SOIL POISONING				
		Weedkiller (active ingredients metalaclor 102,8 g/l, terbitilasien 248,6 g/l and atrasien 248,6 g/l) mixed in the proportion of 100 ml weedkiller to 100 l water and applied at a rate of 10 l/m×½				
		Soil insecticide in accordance with SANS 5859				
		Approved brand of anti-termite soil poison & weedkiller is to be applied by a Registered Company and guaranteed for ten years				
15		Under floors, paving, etc. including forming and poisoning shallow furrows against foundation walls etc., filling in furrows and ramming	m^2	180		
16		To bottoms and sides of trenches, holes, raft foundations etc.	m^2	377		
BILL No. 3		**Bill No. 3 EARTHWORKS carried to Summary**				

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ITEM NO	**PAYMENT REFERS TO**	**DESCRIPTION**	**UNIT**	**QUANTITY**	**RATE**	**AMOUNT**
		EARTHWORKS				
		COLLECTION				
		Total Brought Forward from Page No.	137 138			
BILL No. 3		**Bill No. 3 EARTHWORKS carried to Summary**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 4
Item No.	**DESCRIPTION**	**UNIT**	**QUANTITY**	**RATE**	**AMOUNT**
	BILL NO. 4 **CONCRETE, FORMWORK AND REINFORCEMENT** **SUPPLEMENTARY PREAMBLES** **General** All concrete, formwork and reinforcement to be done according to SABS 1200G. Components cast against excavated surfaces have not been measured or described separately and the Contractor is to ensure adequate allowance for casting against excavated surfaces are made within the relevant items. Cost of Tests The costs of making, storing and testing of concrete test cubes as required under clause 7 "Tests" of SABS 1200 G shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the Representative/Agent. The testing shall be undertaken by an independent firm or institution nominated by the contractor to the approval of the Representative/Agent. (Test cubes are measured separately) Formwork All smooth formwork to be in accordance with SABS 1200G - 5.2.1b. Tolerance to concrete surfaces to have a degree of Accuracy II in accordance with SABS 1200 G - 6.1.1b. Descriptions of formwork shall be deemed to include use and waste only (except where described as "left in" or "permanent"), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy release during stripping and for re-conditioning as necessary before re-use. The vertical strutting shall be carried down to such construction as is sufficiently strong to afford the required support without damage and shall remain in position until the newly constructed work is able to support itself. Formwork to soffits of solid slabs, etc. shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described. Formwork to sides of bases, ground beams, etc will only be measured where it is prescribed by the Representative/Agent, for design reasons. Formwork necessitated by irregularity or collapse of excavated faces will not be measured and the cost thereof shall be deemed to be included in the allowance for taking the risk of collapse of the sides of the excavations, provision for which is made in "Earthworks". A 13mm x 13mm chamfer shall be provided on all visible corners for off-shutter concrete in collaboration with the Principal Agent. Chamfers may only be formed with rigid type material. Where required by the Principal Agent or his representative, vibration of concrete shall be included in the rates.				
BILL No. 4	**Bill No. 4 CONCRETE, FORMWORK AND REINFORCEMENT carried to collection**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 4
ITEM NO	PAYMENT REFERS TO / DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	CONCRETE CAST AGAINST EXCAVATED SURFACES				
	15MPa/20mm Concrete				
1	Surface blinding under footings and bases	m^3	5		
	Concrete 30 MPa/19mm				
2	Aprons	m^3	18		
	REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
	Concrete 30 MPa/19mm				
3	Raft foundation on waterproofing	m^3	40		
4	Bases	m^3	20		
5	Strip footings	m^3	2		
6	Stub columns	m^3	2		
7	Ramps	m^3	1		
	Concrete test cubes				
8	Making and testing , set of three 150 x 150 x 150mm concrete strength test cubes	No	2		
9	Surface bed slabs	m^2	342		
10	Ramps	m^2	5		
	Wire brushing of concrete aprons to expose aggregate				
11	Wiring brushing to aprons	m^2	180		
	25MPa non shrink grout				
12	Bedding approximately 10mm thick under 400 x 270mm base plate including chamfered edges all round	No	16		
	ROUGH FORMWORK (DEGREE OF ACCURACY II)				
	Rough formwork to sides				
13	Edges, risers, ends, reveals,etc. not exceeding 300mm high or wide	m	217		
	Rough formwork to sides				
14	Sides of stub columns	m^2	12		
	MOVEMENT JOINTS ETC.				
	10mm Expansion joints formed of bitumen impregnated soft board				
15	Between vertical concrete and brick surfaces not exceeding 300 mm high or wide	m	65		
16	Ditto but in walls vertically where cracks have occured	m	4		
	Isolation joint between concrete and brick surfaces with 10mm lightweight, cross-linked, closed cell, expanded Polyethylene joint former with hinged temporary blocking piece including sealing with approved sealer				
17	Joints not exceeding 300mmm wide	m	16		
BILL No. 4	**Bill No. 4 CONCRETE, FORMWORK AND REINFORCEMENT carried to collection**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 4
ITEM NO	PAYMENT REFERS TO / DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
18	Ditto but placed vertically and sealed both sides	m	180		
19	Saw cut joints				
20	45mm Deep x 3mm wide saw cut joints in top of concrete	m	52		
	REINFORCEMENT				
	Provision for high tensile steel reinforcement				
22	Varying diameters in bases and structural concrete work	t	4		
	Mesh reinforcement				
23	Mesh reinforcement 395 laid in slabs with 300mm wide side and end laps (measured net)	m^2	340		
BILL No. 4	Bill No. 4 CONCRETE, FORMWORK AND REINFORCEMENT to Summary				

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CONTRACT NUMBER: G540/2024		CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 4
ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		CONCRETE, FORMWORK AND REINFORCEMENT				
		COLLECTION				
		Total Brought Forward from Page No.	140			
			141			
			142			
BILL No. 4		**Bill No. 4 CONCRETE, FORMWORK AND REINFORCEMENT carried to Summary**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 5
Item No.	**DESCRIPTION**	**UNIT**	**QUANTITY**	**RATE**	**AMOUNT**
	BILL NO. 5 **MASONRY** **SUPPLEMENTARY PREAMBLES** General All masonry units shall comply with SANS 227:2007 and SANS 1 575:2007 Brickwork shall be in accordance with SANS 0164. Minimum crushing strength of all load bearing bricks shall be 14MPa. The nominal compressive strength for face bricks shall be not less than 17MPa Class 1 Mortar mix Sizes in descriptions Where sizes in descriptions are given in brick units, "one brick" shall represent the length and "half brick" the width of a brick. Wall ties Descriptions of solid walls and cavity walls shall be deemed to include metal wall ties complying with SABS 28 and of the butterfly or of the modified PWD type, of the required length with each end built at least 75mm deep into brickwork, spaced at not more than 1m centres alternatively to every third course of brickwork. Descriptions of solid walls (except if built in English bond) and cavity walls shall be deemed to include metal wall ties complying with SABS 28 and of the butterfly or of the modified PWD type, of the required length with each end built at least 75mm deep into brickwork, spaced at not more than 1m centres alternatively to every third course of brickwork. Face bricks Bricks shall be ordered timeously to obtain uniformity in size and colour. Excessive suction in clay bricks should be controlled by wetting the bricks before laying. Corners and other advanced work shall be raked back and not raised above the general level of the remaining masonry work by more than one metre at any one lift. Face bricks to be kept free from mortar droppings as the work continues. Reinforcing and brickforce to face brick lintels to have steel hangers to be built into brickwork above header course with R8 steel rod reinforcing for three brick courses above the lintel. All joints in the header course shall be solidly filled with mortar. Pointing Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc. Strutting/shoring of brickwork All cost for strutting/shoring of new brickwork while compacting under the ground floor slab shall be for the account of the contractor.				
BILL No. 5	**Bill No. 5 MASONRY carried to collection**				

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CONTRACT NUMBER: G540/2024		CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 5
ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		FOUNDATIONS Contractor shall support all foundation brickwork while compacting fill material under floors **Brickwork of NFX bricks in class II mortar**				
1		One brick wall in foundations including brick reinforcement every course	m^2	24		
		SUPERSTRUCTURE **Brickwork of NFP bricks in class II mortar**				
2		One brick walls including brick reinforcement every fourth course and hoop iron tie fixings to columns/brickwork as directed	m^2	208		
3		One and a half brick walls including brick reinforcement every fourth course and hoop iron tie fixings to columns/brickwork as directed	m^2	16		
4		One brick wall in beam filling	m	46		
5		460 x 460mm Brick piers with a 110 x 110mm 30mpa reinforced concrete cavity infill	No	14		
6		460 x 460mm Brick piers	No	3		
7		Extra over one brick walls for sloping, cutting and shaping brickwork as per architects details and drawings to bottom section of chimney structure	m^2	9		
		Prestressed fabricated lintels				
8		100 x 70mm Lintels in lengths not exceeding 3m long	m	8		
		FACE BRICKWORK **External facebrick (PC R6000/1000 delivered to site, excluding (VAT) pointed with square recessed horizontal and vertical joints**				
9		Extra over for face brickwork	m^2	145		
10		Brick-on-edge header course lintel 106mm wide pointed on one face and on soffit to match face brick of external walls, all as per Architects detail and specification	m	6		
11		Brick-on-edge header course sloping window sill, approximately 222mm wide pointed on one face and top, all as per Architects detail and specification	m	6		
		STONEWORK **WALL CLADDING** **Natural stone wall cladding to match existing - Allow for pricing of fixing on and labour only to cart and install - Material to be sourced locally from site and supplied free of charge to contractor. Refer to architects finishing schedules. Walls to match existing pattern and jointing detail**				
12		Extra over brick wall for cladding	m^2	105		
BILL No. 5		Bill No. 5 MASONRY carried to Collection				

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		MASONRY				
		COLLECTION				
		Total Brought Forward from Page No.	144 145			
BILL No. 5		**Bill No. 5 MASONRY carried to Summary**				

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Item No.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	BILL No. 6				
	WATERPROOFING				
	DAMP-PROOFING OF WALLS AND FLOORS				
	Horizontal & vertical damp-proof course to be of black polyethylene sheeting complying with SANS specifications 952 type B having embossed surface 0.38mm thick (250 microns) & manufactured in widths of less than 1000mm. Lapped minimum 150mm at all joints, & ensure similarly lapped over green under-floor damp proof membrane sufficiently				
1	In walls, cills etc (measured nett)	m^2	17		
	One layer of 250 micron green Polyethylene sheeting to comply with SANS 952 Type C with minimum 150mm lap to DPM including sealing laps with approved tape				
2	250 micron under surface beds, ramps etc.	m^2	307		
3	Under apron slabs	m^2	180		
	PROTECTIVE WATERPROOFING TO WALLS				
	Prepare and apply two coats protective bitumen waterproofing to brick walls				
4	Vertically to walls	m^2	105		
	JOINT SEALANTS ETC				
	Clear silicone sealing compound				
5	Point between steel windows and door frames and face of brickwork	m	27		
	Two part polysulphide sealing compound including backing cord, bond breaker, primer, etc.				
6	3mm Wide x 10mm deep in saw cut joint	m	52		
7	12mm Wide x 50mm deep in walls where cracks have occured	m	4		
8	20 x 20mm Deep in isolation joint	m	16		
9	5mm Wide x 5mm Deep in joints between tiles and sanitary fittings	m	1		
10	20mm Wide x 20mm deep in junctions between concrete soffits and brickwalls	m	65		
	BUDGETARY ALLOWANCES				
	The following Budgetary Allowances are for work to be e xecuted by the Sub-Contractor or specialist suppliers and priced at Bill rates or rates to be agreed and to be used as directed by the Principal Agent and to be deducted in whole or in part if not required				
11	Provide the sum of R15 000.00 (Fifteen Thousand) for waterproofing requirements to existing buildings where leaking and water issues have arised	Item		R15,000.00	R15,000.00
BILL No. 6	**Bill No. 6 WATERPROOFING carried to collection**				

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Item No.	DESCRIPTION	UNIT	QUANTITY		
	BILL NO. 7 **ROOF COVERINGS** **SUPPLEMENTARY PREAMBLES** Harvey roof tiles Contractor to note that Harvey roof tiles to be installed by a certified and accredited Harvey roof tile installer/contractor **ROOF SHEETING** **Roofing sheeting shall be Kliplok 404 (or similar and approved) concealed fix profile roll-formed in continuous lengths from certified steel chromadek Z200 0.58mm complying with ISQ 550 (3T) and fixed to steel / timber purlins/girts using KL65 clips (aluminium KL65 clips to be used in conjunction with aluminium sheeting) and class 3 fasteners, in strict accordance with manufacturer"s specifications by an Approved Contractor. A written and approved five year guarantee of water-tightness shall be issued after approval of roofs by the manufacturer.**				
1	Roof covering with pitch not exceeding 25 degrees	m^2	444		
	TILES **Harvey Thatch Roof Tiles or Similar and approved with a galvanised substrate coated with a natural stone finish on 38 x 38mm SA Pine batten trusses @ 360 C/C on timber roof structure (roof structure and trusses elsewhere measured) nailed on an underlay of 150 micron polyethylene sheeting or equal and approved with 150mm sealed laps as per manufacturers instructions**				
2	Roof coverings with pitches exceeding 25 degrees but not exceeding 50 degrees	m^2	732		
3	Circular cutting	m	10		
4	Ridge tiles to match roofing tiles bedded and pointed in 1:3 cement mortar tinted to match tile colour	m	46		
5	Hip tiles to match roofing tiles bedded and pointed in 1:3 cement mortar tinted to match tile colour including 200mm wide strip of 375 micron embossed damp proof **Flashings shall be to the manufacturer's standards or similar approved Galvanized steel Z200 0.58mm with a patent finish to one side with a Pebble Grey backing coat and fixed to the sheeting with S10 brackets or, sliding brackets at apex where roof sheets are 30m or longer, to obviate any direct fixing perforations. Prior to flashings being fixed, all troughs at the apex shall be stop-ended to the full depth of the sheet in order to prevent any penetration of wind driven water. The trough shall be lipped at the eaves end to form a drip. Transverse flashing flanges shall be form a drip. Transverse flashing flanges shall be notched to the sheet profile where necessary**	m	41		
6	Headwall/Counter Flash 375mm girth 3 times bent and notched on site to suit roof profile (on sloping roof)	m	141		
7	Sidewall Flash 408mm girth 2 times bent (on sloping side)	m	4		
BILL No. 7	Bill No. 7 ROOF COVERINGS carried to collection				

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
8		Serrated top end closer 700mm girth	m	141		
		ROOF AND WALL INSULATION				
		100mm Isover Saint-Gobain or similar and approved factorylite non-combustible flexible glass wool insulation with metalized foil backing on underside				
9		Insulation laid taut over rafters (at approximately 500mm centres) and fixed concurrent with covering/tiling battens, purlins, etc, including taped laps	m^2	1176		
BILL No. 7		Bill No. 7 Roof carried to Collection				

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		ROOF COVERINGS				
		COLLECTION				
		Total Brought Forward from Page No.	148 149			
BILL No. 7		Bill No. 7 ROOF COVERINGS carried to Summary				

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Item No.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	BILL NO. 8				
	CARPENTRY & JOINERY				
	SUPPLEMENTARY PREAMBLES				
	Particle board				
	Particle board shall comply with the following specifications:				
	a) SABS 1300 Particle board: exterior and flooring type				
	b) SABS 1301 Particle board: interior type				
	Joinery				
	Descriptions of frames shall be deemed to include frames, transomes, mullions, rails, etc.				
	Descriptions of hardwood joinery shall be deemed to include pelleting of bolt holes.				
	Fixing				
	Items described as "nailed" shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete.				
	Cappings				
	All timber beams, columns should include for metal capping's to prevent any splitting of timber.				
	Treatment of cut surfaces				
	The contractor's rates is to allow for treating all cut surfaces of timber/wooden components with approved enseal.				
	TIMBER WORK, ETC.				
	Timber columns to be placed in bases, and concrete cast/poured around it in bases as per engineers specifications (Concrete bases measured elsewhere)				
	SA Pine or similar and approved columns, beams and laths bolted in place including bolts, plates, connectors, etc. Timber columns to be treated in three coats Plascon FDR Woodcare preservative or similar and approved				
1	159mm Diameter columns	m	10		
	DOORS, ETC				
	Contractor to allow for undercutting of internal doors when pricing				
	TDM or similar and approved Semi solid door with hardwood edges all round and masonite finish to both sides to Architects specification				
2	Single door, size approximately 815 x 2032mm	No	2		
	EAVES , VERGES , ETC				
	Fascia and barge boards				
3	10 x 225mm Fascias boards including galvanised steel H-profile jointing strips	m	141		
4	10 x 225mm Barge boards including galvanised steel H-profile jointing strips	m	19		
BILL No. 8	Bill No. 8 CARPENTRY & JOINERY carried to collection				

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		SKIRTINGS				
		Hardwood				
5		100 x 16mm Skirting with 5mm rounded top corner screwed and plugged	m	32		
		JOINERY				
		COUNTER TOPS				
6		32mm Thick PG Bison Formica or similar and approved top with 200mm deep x 32mm thick Formica down stand at front and on exposed side, with exposed side edges and a preformed bullnose edge , approximately 600mm wide including silicon sealant, etc. and polishing all exposed edges with 45 degree mitred joint with 2-3mm bevel on surface edge complete. Tops and down stands to be fixed to 25 x 50mm mild steel 2.5mm thick hollow section frame, finished in one coat red oxide factory supplied metal primer paint with one coat Plascon or similar and approved merit undercoat and two coats enamel paint (colour : black), at maximum 900mm centres with lugs and fixed to walls with chemical anchor bolts at suitable centres using dabs of 100% clear silicone adhesive, with all joints filled with matching polyester resin glue, all in accordance with manufacturer's and architect's specifications	m	14		
7		Extra over item for cutting out openings in vanity tops not exceeding 50mm diameter	No	1		
BILL No. 8		**Bill No. 8 CARPENTRY & JOINERY carried to collection**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 8
ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		CARPENTRY & JOINERY				
		COLLECTION				
		Total Brought Forward from Page No.	151			
			152			
BILL No. 8		Bill No. 8 CARPENTRY & JOINERY carried to Collection				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 9
Item No.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	BILL NO. 9				
	CEILINGS				
	SUPPLEMENTARY PREAMBLES				
	THATCHED CEILING				
	"Correx" Cape Reed or similar and approved ceiling boards 1220 x 2440 x 10mm in size nailed directly on roof timber members above using binding strips (timber roof measured separately), ensuring all nails/screws are driven all the way into binding strip as per architects and manufacturers specifications, treated in Micon coating Thatchsayf or similar and approved finish including all nails, strips connectors etc.				
1	Thatched ceiling fixed to underside of roof structure	m^2	381		
	SUSPENDED CEILINGS				
	600 x 1200 x 9mm Thick Pelican or similar and approved Econolite foil backed ceiling tiles with vinyl face finish laid onto Pelican Econogrid pre-painted white exposed tee grid system including fire safety punch outs, with main tees suspended by means of 19 x 0.5mm GMS strap/2.5mm wire hangers at 1200mm centres as per manufacturers specifications				
2	Ceilings suspended not exceeding 1m below concrete soffits/roof structure	m^2	43		
	Edge trim to flush plastered ceilings				
3	Pelican system or similar and approved PS1 aluminium shadow line ceiling trim fixed to walls	m	27		
BILL No. 9	**Bill No. 9 CEILING carried to summary**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEWLAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 10
Item No.	**DESCRIPTION**	**UNIT**	**QUANTITY**	**RATE**	**AMOUNT**
	BILL NO. 10				
	IRONMONGERY				
	SUPPLEMENTARY PREAMBLES				
	Finishes to ironmongery				
	Where applicable finishes to ironmongery are indicated by suffixes in accordance with the following list: SS Stainless Steel BS Satin bronze lacquered CH Chromium plated SC Satin chromium plated SE Silver enamelled GE Grey enamelled AS Anodised silver AB Anodised bronze AG Anodised gold ABL Anodised black PB Polished brass PL Polished and lacquered PT Epoxy coated SD Sanded				
	Unless otherwise stated ironmongery is to be the manufacture's standard corrosion resistant ironmongery for the particular product ranges.				
	Installed to Architects specification				
	Surface finishes should be restricted to polished chrome or satin chrome on all approved ironmongery for external and internal doors " unless otherwise stated.				
	LOCK SETS, HANDLES, CYLINDERS, FLUSH BOLTS ETC.				
1	Union/Assa Abloy Sable lever door handles per pair (Code - AL65A63) or similar and approved	No	2		
2	Union/Assa Abloy morticed lock (Code - 23315) Euro cylinder sash lock or similar and approved	No	2		
3	Union/Assa Abloy (Code - 23315) Euro cylinder sash 2 x 18 Euro profile double cylinder complete with three keys or similar and approved	No	2		
4	152 x 76mm modular backplate suitable for Euro profile cylinder Lock or similar and approved	No	2		
	SUNDRIES				
5	Union/Assa Abloy Euro profile double cylinder complete (Code - AL8730AS) floor mounted door stop to each door leaf or similar and approved	No	2		
	BUDGETARY ALLOWANCES				
	The following Budgetary Allowances are for work to be executed by the Main Contractor or specialist suppliers and priced at Bill rates or rates to be agreed.				
6	Provide the sum of R30 000.00 (Thirty Thousand Rand) for the supply, delivery and installation of general and fire signage	Item		R30,000.00	R30,000.00
BILL No. 10	**Bill No. 10 IRONMONGERY carried to summary**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 11
Item No.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	BILL NO. 11				
	METALWORK				
	PRESSED STEEL DOOR FRAMES (SANS 1129)				
	1,2mm Mild steel double rebated single door frame suitable for 110mm/220mm walls. Door frame to be supplied complete with 1 pair hinges, lugs, strike plate and rubber buffers as supplied by the manufacturer.				
1	Door frame for door size 815 x 2032mm with two 100mm steel butts and slotted for lock strike	No	2		
	MILD STEEL WINDOWS				
	Standard profile steel windows with 4mm thick clear float glass in black neoprene gaskets with matching aluminium square beading plugged to brickwork, concrete, etc				
2	Window overall size 1511 x 654mm high	No	4		
	BURGLAR BARS				
	Burglar bars to windows consisting of frame of40mm x 10mm thick galvanised mild steel flat bar bolted to internal reveal of brick wall, with bars of 12mm Diameter mild steel round bar welded to flat bar frame at maximum 120mm centres All powder coated (colour to Architects specification)				
3	Burglar bars for window size 1511 x 654mm high	No	4		
	BLINDS				
	Note: The pricing of all blinds to include all necessary support work				
	Canvas Corporation or sirmilar and approved frameless exterior quality UV resistant roller blinds fixed to purpose made steel supports above including all connections etc.				
4	Blinds for opening size approximately 3660 x 2645mm high	No	7		
	BRAAI STRUCTURE				
	2 x Jet Master or equal and approved 1200 built in UNI mild steel braai structure with flue and mild steel rotating cowl including nickel-plated grill, charcoal tray, light fittings and slide-in and under reinforced door with handle and locking eyes				
5	Braai unit	No	2		
	SUNDRIES				
	Holding down bolts				
6	M16 HVU chemical anchor bolts 400mm long including nuts and washers	No	64		
	BUDGETARY ALLOWANCES				
	The following Budgetary Allowances are for work to be executed by the Main Contractor or specialist suppliers and priced at Bill rates or rates to be agreed.				
7	Provide the sum of R30 000.00 (Thirty Thousand) for chimney cowl and general items still to be specified etc.	Item		R30,000.00	R30,000.00
BILL No. 11	**Bill No. 11 METALWORK carried to Summary**				

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Item No.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	BILL NO. 12 **STRUCTURAL WORK** **SUPPLEMENTARY PREAMBLES** 1. Shop drawings The contractor will be required to prepare shop details for the work which must be submitted to the Engineer for approval before fabrication is started. Approval of shop details by the Engineer will include the following: a) Examination of member sizes for consistency with design requirements, b) Examination of all connections designed and/or detailed by the fabricator, for adequacy of load trasference, c) Approval of leading dimensions which are taken to include such dimensions as may influence the design (eg, depth of trusses and girders) or which may grossly affect site programme (eg, truss spans and stanchion heights). Not withstanding any approval of these details, the contractor shall remain responsible for ensuring that the dimensions, details and workmanship result in the correct assembly of the work. 2. Material and workmanship The steelwork is to be fabricated from mild steel to SANS 1431 Grade 350W. The whole of the fabrication and workmanship generally is to be in strict accordance with SANS 0162-1984 as amended. The material shall be of best quality throughout, free from loose rust or millscale, true to thickness and profile throughout and of the section and mass specified subject to a 2% tolerance for rolling margin. Consideration will be given to any detail variation which the contractor may wish to make with the view to the simplification of either fabrication, delivery or erection. Substitutions must be made at the contractor's own expense. The contractor shall provide Works Test Certificates where so required by the Engineer. 3. Testing The Engineer shall be at liberty to select test pieces from steelwork in the workshop or on the site and to have them tested. The expense of such tests are to be borne by the contractor if the steelwork does not comply with the standards laid down above. 4. Hold down bolts Holding down bolts and other fixing devices which are to be embedded in concrete must be supplied to the principal contractor on request together with the necessary information, identification and templates. 2mm Mild steel plate templates provided on a scale of one template for every five groups of bolts, suitably marked to ensure easy identification are to be supplied to the principal contractor. Any costs incurred by subsequent repositioning of bolts, etc. resulting from the contractor having failed to furnish adequate information, identification and templates will be for the contractor's account.				
BILL No. 12	**Bill No. 12 STRUCTURAL WORK carried to collection**				

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		5. Welding Welding shall be in accordance with SABS 044 "Welding: Parts I, II and III", E70XX Welding shall be carried out in a manner which will prevent any distortion of the weld or the parent section. All welds shall have adequate root fusion and shall be free from cracks, porosity or other irregularities and any undercutting shall be made good by the deposition of additional runs of weld metal. Any completed welds showing cracks, cavities or other efects shall be cut out and made good at the contractor's own expense. Mild steel electrodes shall comply with SABS 455 "Covered Electrodes for Manual Arc Welding of Mild Steel and Medium High Tensile Steel". 6. Bolts Bolts shall have well-formed heads forged from the solid. Nuts shall closely fit the bolts so that they can only just be turned by hand and at least one clear thread shall project beyond the nut when fully tightened. All bolts shall have one washer under the nuts and shall be so tightened that the threaded portion does not bear on the members connected. Where bolt heads or nuts bear upon bevelled surfaces they shall be provided with tapered washers of 2,3 mm mean thickness to provide a seating square with the axis of the bolt. 7. Friction grip bolts Connections specifying high strength friction grip bolts are to be in strict accordance with SABS 094 "Bolted Friction Grip Joints in . Structural Steelwork" and the bolts used are to be in accordance with BS 3139 Part 1 : 1959 "General Grade Bolts, High Strength Friction Grip Bolts for Structural Engineering" Notwithstanding the above, the following must be rigidly adhered to : a) Two-case hardened washers, one flat or bevelled under the head and the other flat or bevelled under the nut shall be used with each bolt. b) Contact surfaces shall not be painted and shall be thoroughly cleaned free of dirt, oil, loose scale, burrs and other defects which are liable to reduce friction resistnace between surfaces. c) At all times the correct torques shall be applied to the different sizes of bolts. 8. Erection The steelwork generally is to be fabricated in the contractor's works having due regard to transport and erection facilities. He must supply all erection tackle, temporary erection bracing, erect and plumb all steelwork and supply all steel wedges and tacks as required. Items may be detailed for delivery "piece small" or the contractor may prefabricate if he is satisfied that suitable arrangements for transport can be made. Connections are to be designed for the forces indicated on the drawings or to the maximum capacity of the members.				
BILL No. 12		**Bill No. 12 STRUCTURAL WORK carried to collection**				

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ITEM NO	**PAYMENT REFERS TO**	**DESCRIPTION**	**UNIT**	**QUANTITY**	**RATE**	**AMOUNT**
		9. Cleaning and painting All structural steel is to be thoroughly degreased to remove all grease or oil and then wire-brushed, scraped or sand-papered to remove all rust, mill-scale or surface contaminations and is to be immediately given one coatzinc chromate, allowed to dry overnight and given one coat of universal undercoat prior to delivery to site. All damaged paintwork is to be made good on site after erection is complete. (also refer to 12 below) All structural steel pricing is deemed to include for paint work. 10. Testing of welders Tenderers must include in their rates for the testing of any welder used on the work who has not been tested within a period of six months immediately preceding his employment on this contract. 11. Further notes Also refer to the structural steelwork notes indicated on the Engineer's relevant structural drawings. 12. Painting/corrosion protection options Painted Steelwork"° All steelwork below surface to be painted with two layers of bitumen paint"° All steelwork surfaces to be painted and must be free of mill shale, corrosion, grease or dust"° All steelwork to be cleaned with wire brush in accordance with SABS 1200HC prior to coating"° All structural steel shall be be hot-dip galvanised to SANS 121/ISO 1461 (Heavy Duty Application) "° All steelwork exposed surfaces to be coated with two layers of alkyd enamel paint as final coat (dark charcoal colour to architect specification) **STEEL COLUMNS, BEAMS, POSTS, ETC. (PAINTED)** **Galvanised welded beams/columns in single lengths with flat section bearer and connection plates bolted to columns and all necessary fittings, etc.**				
1		150 x 75 x 20 x 2.5mm Cold formed lipped channels	t	2		
2		152 x 152 x 23kg/m H-Section beams	t	0.3		
3		203 x 133 x 25kg/m I-section beams	t	4.4		
4		254 x 146 x 31kg/m I-section columns	t	1.1		
5		70 x 70 x 6mm Thick angle	t	0.4		
		SUNDRIES **BOLTS, FASTENERS, ETC**				
6		High strength M20 HD grade 8.8 bolts	No	48		
BILL No. 12		**Bill No. 12 STRUCTURAL WORK carried to collection**				

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		STRUCTURAL WORK				
		COLLECTION				
		Total Brought Forward from Page No.	157			
			158			
			159			
BILL No. 12		Bill No. 12 STRUCTURAL WORK carried to Summary				

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Item No.	**DESCRIPTION**	**UNIT**	**QUANTITY**	**RATE**	**AMOUNT**
	BILL NO. 13				
	PLASTERING				
	All floors/screeds to be laid according to SABS 0155 - 1980 Accuracy in Buildings and SABS 0155-1980.				
	SCREEDS				
	Cement screed with min 25MPa strength to comply with SANS 10109. Thickness based on desired finish level and on the surface variations of the concrete sub-base ensuring the minimum specified thickness of toppings. To be finished with wood float				
1	Approximately 35mm thick on floors and landings	m^2	141		
2	25mm Thick on ramps	m^2	5		
	EXTERNAL PLASTER				
	15mm Thick wood floated sand/cement plaster, Class II mix. Surface to be dry, sound and clean and cured for a minimum of 14 days, with a moisture content measured with a Doser Hygrometer (or equivalent), of BD 2 scale - 8% or less all as per Architects detail, specification and approval				
3	On external walls and columns	m^2	103		
4	Behind stone wall finish	m^2	105		
	INTERNAL PLASTER				
	15mm Thick wood floated sand/cement plaster on Class II mix, surface to be dry, sound and clean and cured for a minimum of 14 days, with a moisture content measured with a Doser hygrometer (or equivalent), of BD 2 scale-8% or less				
5	On internal walls	m^2	240		
6	On narrow widths	m^2	4		
	15mm Thick cement plaster on brickwork to receive tiling as per Architects detail, specification and approval				
7	On walls to receive tiling	m^2	5		
	POLISH, SEALERS, ETC				
	Prepare and apply a.b.e Construction Chemicals abecote WD 337 solvent-free water dispersed epoxy coating, all in accordance with the manufacturer's instructions				
8	On screed floors	m^2	146		
	GRANOLITHIC FINISH ON CONCRETE				
	35mm Thick grano finish tinted with Powafix or similar and approved yellow oxide tinting powder				
9	On surface beds and ramps	m^2	146		
BILL No. 13	Bill No. 13 PLASTERING carried to summary				

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Item No.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	BILL NO. 14 **TILING** Patterns Unless otherwise described, tiles shall be laid with continuous joints in both directions Fixing Unless described as "fixed with adhesive to plaster (plaster elsewhere)" descriptions of tiling on brick or concrete walls, columns, etc shall be deemed to include 1:4 cement plaster backing and descriptions of tiling on concrete floors etc shall be deemed to include 1:3 plaster bedding Tiling described as "fixed with adhesive on power floated concrete" shall be deemed to include for approved tiling key-coat Ceramic, porcelain, marble and granite tiles are to be fixed and grouted with suitable adhesives and grouts as recommended by the manufacturer of the tiles Sealant Rates to include for white silicone sealant to be applied between all sanitary fittings and tile finishes **WALL TILING** **300 x 300 x 5mm thick Glazed ceramic wall tiles (PC amount R 250.00 / m2, excluding VAT, but including delivery) fixed to wall plaster with Pro Grip adhesive mixed with approved bonding liquid in lieu of water 3mm joints continuous in one direction and half length staggered in the other direction and grouted with approved anti bacterial & chemical resistant epoxy tile grout.**				
1	On walls	m^2	5		
	Sundries: Genesis or similar and approved				
2	Brushed aluminium straight edge trim size approximately 10/12mm wide x thickness of tile to exposed wall tile edges, corners, etc. as per Architects detail and specification	m	7		
BILL No. 14	**Bill No. 14 TILING carried to summary**				

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Item No.	**DESCRIPTION**	**UNIT**	**QUANTITY**	**RATE**	**AMOUNT**
	BILL NO. 15				
	PLUMBING & DRAINAGE				
	SUPPLEMENTARY PREAMBLES				
	Sealing of edges				
	Outer edges of sinks, basins, baths, urinals, etc are to be sealed against adjacent surfaces with approved silicone				
	ROOF GUTTERS, RAINWATER PIPES, ETC				
	Aluminium powder coated seamless gutter, overall size 100 x 100 x 0.6mm thick coated internally and externally including cut and mitred angles covered with a mitre strip externally, stop ends crimped and all sealed on the inside with silicone sealer, secured to fascia with 20 x 2,5mm internal hanger brackets at 600mm centres using pop rivets, etc.				
1	100 x 100 x 0,6mm Thick seamless gutter	m	56		
2	Extra over gutter for corners	No	6		
3	Extra over gutter for stop ends	No	7		
4	Extra over gutter for outlets	No	7		
	100mm Diameter thick aluminium powder coated downpipe fixed to wall with straps at 1500mm centres using nail plugs, with downpipes riveted and silicone sealed to gutter outlets, including all necessary bends, elbows, shoes etc.				
5	100mm Diameter thick aluminium downpipe	m	16		
6	Extra over downpipe for shoe	No	5		
7	Extra over for 300mm offset projection	No	5		
	SANITARY FITTINGS				
8	Franke Projectline PLN 621 polished stainless steel double end bowl inset sink, overall size approximately 1160 x 460mm with two 140mm deep bowls, including 38mm waste fittings, with Marley or similar and approved double drain black rubber deap seal P-trap with a T-Junction and elbow, neatly penetrated through any shelving and concealed below counter, to be installed completer onto counter top as specified by Architects detail and specification	No	1		
	TAPS, VALVES, ETC				
9	Cobra Watertech (Code 166/041/1CA) or similar and approved Carina wall mounted sink mixer tap with swivel outlet supplied complete with concealed connections and flange cover plates including under counter Cobra Watertech (Code 628CA-20) or similar and approved Carina under wall stop taps for hot and cold water	No	1		
10	Cobra watertech (Code 232-10) or similar and approved angle regulating valve with sliding flange in chrome finish	No	1		
11	Cobra Watertech or similar and approved braided flexible inlet tubing, blue and red	No	1		
12	Cobra Watertech (Code 311) or similar and approved unslotted sink waste complete with plug, flange, shank, male outlet, connection and backnut in chrome finish	No	1		
BILL No. 15	**Bill No. 15 PLUMBING & DRAINAGE carried to collection**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 15
ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
13		Precast concrete gulley size approximately 445 x 430 x 165mm with 125mm diameter hole with PVC grid cover per gully position including underground 110mm PVC gulley P-trap exceeding 500mm and not exceeding 750mm deep	No	1		
		PLUMBING				
		Sanitary plumbing & water supply (measured per point)				
		Provide all necessary in class II copper piping, branches, pipe fittings, valves as required for cold water supply from main water supply point at perimeter of building to the following sanitary fittings, complete				
		Provide all necessary in class II copper piping, brances, pipe fittings, valve all insulated with an R-value of "1" and as required for hot water supply from central geyser/hot water supply to the following sanitary fittings, complete				
		Provide 50/75mm PVC waste piping to the following sanitary fittings to be discharged into 110mm HDPE sub surface soil piping on the same level (elsewhere) or current stack system where shown, including any necessary fittings, trenches complete				
14		Sink (hot and cold water and waste)	No	1		
15		Geyser/Hot water supply	No	1		
		ELECTRIC WATER HEATERS				
16		Kwikot or similar and approved 50 Litre Superline 400 Dual electric water heater (Code: DSG-50-5) complying with SABS 151-2002, overall size 535 x 543mm high fitted with isolator switch, operating at 400kPa temperature and pressure safety relief valve including 20mm female draincock with inlet compression. Geyser to be installed horizontally in roof space with 600 x 600mm wide polyethylene drip tray with union and back nut connected to 20mm PVC overflow pipe taken out at eaves (Code: GSTP-1200) and 22mm pipe work including two 22mm vacuum breakers (Code: KHN4.200CX) installed on hot and cold water supply. Installation to include a Kwikot Multi control and expansion relief valve, all in accordance with SANS 10254, connected to single phase electrical power supply.	No	1		
		TESTING				
17		Testing water pipe system (per building)	No	1		
		BUDGETARY ALLOWANCES				
		The following Budgetary Allowances are for work to be executed by the Main Contractor or specialist suppliers and priced at Bill rates or rates to be agreed.				
18		Provide the sum of R15 000.00 (Fifteen Thousand) for additional general work sill to be designed and will/may be carried out by the contractor	Item			R15,000.00
BILL No. 15		**Bill No. 15 Plumbing carried to collection**				

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		PLUMBING & DRAINAGE				
		COLLECTION				
		Total Brought Forward from Page No.	163 164			
BILL No. 15		**Bill No. 15 PLUMBING & DRAINAGE carried to Summary**				

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Item No.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	BILL NO. 16				
	PAINTWORK				
	SUPPLEMENTARY PREAMBLES				
	All surfaces to be thoroughly prepared according to manufacturers' specifications.				
	The quality of all preparation work and individual coats shall be to the satisfaction of the Architect (or his appointed representative) before any successive paintwork is undertaken.				
	All paint to new and existing surfaces are to be painted with Plascon, Dulux or similar approved (by Architect).				
	Plastered surfaces, etc.				
	Plastered surfaces shall be thoroughly inspected and, if necessary, washed down and brushed in order to remove any traces of efflorescence and allowed to dry completely before any paint finish is applied. Before any paint is applied, holes, cracks and irregularities in plaster and other surfaces shall be filled with a suitable filler and finished smooth. Unfinished concrete surfaces shall have all projections rubbed off and shall be thoroughly cleaned with a spirits-of-salts solution (1 part concentrated spirits-of-salts to 4 parts water).				
	Previously painted plastered surfaces				
	Surfaces shall be thoroughly washed down and allowed to dry completely before any paint is applied. Blistered or peeling paint shall be completely removed and cracks shall be opened, filled with a suitable filler and finished smooth.				
	Previously painted plasterboard surfaces				
	Surfaces shall be thoroughly cleaned before any paint is applied. Blistered or peeling paint shall be completely removed and cracks shall be opened, filled with a suitable filler and finished smooth. Steel H-strips and nails to be reprimed with calcium plumbate primer.				
	Previously painted metal surfaces				
	Surfaces shall be thoroughly rubbed and cleaned down. Blistered or peeling paint shall be completely removed down to bare metal.				
	Previously painted wood surfaces				
	Surfaces shall be thoroughly cleaned down. Blistered or peeling paint shall be completely removed and cracks and crevices shall be primed, filled with suitable filler and finished smooth. Existing wood surfaces to be stripped, neutralised, sanded and treated.				
	PAINTWORK ETC TO PREVIOUSLY PAINTED/NEW WORK				
	ON SKIMMED PLASTER				
	Prepare, apply one coat suitable plaster primer to entire surface, one coat Plascon acrylic polvin paint and finish with two coats of Plascon super acrylic polvin Matt paint in compliance with SANS specifications (or similar and approved)				
1	On internal plastered walls	m^2	240		
2	On narrow widths	m^2	4		
BILL No. 16	Bill No. 16 PAINTWORK carried to collection				

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”.

CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 16
ITEM NO	PAYMENT REFERS TO / DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	Prepare, apply one coat suitable plaster primer to entire one coat Plascon acrylic polvin paint or similar and approved and finish with two coats of Plascon super acrylic polvin Matt paint in compliance with SANS specifications or similar and approved				
3	On external brick plastered walls and columns	m^2	103		
	ON METAL				
	Prepare one coat Plascon mild or similar and approved steel red oxide primer, one coat merit unversal undercoat and two coats gloss enamel paint undercoat, and two coats Plascon gloss enamel paint				
4	On new steel windows	m^2	8		
5	On burglar bars measured net	m^2	8		
6	On new steel doors and frames	m^2	2		
	ON WOOD				
	Prepare one coat Plascon wood primer, Pink undercoat, on White coat merit universal undercoat, (or similar and approved)				
7	On timber doors	m^2	7		
	Prepare three coats Plascon FPR Woodcare preservative Woodcare preservative (or similar and approved)				
8	On existing and new timber roof structures measured net	m^2	177		
	Prepare one coat Plasconwood primer, Pink undercoat, one coat merit universal undercoat, White undercoat, and two coats Plascon gloss enamel paint (or similar and approved)				
9	Skirtings not exceeding 300mm girth	m^2	32		
	Prepare, two coats gloss enamel paint				
10	Fascias and barge boards not exceeding 300mm girth	m^2	160		
BILL No. 16	**Bill No. 16 PAINTWORK carried to collection**				

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CONTRACT NUMBER: G540/2024		CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 16
ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		PAINTWORK				
		COLLECTION				
		Total Brought Forward from Page No.	166 167			
BILL No. 16		**Bill No. 16 PAINTWORK carried to Summary**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 17
Item No.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	BILL NO. 17 **SITE WORKS AND DEMOLITIONS** **SUPPLEMENTARY PREAMBLES** **REMOVAL OF EXISTING WORK** **SPECIAL PREAMBLES** **REMOVE** The term "remove" shall mean breaking out as required to remove the item described, disposal of all rubble and old materials, and making good all work disturbed to match existing. Remove walls or partitions shall mean breaking down complete to structure of walls, etc. and trimming up edges and disposal of rubble and all old materials from site (old materials as elsewhere described). Prices shall include for protecting adjacent surfaces repairing such damage should it occur. **OLD MATERIAL BECOMES THE PROPERTY OF THE CONTRACTOR** Old material from the alterations except where described for re-use or handing over, will become the property of the Contractor for which Credit must be allowed. **OLD MATERIAL MUST BE CARTED AWAY** Old material from the alterations except where described for re-use or handing over, as well as all debris must regularly be carted away from site and not be accumulated on site. **OLD MATERIAL MAY NOT BE RE-USED** No old material may be re-used for new work except where it is specifically described as set aside for re-use **DISPOSAL OF DEBRIS, ETC** The Contractor shall be responsible for the removal from the site of all materials, debris and rubbish resulting from the alterations/demolitions. **GENERAL** Damage To Persons And Property All demolitions, pulling down, alterations etc., are to be carried out carefully and in the safest possible manner. The Contractor is to ascertain that all alterations are structurally practicable and safe and he will be held solely responsible for any damage to property or work adjoining the pulling down and must make good at his own expense. Programming Of The Works The programming of demolitions and alterations will have to be co-ordinated with the Principal Agent.				
BILL No. 17	**Bill No. 17 SITE WORKS AND DEMOLITIONS carried to collection**				

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”.

CONTRACT NUMBER: G540/2024		CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 17
ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Care Of Utility Services Special care is to be exercised not to interfere with any drains, electrical supply, data, or telephone cables and fittings to same. Notice is to be given to the Principal Agent when any disconnections, removal of wires etc. are necessary and the Contractor is to afford every facility to the workmen carrying out this work. Permission must be obtained from the Principal Agent before any services are cut off at any time. Temporary Shoring Etc. Prices are to include for providing, fixing and maintaining in position generally as required all temporary shoring, needling, strutting etc., necessary for the proper execution of the alterations in this Contract and for removing same. Supervision The demolition work is to be executed in a workmanlike, practical and safe manner under the continual supervision of a competent foremen. Nature of ground A soils investigation has been carried out on site by the engineer and the report is available upon request. Descriptions of excavations shall be deemed to include all ground conditions classifiable as "earth" described in the above report and where conditions of a more difficult character are indicated these are s eparately measured Carting away of excavated material Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site Subterranean water The tenderer must acquaint himself of the presence and depth of subterranean water and allow therefore in his prices. Carting away of excavated material Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site Filling and layer work materials References such as "G1", "G2", etc and "C1", "C2", etc in descriptions of filling and layer work materials refer to corresponding references in the document "Guidelines for Road Construction Materials. TRH 14:1985" compiled by the Committee of State Road Authorities and the properties set out therein for each kind shall be applicable to the respective materials described hereinafter Testing Descriptions & prices for earth filling, compaction, etc. are deemed to include for all necessary density and other testing required in accordance with the SABS 1200 series and Engineer's specifications				
BILL No. 17		**Bill No. 17 SITE WORKS AND DEMOLITIONS carried to collection**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 17
ITEM NO	PAYMENT REFERS TO / DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	SITE CLEARANCE ETC				
	Site clearance				
1	Digging up and removing rubbish, debris, vegetation, hedges, shrubs and trees not exceeding 200mm girth, bush, etc	m²	310		
2	Stripping average 150mm thick layer of top soil and stockpile on site	m²	310		
	REMOVAL OF TREES ETC				
	Cutting down and removing, grubbing up roots and filling in holes				
3	Tree exceeding 200mm and not exceeding 500mm girth	No	3		
4	Tree exceeding 500mm and not exceeding 1000mm girth	No	3		
5	Tree exceeding 1000mm and not exceeding 1500mm girth	No	3		
6	Tree exceeding 1500mm and not exceeding 2000mm girth	No	5		
	BULK EXCAVATION, FILLING, ETC				
	G5 Earth filling supplied by the contractor compacted to 98% MDD				
7	Over site to form platforms	m³	121		
	G5 Earth filling to create stormwater berm with overall size 500mm wide top section, 3500mm wide bottom section and 1:3 slope supplied by the contractor compacted to 95% MDD as per engineers design and specifications				
8	Over site to form stormwater berm	m³	88		
	G6 Earth filling supplied by the contractor compacted to 95% MDD, to Engineers approval				
9	Over site to form platforms	m³	47		
	G7 Earth filling supplied by the contractor compacted to 95% , to Engineers approval				
10	Over site to form platforms	m³	56		
	Compaction of surfaces				
11	Compaction of ground surface under floors etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 98% MDD	m³	464		
	BUDGETARY ALLOWANCES				
	The following Budgetary Allowances are for work to be executed by the Main Contractor or specialist suppliers and priced at Bill rates or rates to be agreed and to be used as directed by the Principal Agent and to be deducted in whole or in part if not required				
12	Provide the sum of R50 000.00 (Fifty Thousand Rands) for work related to unknown circumstances of the site condition	Item			R50,000.00
BILL No. 17	**Bill No. 17 SITE WORKS AND DEMOLITIONS carried to collection**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 17
ITEM NO	PAYMENT REFERS TO	Page No.			AMOUNT
	SITE WORKS AND DEMOLITIONS **COLLECTION** Total Brought Forward from Page No. 	169 170 171			
BILL NO. 17	Bill No. 17 SITE WORKS AND DEMOLITIONS carried to Summary				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 18
Item No.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	BILL NO. 18				
	ROADWORKS, PAVING				
	SUPPLEMENTARY PREAMBLES				
	Nature of ground A soils investigation has been carried out on site by the engineer and the report is available upon request. Descriptions of excavations shall be deemed to include all ground conditions classifiable as "earth" described in the above report and where conditions of a more difficult character are indicated these are separately measured. Carting away of excavated material Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site and disposing of same from site. Subterranean water The tenderer must acquaint himself of the presence and depth of subterranean water and allow therefore in his prices. Carting away of excavated material Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site. Filling and layer work materials References such as "G1", "G2", etc and "C1", "C2", etc in descriptions of filling and layer work materials refer to corresponding references in the document "Guidelines for Road Construction Materials. TRH 14 : 1985" compiled by the Committee of State Road Authorities and the properties set out therein for each kind shall be applicable to the respective materials described hereinafter Testing Descriptions & prices for earth filling, compaction, etc. are deemed to include for all necessary density and other testing required in accordance with the SABS 1200D and Engineer's specifications General Where kerb-stones, blocks, etc are laid in ground descriptions shall be deemed to include necessary excavation, filling in and ramming				
	EXCAVATION, FILLING, ETC. OTHER THAN BULK				
	Excavation in compacted earth not exceeding 2m deep				
1	Reduce levels	m³	856		
	Extra over all excavations for carting away				
2	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m³	856		
BILL No. 18	**Bill No. 18 ROADWORKS, PAVING carried to collection**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 18
ITEM NO	PAYMENT REFERS TO / DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	Compaction of surfaces				
3	Compaction of ground surface under floors, etc. including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 90% MDD density	m²	1878		
	G5 Earth filling supplied by the contractor and compacted to 95% MDD density				
4	Under floors, steps, ramps, pavings, etc	m³	282		
	G6 Earth filling supplied by the contractor and compacted to 93% MDD				
5	Under floors, steps, ramps, pavings, etc	m³	564		
	WEED KILLERS, INSECTICIDES, ETC				
	Weedkiller (active ingredients metalaclor 102,8 g/l, terbitilasien 248,6 g/l and atrasien 248,6 g/l) mixed in the proportion of 100 ml weedkiller to 100 l water and applied at a rate of 10 l/m×½				
	Soil insecticide in accordance with SANS 5859				
	Approved brand of anti-termite soil poison and weedkiller to be applied by a Registered Company and guaranteed for ten years				
6	Under paving	m²	1878		
	PAVING, KERBING AND CHANNELLING				
	Rates for paving must include all cutting including circular cutting				
	SEGMENTED PAVING				
	200 x 150 x 60mm Thick Bosun Ethnic cement paver or similar and approved interlocking paving brick, laid in herringbone pattern in accordance with SANS 1200 MJ and CMA Concrete Block Paving Manuals, with a minimum longitudinal fall of 1% on a transverse fall of at least 2% on 20mm compacted sand bed with fine jointing sand swept and vibrated into joints, all laid on subbase conforming to SANS 1200 D Degree of Accuracy (sub-base elsewhere measured) 1. Paving to binspected and re-sanded after three months.				
7	Paving to walkways, roads, parking areas etc.	m²	1805		
8	300mm Wide header course paving to make up paving borders	m	245		
	KERBS				
	Figure 7 Barrier concrete kerb, including in-situ concrete (class 25MPa/19mm stone) haunching behind kerbing at joints, with pointing on all exposed sides, including all necessary excavation, backfilling, carting away, continuous concrete haunching on curves, concrete haunching in blobs on straights, etc. Jointed & pointed in joint sealant with 10mm soft board and polyurethane sealant with approved primer				
9	Laid flat	m	161		
10	Laid flat circular on plan, exceeding 4m radius	m	7		
BILL No. 18	**Bill No. 18 ROADWORKS, PAVING carried to collection**				

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CONTRACT NUMBER: G540/2024		CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 18
ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Figure 10 Precast concrete kerb, including in-situ concrete (class 25MPa/19mm stone) haunching behind kerbing at joints, with pointing on all exposed sides, including all necessary excavation backfilling, carting away, continuous concrete haunching on curves, concrete haunching in blobs on straights, etc. Jointed & pointed in joint sealant with 10mm soft board and polyurethane sealant with approved				
11		Laid flat	m	533		
		Prepare and paint with SANS approved road marking paint in white / yellow / red sheen road marking paint on concrete paving / kerbs				
12		Line 100mm wide, broken or continuous	m	620		
13		White numeral or letter approximately 510mm x 1260mm (measured at extremes)	No	51		
14		White traffic arrow approximately 1000mm x 4000mm (measured at extremes)	No	12		
15		Paraplegic Sign approximately 1300mm x 1400mm (measured at extremes)	No	3		
		BUDGETARY ALLOWANCES				
		The following Budgetary Allowances are for work to be executed by the Main Contractor or specialist suppliers and priced at Bill rates or rates to be agreed and to be used as directed by the Principal Agent and to be deducted in whole or in part if not required				
16		Provide the sum of R15 000.00 (Fifteen Thousand Rands) for permanent road signage	Item			R15,000.00
17		Provide the sum of R50 000.00 (Fifty Thousand Rands) for additional general work sill to be designed and will/may be carried out by the contractor	Item			R50,000.00
18		Cement for roadbed stabilisation (4% of 150mm layer ≈ 20kg/m²)	ton	30		
19		In-situ stabilisation of roadbed using 4% cement, 150mm thick, incl. mixing & compaction	m^3	200		
BILL No. 18		**Bill No. 18 ROADWORKS, PAVING carried to collection**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 18
ITEM NO	PAYMENT REFERS TO		Page No.		AMOUNT
		ROADWORKS, PAVING			
		COLLECTION			
		Total Brought Forward from Page No.	173		
			174		
			175		
BILL No. 18		Bill No. 18 ROADWORKS, PAVING carried to Summary			

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 19
Item No.	**DESCRIPTION**	**UNIT**	**QUANTITY**	**RATE**	**AMOUNT**
	BILL NO. 19				
	FENCING AND GATES				
	METAL FENCING				
	High density anti-climbing and anti-cut pressed mesh panel fencing				
	Fencing to be installed on a sloping site, Contractor to allow for additional vertical supporting members at smaller intervals along a sloping site				
1	High density anti-climbing and anti-cut pressed mesh panel fencing 2,4m high, formed of 3mm diameter horizontal and 3mm diameter vertical high tensile wires powder coated charcoal with aperture size 76mm x 25mm and reinforcing V-section ribs, bolted with vandal resistant bolts and clamping plates to 76mm x 76mm x 2mm mild steel posts 3,0m high including Locking Recess Mechanism at 3,382m centres with sealed end caps and 30 x 3mm x 250mm long angle section base anchors with posts bedded in 15MPa concrete bases size 400 x 400 x 600mm deep.	m	56		
2	Mesh Extension 600mm high fixed to underside of fencing including excavations and bedding	m	56		
3	Extra over fence for spike topping to match fence	m	56		
	GATES				
	Vehicle Sliding Gate to match fencing				
4	9900mm Wide x 2600mm high mild steel sliding gate with 120 x 60mm rectangular tubing frame.Frame to have three vertical 120 x 60mm rectangular tubing supports spaced equally inside frame. Frame infill panels to be 4mm diameter vertical and 3mm diameter horizontal mesh with opening of 76 x 12mm.The mesh panel shall be reinforced with 4 x 50mm deep V-information horizontal recessed bands. All to be galvanised then powder coated colour: dark charcoal to match window frame as per Architects detail. Including galvanised pad bolts and mortice locks two per gate. Gate to be supported by three steel roller brackets positioned underneath each vertical support member, each with 2 x 80mm dia steel rollers. All as per Architect's details and specifications	No	1		
5	Extra over above for gate rail to be 19mm diameter steel bar welded to a 100x50mm IPE steel sections anchored into a 300mm deep concrete bedding using a 40x40mm steel angle welded to the IPE section at 300mm c/c. All as per Architect's detail and specifications	No	1		
6	100mm High toughened steel shark-tooth spike rail to be fixed to the top of the gate using anti-vandal bolts.Spike finish to match fencing.	m	11		
7	Supply and install gate motor and remotes to Engineers approval	No	1		
	Pedestrian Gates to match fencing				
8	2.6m high x 1.5m wide mild steel pedestrian gate with 100 x 50mm rectangular tubing frame. Frame infill panel to be 4mm diameter vertical and 3mm diameter horizontal mesh with openings of 76 x 12mm. The mesh panel shall be reinforced with 4 x 50mm deep V-formation horizontal recessed bands. All to be galvanised then powder coated colour: dark charcoal to match sliding gate All as per Architect's details and specifications. Including galvanised pad bolts and mortice locks two per gate	No	1		
BILL No. 19	**Bill No. 19 FENCING AND GATES carried to collection**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 19
ITEM NO	**PAYMENT REFERS TO**	**DESCRIPTION**	**UNIT**	**QUANTITY**	**RATE**	**AMOUNT**
9		2.1m high x 3m wide mild steel double swing pedestrian gate with 100 x 50mm rectangular tubing frame. Frame infill panel to be 4mm diameter vertical and 3mm diameter horizontal mesh with openings of 76 x 12mm. The mesh panel shall be reinforced with 4 x 50mm deep V-formation horizontal recessed bands. All to be galvanised then powder coated colour: dark charcoal to match sliding gate All as per Architect's details and specifications. Including galvanised pad bolts and mortice locks two per gate	No	1		
10		100mm High toughened steel shark-tooth spike rail to be fixed to the top of the mesh panel using anti-vandal bolts.Spike finish to be hot dipped galvanised	m	5		
BILL No. 19		**Bill No. 19 FENCING AND GATES carried to collection**				

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ITEM NO	PAYMENT REFERS TO	Page No.			AMOUNT
	FENCING AND GATES				
	COLLECTION				
	Total Brought Forward from Page No.	177			
		178			
BILL No. 19	Bill No. 19 FENCING AND GATES carried to Summary				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 20
Item No.	**DESCRIPTION**	**UNIT**	**QUANTITY**	**RATE**	**AMOUNT**
	BILL NO. 20 **WATER RETICULATION** **SUPPLEMENTARY PREAMBLES** uPVC pipes and fittings Exposed concrete surfaces Exposed surfaces of concrete storm water channels, cover slabs, inspection eye marker slabs, gulley tops, cleaning eye tops, catch pits, inspection chambers, etc. shall be finished smooth with plaster. Laying, backfilling, bedding, etc. of pipes Pipes shall be laid and bedded and trenches shall be carefully backfilled in accordance with manufacturers' instructions. Where no manufacturer's instructions exist pipes shall be laid in accordance with Clauses 5.1 and 5.2 of each of the following: SABS 1200 L: Medium pressure pipelines LD: Sewers LE: Storm water drainage Pipe trenches, etc shall be backfilled in accordance with Clauses 3, 5.5, 5.6, 5.7 and 7 of SABS 1200 DB: Earthworks (Pipe trenches) Pipes shall be bedded in accordance with Clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SABS 1200 LB: Bedding (Pipes) Unless otherwise described bedding of rigid pipes shall be ClassB bedding. Bedding must be selected granular material (specify SABS 1200 LB class B material) minimum 100mm think on top and bottom of pipe compacted to 90% MDD. Selected fill blanket according to SABS 1200LB; selected fill material shall be material that has a PI not exceeding 6 and that is free from vegetation and from lumps or stone of diameter exceeding 30mm. In 150mm layers compacted to 90% MDD. Fill blanket is above the bedding and 200mm thickness. In 150mm layers compacted to 90% MDD. General Descriptions of pipes laid in and including trenches and of inspection chambers, catchpits, etc shall be deemed to include excavation, bedding, selected backfilling material, risk of collapse, working space, compaction to a minimum of 95% Mod AASHTO density in layers of 150mm and disposal of surplus material on site As-built drawings Where required, the contractor shall prepare an updated set of as-built drawings. At completion of the contract the contractor shall hand these drawings to the principal agent for reproducing onto the originals for handing over to the employer (provision for allowance of as-built drawings elsewhere) **WATER RETICULATION** **HDPE Pipes**				
1	32mm HDPE class 16 water pipes (pipes complete with couplings, spigots, sockets, fittings, adapters, etc,) laid in trenches exceeding 1m not exceeding 1.5m deep including all sockets, fittings, adapters, excavation, bedding, backfilling and compaction and disposal of surplus material	m	41		
BILL No. 20	**Bill No. 20 WATER RETICULATION carried to collection**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 20
ITEM NO	PAYMENT REFERS TO / DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	Extra over HDPE Class 12 pipes for fittings				
2	32mm 45 degree bend	No	8		
3	32mm 90 degree bend	No	4		
4	32mm Tees	No	7		
5	32mm Stop end	No	4		
	Sundries				
6	30 MPa/19mm Unreinforced concrete in thrust blocks in trenches at bends, tees, etc including extra excavation, formwork, etc	m^3	3		
7	Pipeline markers complete including SAPMA affiliation, pipe OD & OD tolerance, wall thickness, nominal pressure, pipe class, etc. as per Engineers detail and specification	No	3		
	Water Meter				
8	Supply and install bulk water meters (PC amount R 15 000.00, excluding VAT, but including delivery) (Johannesburg Water Approved) installed in valve chamber, chamber elsewhere measured, complete with all necessary fittings, bends, tees, flanges, couplings, finishes, etc. as per Engineers detail and specifications	No	1		
	Connecting to Existing Pipelines				
9	Connecting new HDPE 40mm diameter to existing water pipes including all necessary fittings	No	1		
	Connecting to new water supply points				
10	Connecting new HDPE 25/32mm diameter to water pipes leading into building including all necessary fittings	No	2		
	Excavate and Build Valve Chamber				
11	Excavate in compacted earth for building Valve Chamber, size approximately 1235mm x 1235mm not exceeding 1000mm deep externally constructed with 230mm brick wall sides built in engineering bricks with 150mm thick 25Mpa in-situ concrete base and cover slab, fitted with 610mm x 305mm x 150mm cast iron hydrant box with lid with slotted hole for lifting key. Excavation to include all backfilling, compaction, working space, formwork, reinforcing, etc. all as per Engineers details and specifications	No	1		
12	Extra over excavation in earth for pipe trenches, chambers, etc for excavation in soft rock	m^3	3		
	Gate/Isolation Valves in Chambers				
	Resilient seal gate valves. Specifications to SABS 664 Resilient seal gate valve fitted to flange adaptors 1 Clockwise closing 2 Non rising spindle 3 Anti-clockwise closing 4 A removable coupling must be provided at one side of the valve at least 500mm from the shaft.				
13	50mm Gate/Isolation Valve in chamber (chamber elsewhere measured) to water main as per Engineers detail and specification	No	1		
14	50mm Non-Return Valve in chamber (chamber elsewhere measured) to water main, complete including all couplings, flanges, etc. as per Engineers detail and specification	No	1		
BILL No. 20	**Bill No. 20 WATER RETICULATION carried to collection**				

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CONTRACT NUMBER: G540/2024		CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 20
ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Testing				
15		Provide all necessary testing apparatus, water, materials, etc. and allow for testing and chlorination of water reticulation system to the satisfaction of the Representative. All defective work shall be taken out and replaced at the Contractor's expense and the whole re-tested until found perfect	Item	1		
		BUDGETARY ALLOWANCES				
		The following Budgetary Allowances are for work to be executed by the Main Contractor or specialist suppliers and priced at Bill rates or rates to be agreed and to be used as directed by the Principal Agent and to be deducted in whole or in part if not required				
16		Provide the sum of R25 000.00 (Twenty Five Thousand Rands) for municipal connection fees	Item			R25,000.00
17		Provide the sum of R35 000.00 (Thirty Five Thousand Rands) for additional general work still to be designed and will/may be carried out by the contractor	Item			R35,000.00
BILL No. 20		**Bill No. 20 WATER RETICULATION carried to collection**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 20
ITEM NO	PAYMENT REFERS TO	Page No.			AMOUNT
	WATER RETICULATION				
	COLLECTION				
	Total Brought Forward from Page No.	180			
		181			
		182			
BILL No. 20	**Bill No. 20 WATER RETICULATION carried to Summary**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 21
Item No.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	BILL NO. 21 **SEWER RETICULATION** **SUPPLEMENTARY PREAMBLES** uPVC pipes and fittings Soil, waste pipes of 63mm diameter and greater shall have sockets and spigots with push-in type integral rubber ring joints. Bends shall be PVC-U fittings all with similar push-in type joints Exposed concrete surfaces Exposed surfaces of concrete storm water channels, cover slabs, inspection eye marker slabs, gulley tops, cleaning eye tops, catch pits, inspection chambers, etc. shall be finished smooth with plaster. Nature of ground A soils investigation has been carried out on site by the engineer and the report is available upon request. Descriptions of excavations shall be deemed to include all ground conditions classifiable as "earth" described in the above report and where conditions of a more difficult character are indicated these are separately measured Subterranean water The tenderer must acquaint himself of the presence and depth of subterranean water and allow therefore in his prices. Laying, backfilling, bedding, etc. of pipes Pipes shall be laid and bedded and trenches shall be carefully backfilled in accordance with manufacturers' instructions. Where no manufacturer's instructions exist pipes shall be laid in accordance with Clauses 5.1 and 5.2 of each of the following: SABS 1200 L: Medium pressure pipelines LD: Sewers LF: Storm water drainage Pipe trenches, etc shall be backfilled in accordance with Clauses 3, 5.5, 5.6, 5.7 and 7 of SABS 1200 DB: Earthworks (Pipe trenches). Pipes shall be bedded in accordance with Clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SABS 1200 LB: Bedding (Pipes) Unless otherwise described bedding of rigid pipes shall be Class B bedding. Bedding must be selected granular material (specify SABS 1200 LB class B material) minimum 100mm think on top and bottom of pipe compacted to 90% MDD. Selected fill blanket according to SABS 1200LB: selected fill material shall be material that has a PI not exceeding 6 and that is free from vegetation and from lumps or stone of diameter exceeding 30mm. In 150mm layers compacted to 90% MDD.Fill blanket is above the bedding and 200mm thickness. In 150mm layers compacted to 90% MDD. General Descriptions of pipes laid in and including trenches and of inspection chambers, catchpits, etc shall be deemed to include excavation, bedding, selected backfilling material, risk of collapse, working space, compaction to a minimum of 95% MDD density in layers of 150mm and disposal of surplus material on site				
BILL No. 21	Bill No. 21 SEWER RETICULATION carried to collection				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 21
ITEM NO	PAYMENT REFERS TO / DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	As-built drawings Where required, the contractor shall prepare an updated set of drawings. At completion of the contract the contractor shall hand these as-built drawings to the principal agent for reproducing onto the originals for handing over to the employer (provision for allowance of as-built drawings elsewhere)				
	SOIL DRAINAGE				
	uPVC Class 34 pipes with socketed joints				
1	110mm uPVC Class 34 sewer drainage pipes (pipes complete with couplings, spigots, sockets, fittings, adapters, etc.) laid in trenches not exceeding 1000m deep including all sockets, fittings, adapters, dpc, excavation, bedding, stone filling, backfilling and compaction and disposal of surplus material	m	77		
2	Ditto,but exceeding 1000mm not exceeding 2000mm deep including all sockets, fittings, adapters, excavation, bedding, backfilling and compaction and disposal of surplus material	m	39		
3	Ditto, but exceeding 2000mm not exceeding 3000mm deep including all sockets, fittings, adapters, excavation, bedding, backfilling and compaction and disposal of surplus material	m	39		
	Extra over uPVC Class 34 pipes for fittings in trenches				
4	110mm Bend	No	31		
5	110mm Junction	No	6		
6	110 x 75m Reducing junction	No	5		
	Excavate and Build Manholes				
7	Excavate in compacted earth for and build pre-cast concrete manhole with 560mm diameter Class B125 Polyester Resin or Type 4 concrete manhole cover and frame. Manhole with 1000mm internal diameter shaft with 75mm reinforced concrete wall spacer rings internally. 1110 x 1110mm x minimum 150mm thick cast in-situ concrete slab 25MPa with reinforcement. HDPE steps 300c/c vertical and horizontal. 20mm Dolomitic steel floated benching to top of concrete base. 25MPa concrete haunching 100mm wide, including leaving or forming opening in precast concrete wall for 150mm diameter outlets including all excavations, backfilling, compaction, working space, de-watering, risk of collapse, formwork, formwork, reinforcing, etc. not exceeding 1500 mm deep.	No	1		
8	Ditto, but exceeding 1500mm and not exceeding 2000mm deep	No	1		
9	Ditto, but exceeding 2000mm and not exceeding 2500mm deep	No	1		
10	Ditto, but exceeding 2500mm and not exceeding 3000mm deep	No	1		
11	Extra over excavation in earth for pipe trenches, chambers, etc for excavation in soft rock	m^3	1		
	Municipal Connection				
12	Excavate, carefully create opening in existing sewer manhole exceeding 3000mm not exceeding 4000mm deep, connect new sewer pipe with fittings and make good	No	1		
	Septic Tank Connection				
13	Carefully open up existing septic tank, connect new sewer pipe with fittings and make good	No	1		
BILL No. 21	**Bill No. 21 SEWER RETICULATION carried to collection**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 21
ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Sundries				
14		Unreinforced concrete encasement of pipes (25MPa)	m³	6		
15		Provide all necessary testing apparatus, water, materials, etc. and allow for testing of drainage system to the satisfaction of the Representative. All defective work shall be taken out and replaced at the Contractor's expense and the whole re-tested until found perfect	Item	1		
		BUDGETARY ALLOWANCES				
		The following Budgetary Allowances are for work to be executed by Main Contractor or specialist suppliers and priced at Bill rates or the rates to be agreed and to be used as directed by the Principal Agent and to be deducted in whole or in part if not required				
16		Provide the sum of R25 000.00 (Twenty Five Thousand Rand) for decommissioning of existing septic tank and sewer line	Item			R25,000.00
17		Provide the sum of R50 000.00 (Fifty Thousand Rands) for municipal connection fees	Item			R50,000.00
18		Provide the sum of R75 000.00 (Seventy Five Thousand Rands) for additional general work still to be designed and will/may be carried out by the contractor	Item			R75,000.00
BILL No. 21		Bill No. 21 SEWER RETICULATION carried to collection				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 21
ITEM NO	PAYMENT REFERS TO		Page No.		AMOUNT
	SEWER RETICULATION				
	COLLECTION				
	Total Brought Forward from Page No.		184		
			185		
			186		
BILL No. 21	Bill No. 21 SEWER RETICULATION carried to Summary				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 22
Item No.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	BILL NO. 22 **STORMWATER DRAINAGE, SUB-SOIL DRAINAGE** **SUPPLEMENTARY PREAMBLES** Concrete pipes: interlocking joints Pipes shall be jointed with interlocking joints with rubber collars or socket and spigot joints with rubber rings. uPVC pipes and fittings Soil, waste pipes of 63mm diameter and greater shall have sockets and spigots with push-in type integral rubber ring joints. Bends shall be PVC-U fittings all with similar push-in type joints Exposed concrete surfaces Exposed surfaces of concrete storm water channels, cover slabs, inspection eye marker slabs, gulley tops, cleaning eye tops, catch pits, inspection chambers, etc. shall be finished smooth with plaster. Nature of ground A soils investigation has been carried out on site by the engineer and the report is available upon request. Descriptions of excavations shall be deemed to include all ground conditions classifiable as earth described in the above report and where conditions of a more difficult character are indicated these are separately measured Subterranean water The tenderer must acquaint himself of the presence and depth of s ubterranean water and allow therefore in his prices. Laying, backfilling, bedding, etc. of pipes Pipes shall be laid and bedded and trenches shall be carefully backfilled in accordance with manufacturers' instructions. Where no manufacturer's instructions exist pipes shall be laid in accordance with Clauses 5.1 and 5.2 of each of the following: SABS 1200 L: Medium pressure pipelines LD: Sewers LE: Storm water drainage Pipe trenches, etc shall be backfilled in accordance with Clauses 3, 5.5, 5.6, 5.7 and 7 of SABS 1200 DB: Earthworks (Pipe trenches) Pipes shall be bedded in accordance with Clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SABS 1200 LB: Bedding (Pipes) Unless otherwise described bedding of rigid pipes shall be Class B bedding. Selected granular bedding and cradle material in 150mm layers 100 mm below pipe and 200mm above the pipe, compacted to 90% MDD. Selected backfill blanket is above the bedding in 150mm layers compacted to 90% MDD. Approved backfill 150mm layers compacted to 90% MDD.				
BILL No. 22	**Bill No. 14 STORMWATER DRAINAGE, SUB-SOIL DRAINAGE carried to collection**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 22
ITEM NO	**PAYMENT REFERS TO** / **DESCRIPTION**	**UNIT**	**QUANTITY**	**RATE**	**AMOUNT**
	General Descriptions of pipes laid in and including trenches and of inspection chambers, catchpits, etc shall be deemed to include excavation, bedding, selected backfilling material, risk of collapse, working space, compaction to a minimum of 95% MDD density in layers of 150mm and disposal of surplus material on site As-built drawings Where required, the contractor shall prepare an updated set of as-built drawings. At completion of the contract the contractor shall hand these drawings to the principal agent for reproducing onto the originals for handing over to the employer (provision for allowance of as-built drawings elsewhere) **STORM WATER DRAINAGE** **Concrete Stormwater Channel**				
1	25Mpa/19mm V shaped concrete drainage channel 100mm thick with overall canal size 600mm wide x 50mm deep finished smooth on all exposed surfaces to a uniform dense finish with closed cell expanded polyethylene filler and polyurethane sealant expansion joints at 2m centres, 150mm bottom layer to be ripped and re-compacted to 93% MDD, 150mm top layer of G5 imported material to 95% MDD including all necessary excavation, backfilling, carting away, cutting into paving, formwork, reinforcement, dowels, etc.. Channels including slopes, overall shape etc. as per engineers drawings	m	18		
2	25Mpa/19mm Trapezium shaped concrete drainage channel 125mm thick with overall canal size 600mm wide x 250mm deep finished smooth on all exposed surfaces with a steel float to a uniform dense finish with closed cell expanded polyethylene filler and polyurethane sealant expansion joints at 1.8m centres, 150mm bottom layer to be ripped and re-compacted to 93% MDD, 150mm top layer of G5 imported material to 93% MDD including all necessary excavation, backfilling, carting away, cutting into paving, formwork, reinforcement dowels, etc.. Channels including slopes, overall shape etc. as per engineers drawings	m	80		
3	25Mpa/19mm U shaped concrete drainage channel 200mm thick with overall canal size 600mm wide x 300mm deep finished smooth on all exposed surfaces with a steel float to a uniform dense finish with closed cell expanded polyethylene filler and polyurethane sealant expansion joints at 1.8m centres, 150mm bottom layer to be ripped and re-compacted to 93% MDD, 150mm top layer of G5 imported material to 93% MDD including all necessary excavation, backfilling, carting away, cutting into paving, formwork, reinforcing, dowels, etc.	m	24		
	Stone pitched Stormwater Channel				
4	19mm Compacted stone V shaped drainage channel 200mm thick with 1:3 slope, 150mm bottom layer to be ripped and re-compacted to 93% MDD, 150mm top layer of G5 imported material to 95% MDD including all necessary excavation, backfilling, carting away, cutting into paving, mortar etc. Channels including slopes, overall shape etc. as per engineers drawings	m	126		
5	Bidim A4 or similar and approved geofabric filter blanket of 2,1mm thickness under 2kPa with 150mm side and 300mm end laps including stitching over compacted surface underneath compacted stone (stone measured elsewhere)	m²	151		
BILL No. 22	**Bill No. 14 STORMWATER DRAINAGE, SUB-SOIL DRAINAGE carried to collection**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 22
ITEM NO	PAYMENT REFERS TO / DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	Sundries				
6	Extra over channel for 90 degree angle	No	24		
7	Extra over channel for forming of 20MPA concrete silt trap size 300 x 200mm high in channel including class B grate, all necessary formwork, reinforcing etc.	No	1		
8	Extra over channel for closed end	No	6		
9	Extra over channel for open end into catchpit (catchpit elsewhere measured)	No	6		
10	Extra over channel for Rectagrid RS40 or similar and approved grating size 640 x 2560mm with closed ends and 60 x 4,5mm bearer bars, laid on loose on and including 25 x 5 x 5mm thick mild steel angle iron with 100mm anchors embedded in concrete	No	10		
	Rocla or similar and approved Concrete Pipes				
	Supply, handle, lay, joint, precast concrete pipe complete with spigots & socket with rubber ring seal, etc, and bed pipes on class A/B rigid pipe bedding compacted to 90% MDD, etc. all as per Engineers detail and specifications				
11	375mm Diameter class 75D pre-cast concrete pipe laid in trenches not exceeding 1m deep, including excavation, bedding, backfilling and compaction and disposal of surplus material	m	6		
12	Ditto exceeding 1m but not exceeding 2m deep	m	4		
13	Ditto exceeding 2m but not exceeding 3m deep	m	4		
14	450mm Diameter class 100D pre-cast concrete pipe laid in trenches not exceeding 1m deep, including excavation, bedding, backfilling and compaction and disposal of surplus material	m	35		
15	Ditto exceeding 1m but not exceeding 2m deep	m	22		
16	Ditto exceeding 2m but not exceeding 3m deep	m	31		
	Excavate and Build Manholes, Kerb Inlets, etc.				
17	Excavate in compacted earth for building up manhole/kerb inlet, size approximately 1600 x 1750 not exceeding 1m deep internally with 220mm brick wall sides in engineering bricks built on and including 175mm thick, 25Mpa in-situ concrete base with ref. 888 mesh reinforcement, on 1:5 cement mortar, benching to bottom in 187.5mm thick 15Mpa concrete finished off smooth with a steel trowel and fitted with & including 25Mpa reinforced concrete roof slab and 600mm diameter heavy duty type 2A manhole cover and frame, frame cast into concrete surround with step irons to SABS 1247 fixed to brickwork at 300c/c including leaving or forming opening in brickwork for 2No. 375mm diameter outlets including all excavations, backfilling, formwork, de-watering, risk of collapse , reinforcing, etc. all as per engineers detail and specification	No	1		
18	Ditto exceeding 2m but not exceeding 3m deep	No	1		
BILL No. 22	**Bill No. 14 STORMWATER DRAINAGE, SUB-SOIL DRAINAGE carried to collection**				R0.00

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 22
ITEM NO	**PAYMENT REFERS TO**	**DESCRIPTION**	**UNIT**	**QUANTITY**	**RATE**	**AMOUNT**
		Excavate and Build Catchpits and grid inlets				
19		Excavate in compacted earth for building up grid inlet, size approximately 1800 x 1800mm not exceeding 1m deep internally with 230mm brick wall sides in engineering bricks built on and including 150mm thick, 25Mpa in-situ concrete base with ref. 245 mesh reinforcement, on 1:5 cement mortar, benching to bottom in 15Mpa concrete finished off smooth with a steel trowel and fitted with & including 25Mpa reinforced (mesh ref. 395) concrete dished cover slab approximately 1800 x 1600mm finished with steel trowel, including 520 x 790mm heavy duty grating and frame, frame cast into 1:10 sloping reinforced concrete surround with step irons to SABS 1247 fixed to brickwork at 300c/c including leaving or forming opening in brickwork for 2No. 375/450mm diameter outlets including all excavations, backfilling, de-watering, risk of collapse, formwork, reinforcing, etc. all as per engineers detail and specification	No	1		
20		Ditto exceeding 1m but not exceeding 2m deep	No	1		
		BUDGETARY ALLOWANCES				
		The following Budgetary Allowances are for work to be executed by the Main Contractor or specialist suppliers and priced at Bill rates or rates to be agreed and to be used as directed by the Principal Agent and to be deducted in whole or in part if not required				
21		Provide the sum of R50 000.00 (Fifty Thousand Rands) for municipal connection fees	Item			R50,000.00
22		Provide the sum of R50 000.00 (Fifty Thousand Rands) for additional general work still to be designed and will/may be carried out by the contractor	Item			R50,000.00
BILL No. 22		**Bill No. 14 STORMWATER DRAINAGE, SUB-SOIL DRAINAGE carried to collection**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 22
ITEM NO	PAYMENT REFERS TO	Page No.			AMOUNT
	STORMWATER DRAINAGE, SUB-SOIL DRAINAGE				
	COLLECTION				
	Total Brought Forward from Page No.	188			
		189			
		190			
		191			
BILL No. 22	Bill No. 22 STORMWATER DRAINAGE, SUB-SOIL DRAINAGE carried to Summary				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 23
Item No.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	BILL NO. 23				
	STREET FURNITURE				
	Supply and install furniture				
	Recycled Plastic Benches				
1	3 Seater 1500mm x 700mm width (RP95) Gloria Bench or similar and approved	No	10		
	Monkey Proof Recycled Plastic bins				
2	540 x 540 x 850mm self standing Monkey proof Eco bin with rotating lid or similar and approved	No	8		
	Timber Bollards				
3	Tanalith (CCA) or similar and approved treated H4 timber bollard timber bollard 170mm in diameter, 1000mm high fixed into 350 x 350 x 350mm base including all excavations, concrete, carting away, reinforcing connections holding down bolts, screws, plates etc. all in accordance with manufacturers, architect's and engineers Specifications	No	12		
BILL No. 23	Bill No. 23 STREET FURNITURE carried to Summary				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 24
Item No.	**DESCRIPTION**	**UNIT**	**QUANTITY**	**RATE**	**AMOUNT**
	BILL NO. 24				
	ELECTRICAL				
	LOW VOLTAGE CABLES				
	Supply and install PVC insulated PVC bedded SWA PVC sheathed 600/1000 V cables manufactured to SANS 1507-3 including BCEW strapped to cable.				
1	16mm² Cu x 3 core cable (From new main distribution kiosk to new Lapa distribution board)	m	100		
	Supply and install termination kits PVC insulated PVC bedded SWA PVC sheathed 600/1000 V cables, including glands, shrouds, lugs and bi-metal lugs for Al cables.				
2	16mm² Cu x 3 core cable (No.2 gland)	No.	2		
	CABLE ROUTE MARKER TAPE				
3	Supply and install cable route marker tape	m	100		
	EXCAVATIONS & ROAD CROSSINGS				
4	Excavate and back fill cable trench, including bedding material sifted on site from excavated material.(0,5m wide x 0,6m deep). Reinstate paving and ground to original condition.	m^3	30		
5	Supply and install black Ø110mm nextube sleeve pipes for road crossings including all bends and couplings required for the installation.	m	20		
6	Supply and install distribution kiosk as specified on drawing 34398-02-392-05-01. Including all labels, padlocks, disconnecting of existing cables, removing existing distribution kiosk and place in designated place on site. Install new kiosk and reconnect all existing cables.	No.	1		
7	Supply and install earth mat for distribution kiosks. 16mm² BCEW + 1.8m earthing electrodes)	No.	3		
8	Test, identify and label cables installed in new Entrance Main Distribution Kiosk and issue COC.	No.	1		
	EXTERNAL LUMINAIRES				
	Supply and install the following luminaires suspended 4.6m above the entrance and exist road of the gate house with 2.5mm² PVC insulated conductors and 2.5mm² PVC insulated earth wire. Avg supply length of 20m.				
9	Beka EcoBay or similar and approved 146W with clear glass 4011 optic and aluminium finish - 4000K IP66 rated or similar. Including all accessories to be suspended.	No.	4		
10	Supply and install Beka Focus 26W 4000K LED IP66 signage luminaire including earthspike for mounting or similar. Complete with all accessories to complete installation excluding the cable. Cable measured elsewhere.	No.	2		
11	Supply and install vandal proof steel cage around Beka Focus luminaires, with lockable gate. Including padlock and accessories to complete the installation.	No.	1		
BILL No. 24	**Bill No. 24 ELECTRICAL carried to collection**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 24
ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		LOW VOLTAGE CABLES				
		Supply and install PVC insulated PVC bedded SWA PVC sheathed 600/1000 V cables manufactured to SANS 1507-3 including BCEW strapped to cable.				
12		2.5mm² Cu x 3 core cable (From existing gate house distribution board to Beka Focus signage luminaires). Complete with pratley boxes.	m	40		
		Supply and install termination kits PVC insulated PVC bedded SWA PVC sheathed 600/1000 V cables, including glands, shrouds, lugs and bi-metal lugs for Al cables.				
13		2.5mm² Cu x 3 core cable (No.0 gland)	No.	2		
		LUMINAIRES SWITCHING				
14		Supply and install 20amp 3kA circuit breaker inside existing Gate House DB with 2 x 2.5mm² PVC insulated conductors and 2.5mm² PVC insulated earth wire. Supply length of 20m to photocells (day/night switch)	No.	3		
		CIRCUIT BREAKER				
15		Supply and install 16 amp photocell (daylight switch) on outside wall with 2 x 2.5mm2 PVC insulated conductors and 2.5mm2 PVC insulated earth wire. Supply length of 20m.	No.	1		
		TESTING				
16		Testing and commisioning of installation and issue of COC	No.	1		
		ELECTRICAL CONDUIT				
17		Supply and install Ø25mm Galvanised Steel conduit, including all couplings, loop/inspection boxes, plugs, fixing saddles (hospital saddles) and screws, cutting bending, fixing, cleaning for wiring purposes cast in concrete, in brickwork or on surface. To Include all chasing into brickwork, making good of the walls and draw wire.	m	120		
18		Supply and install Ø25mm PVC conduit, including all couplings, loop/inspection boxes, plugs, fixing saddles and screws, cutting bending, fixing, cleaning for wiring purposes cast in concrete, in brickwork or on surface. To Include all chasing into brickwork and making good of the walls.	m	40		
		EXISITNG ELECTRICAL INSTALLATION				
19		Disconnect and remove exisitng lighting installation and store in designated space provided on site. Inspect and test socket outlets and geyser isolator installation. (Existing installation consist of 6luminaires and 2 handdryers)	Sum	1		
		DISTRIBUTION BOARD				
20		Provisional sum for distribution board refurbishment.	No.	1		
		GEYSER SUPPLY				
21		Supply and install Crabtree Classic Range or similar and approved 30A double pole isolator switch in surface mounted 4 x 4 box next to geyser including yoke and cover plate with 2 x 4mm² PVC insulated conductors and 4mm² PVC insulated earth wire. Supply length of 6m to geyser. (Colour of switch: White)	No.	1		
BILL No. 24		**Bill No. 24 ELECTRICAL carried to collection**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 24
ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		HAND DRYER SUPPLY				
22		Supply and install Crabtree Classic Range or similar and approved 30A double pole isolator switch in flush mounted 4 x 4 box, 300mm from ceiling above the hand dryer, including yoke and cover plate with 2 x 4mm² PVC insulated conductors and 4mm² PVC insulated earth wire. Supply length of 15m to each hand dryer. (Colour of switch: White)	No.	3		
		EXTERNAL LUMINARIES				
		Supply and install the following luminaires suspended 4.6m above the entrance and exist road of the gate house with 2.5mm² PVC insulated conductors and 2.5mm² PVC insulated earth wire. Avg supply length of 10m.				
23		Lascon C10 / 24W LED tridonic / 6080LM / photo engrave lense - 4000K IP65 rated or similar and approved. Including all accessories to be suspended	No.	7		
24		Lascon C10 / 24W LED tridonic / 6080LM / photo engrave lense - 4000K IP65 rated or similar approved.Including all accessories to be fitted under roof steel beam.	No.	3		
		LOW VOLTAGE CABLES				
		Supply and install PVC insulated PVC bedded SWA PVC sheathed 600/1000 V cables manufactured to SANS 1507-3 including BCEW strapped to cable.				
25		2.5mm² Cu x 3 core cable (From existing gate house distribution board to Beka Focus signage luminaires). Complete with pratley boxes.	No.	45		
26		**Supply and install termination kits PVC insulated PVC bedded SWA PVC sheathed 600/1000 V cables, including glands, shrouds, lugs and bi-metal lugs for Al cables.**				
		2.5mm² Cu x 3 core cable (No.0 gland)	No.	2		
		CABLE ROUTE MARKER TAPE				
27		Supply and install cable route marker tap	m	40		
		EXCAVATIONS & ROAD CROSSINGS				
28		Excavate and back fill cable trench, including bedding material sifted on site from excavated material.(0,5m wide x 0,6m deep). Reinstate paving and ground to original condition.	m^3	15		
		LUMINAIRES SWITCHING				
29		Supply and install Crabtree Classic Range or similar and approved one lever one way 20A light switch in surface mounted 2 x 4 box, 1200mm from AFFL, including yoke and cover plate with 2 x 2.5mm² PVC insulatedconductors and 2.5mm² PVC insulated earth wire. Supply length of 10m to each light switch.	No.	3		
30		Supply and install 16amp photocell (day/night switch) on outside wall with 2 x 2.5mm² PVC insulated conductors and 2.5mm² PVC insulated earth wire. Supply length of 20m.	No.	2		
		TESTING				
31		Testing and commisioning of installation and issue of COC	No.	1		
		ELECTRICAL CONDUIT				
32		Supply and install Ø25mm Galvanised Steel conduit, including all couplings, loop/inspection boxes, plugs, fixing saddles (hospital saddles) and screws, cutting bending, fixing, cleaning for wiring purposes cast in concrete, in brickwork or on surface. To Include all chasing into brickwork, making good of the walls and draw wire.	m	80		
BILL No. 24		**Bill No. 24 ELECTRICAL carried to collection**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 24
ITEM NO	PAYMENT REFERS TO / DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
33	Supply and install Ø25mm PVC conduit, including all couplings, loop/inspection boxes, plugs, fixing saddles and screws, cutting bending, fixing, cleaning for wiring purposes cast in concrete, in brickwork or on surface. To Include all chasing into brickwork and making good of the Walls.	m	25		
	SLEEVES				
34	Supply and install Ø50mm nextube sleeve pipe with slow bend	m	10		
	DISTRIBUTION BOARD				
35	Supply and install flush mounted distribution board as specified on drawing. Including all lables and padlock.	No.	1		
	GEYSER SUPPLY				
36	Supply and install Crabtree Classic Range or similar and approved 30A double pole isolator switch in surface mounted 4 x 4 box next to geyser including yoke and cover plate with 2 x 4mm² PVC insulated conductors and 4mm² PVC insulated earth wire. Supply length of 10m to geyser. (Colour of switch: White)	No.	1		
	SMAL POWER OUTLETS				
37	Supply and install Crabtree Classic Range or similar and approved 16A single socket outlet switched in surface mounted 4 x 4 wall box yoke and cover plate with 2 x 2.5mm² PVC insulated conductors and 2.5mm² PVC insulated earth wire. Supply length of 20m to socket. (Colour of switch: White)	No.	5		
38	Supply and install Crabtree Classic Range 16A double socket or similar and approved outlet switched in flush mounted 4 x 4 wall box yoke and cover plate with 2 x 2.5mm² PVC insulated conductors and 2.5mm² PVC insulated earth wire. Supply length of 20m to socket. (Colour of switch: White)	No.	7		
39	Supply and install two channel powerskirting similar to Cabstrut Platinum Double Compartment PVC Powerskirting (EP202) or similar and approved, including all elbows, tees, end caps and fixtures.	m	25		
40	Supply and install the following power skirting outlets, including all coverplates and fixtures. **16A normal switched socket outlet with 2 x 2.5mm² PVC insulated conductors and 2.5mm² PVC insulated earth wire. Supply length of 10m to socket. (Colour of switch: White)**	No.	8		
41	16A dedicated switched socket outlet with 2 x 2.5mm² PVC Supply length of 10m to socket. (Colour of switch: Red)	No.	8		
42	CAT 6 datat outlet. (Colour of switch: White)	No.	8		
	INTERNAL LUMINAIRES **Supply and install the following luminaires including a 6A unswitched socket outlet in round PVC box, yoke and cover plate with 2.5mm² PVC insulated conductors and 2.5mm² PVC insulated earth wire. Avg supply length of 15m**				
43	Beka LED Panel 600 x 1200 48W - recessed or similar and approved	No.	6		
BILL No. 24	**Bill No. 24 ELECTRICAL carried to collection**				

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CONTRACT NUMBER: G540/2024		CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 24
ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		Supply and install the following luminaires onto timber pole structure with 2.5mm² PVC insulated conductors and 2.5mm² PVC insulated earth wire. Avg supply length of 15m				
44		Lascon C10 / 24W LED tridonic / 6080LM / photo engrave lense - 4000K IP65 rated or similar and approved.	No.	8		
		Supply and install the following wall luminaires including a flush mounted 65mm round PVC box with cover plate, 2.5mm² PVC insulated conductors and 2.5mm² PVC insulated earth wire. Avg supply length of 15m				
45		BEKA SERIES 30 NW 17W or similar and approved	No.	8		
		LUMINAIRES SWITCHING				
46		Supply and install Crabtree Classic Range or similar and approved three lever one way 20A light switch in flush mounted 2 x 4 box, 1200mm from AFFL, including yoke and cover plate with 2 x 2.5mm² PVC insulated conductors and 2.5mm² PVC insulated earth wire. Supply length of 10m to each light switch.	No.	2		
47		Supply and install Crabtree Classic Range or similar and approved one lever two way 20A light switch in flush mounted 2 x 4 box, 1200mm from AFFL, including yoke and cover plate with 2 x 2.5mm² PVC insulated conductors and 2.5mm² PVC insulated earth wire. Supply length of 10m to each light switch.	No.	2		
		TESTING				
48		Testing and commisioning of installation and issue of COC	No.	1		
49		Supply and install Ø25mm Galvanised Steel conduit, including all couplings, loop/inspection boxes, plugs, fixing saddles (hospital saddles) and screws, cutting bending, fixing, cleaning forwiring purposes cast in concrete, in brickwork or on surface. To Include all chasing into brickwork, making good of the walls and draw wire.	m	100		
50		Supply and install Ø25mm PVC conduit, including all couplings, loop/inspection boxes, plugs, fixing saddles and screws, cutting bending, fixing, cleaning for wiring purposes cast in concrete, in brickwork or on surface. To Include all chasing into brickwork, making good of the walls and draw wire.	m	50		
BILL No. 24		Bill No. 24 ELECTRICAL carried to Collection				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 24
ITEM NO	PAYMENT REFERS TO	Page No.			AMOUNT
	ELECTRICAL				
	COLLECTION				
	Total Brought Forward from Page No.	194			
		195			
		196			
		197			
		198			
BILL No. 24	Bill No. 24 ELECTRICAL carried to Summary				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 25
Item No.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	BILL NO. 25				
	MECHANICAL				
	FIRE PROTECTION EQUIPMENT				
	Supply, deliver, installation, testing, commissioning and handing over in working order and maintenance during guarantee period.				
	FIRE FIGHTING EQUIPMENT				
	FIRE HYDRANTS				
	Suction Hydrant				
1	Right Angle Tamperproof Hydrant with 100mm Storz Outlet and 100mm Female BSP Inlet. (Installation downstream of water meter connection).	No.	3		
	Isolation Valve				
2	100mm FxF (Female x Female) Full Bore BSP Brass Ball Valve	No.	3		
	Backflow Preventer				
3	Cast Iron Wafer Check Valve with Ductile Iron or 316 Stainless Steel Double Doors and EPDM Seal. This valve assembly downstream of the suction hydrant to be encased in a 600mm x 480mm medium grade cast iron manhole with frame for for access for maintenance.	No.	2		
	Twin Fire Brigade Booster Connection				
4	100mm Two-Port Booster with 65mm Brass Booster Connectors, Pressure Gauge with 100mm T/16 Inlet encased in a steel cover with front open. Pressure gauge Dial to read up to 2500kPa. (Installed downstream of Item Above).	No.	2		
	Note: Hand wheel type hydrants are strictly not acceptable.				
	STATUTORY SIGNAGE				
5	ABS signage in accordance with SANS 1186 for external raised external fire hydrants incorporating the pictographs in the standard 290mm x 290mm module size fixed on a purpose made triangular steel support such that the sign is visible from the two sides the viewing two sides along the road. The mounting height to be ±2000mm above finished ground level.	No.	8		
BILL 25	**Bill 25 MECHANICAL carried to collection**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 25
ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		PIPING RETICULATION All rates supplied in this bill of quantities shall be deemed to include scaffolding to any height and fixing piping up to roof height. All piping rates supplied shall include couplings, bends, tees, sockets, pipe supports, anchors, along the running length. All pipes suspended from concrete slabs, roof, ceiling, etc, shall to include in the rates all necessary hanger be deemed brackets, threaded rods (irrespective of the suspension length), nuts, washers, anchors and drilling of holes in the concrete slab. All pipes are generally to be concealed inside recesses, ceiling voids except where it is necessary to feed an appliance and fixed with standard type pipe supports and brackets spaced at intervals strictly as per manufacturer's recommendations. **ABOVE GROUND PIPING** **Galvanised Steel Pipework including Fittings** All above-ground firewater pipes shall be Medium Grade Galvanised Steel to SANS 62-1:2013 for nominal sizes from 25mm up to and including 150mm. All pipes and fittings shall be installed strictly in accordance with the manufacturer's specifications, and recommendations. **Pipes shall be colour coded in accordance with the requirements of SANS 10140 Identification Colour Markings - Part 3: 2017 Contents of Pipelines or similar approved in close liaison with with the Fire Engineer.** **Medium Grade Steel Pipes**				
6		100mm diameter pipes	m	350		
7		80mm diameter pipes	m	100		
		EXTERNAL FIRE PIPING RETICULATION -BELOW GROUND (BY OTHERS) High Pressure HDPE Type IV PE 80 Class 16 pipes to SANS 4427:2008 used in conjunction with electro fusion and buttweld fittings or compression fittings or Victaulic Takstubs suitable for below-ground applications for the conveyance of potable water in reticulation systems in which continuous temperatures in excess of 25°C are not encountered. All rates supplied in this bill of quantities shall be deemed to include scaffolding to any height and fixing piping up to roof height. All piping rates supplied shall include couplings, bends, tees, sockets, pipe supports, anchors, along the running length and backfilling and compaction.				
8		Ø110mm High pressure pipe laid in ground not exceeding 1000mm deep.	m	350		
9		Ø75mm High pressure pipe laid in ground not exceeding 1000mm deep.	m	100		
BILL 25		**Bill 25 MECHANICAL carried to collection**				

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ITEM NO	PAYMENT REFERS TO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		GROUND LEVEL FIRE WATER STORAGE AND PRESSURE BOOSTER PUMP SYSTEM				
		FIRE + DOMESTIC WATER TANK				
10		Supply and install sectional steel water tank constructed from square shaped standard panel size 1.22m L x 1.22m W. Tank configuration to be such that the tank is subdivided into two equal sections with a divider ±200mm below the roof of the tank. Tank Full Structure = 200 000 Litres **Note**: Tank shop drawing to be issued to the Fire Engineer for approval prior to placement of order. All tank valves and accessories to be included in the price not necessarily limited to the following: - 2-off 600mm x 600mm access manholes on the roof of the tank - 2-off Ø200 air vents - 2-off catladders - 2 x 80mm mechanical ball float valves - 2 x Ø600mm Vortex Inhibitors - 1 x Ø100mm balancing valve (normally open) - 2 x Ø80mm drain valves (normally closed). - 2 x 150mm tank delivery OS & Y isolating valve - Earthworks - Concrete works	Sum	1		
		FIRE BOOSTER PUMPS				
11		Supply and install pressure switch operated packaged electrical & diesel Duty and Standby + jockey pump set complete with all standard isolating valves, strainers, non-return valves, pressure gauges etc. -Fire pump duty = 1200 Litres per minute @ 300kPa -Pump performance curves to be submitted to Fire Engineer for approval.	Item	1		
		PUMP ROOM ,PIPING AND ACCESSORIES				
12		Supply and install all pump room interconnecting pipework complete with fittings to include all valves, flexible connections accessories not limited to the following: - 4-off non-return valves one on each pump delivery pump - 4-off isolating valves one on each pump delivery pump - 4-off site glasses with flow indicators one on each pump cooling return to tank - 4-off pump suction compound pressure gauge one on each pump - 4-off pump delivery pressure gauge one on each pump - 1-off non-return valve on the jockey pump delivery - 1-off isolating valve downstream of the jockey pump non-return valve above - 1-off pump Auto-start Arrangement - 1-off Pump Room Electrical Distribution Board - 2-off Duty Electrical Motor Driven Pump Controller Panel - 1-off Electrical Jockey Pump Controller Panel - 4-off isolating valves one on the upstream and the other downstream of the direct reading flow meter - 4-off pressure gauges on either side of the of the direct reading "Gerand" or similar approved flow meter - 2 x 125mm direct readinfg flow meter on pump Proving Test Arrangement to tank	Sum	1		
BILL 25		**Bill 25 MECHANICAL carried to collection**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 25
ITEM NO	**PAYMENT REFERS TO**		**Page No.**		**AMOUNT**
	MECHANICAL				
	COLLECTION				
	Total Brought Forward from Page No.		200		
			201		
			202		
BILL 25	**Bill 25 MECHANICAL carried to summary**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 26
Item No.	**DESCRIPTION**	**UNIT**	**QUANTITY**	**RATE**	**AMOUNT**
	BILL NO. 26				
	PROVISIONAL SUMS				
	The following Provisional Sums are all NET amounts and are for work to be executed complete by Nominated/Selected Sub-Contractors or by the Contractor himself.				
	Provisional Sums may be omitted or reduced at the Employers's sole discretion and the contractor shall not be entitled to claim for any loss by way of reductions or omissions of any discount, or percentage relating to Provisional Sums or P.C. amounts or any loss of profit related thereto.				
	The Employer shall also have the right to send onto the works and install any furniture, finishings or fitments, machinery, equipment, etc., and to supply and execute any other special works not contained in this contract during this contract, and the Contractor shall not be entitled to any percentage or discount thereon.				
	The Profit and Attendance on the following items will only be paid to the Contractor should a Nominated/Selected Sub-contractor conduct the work. If the allowance is directed for work to be done by the Contractor the Attendance amounts will not be paid to the Contractor.				
	Refer to Clause C20 for the Adjustment of Attendance.				
	N.B. Any builder's work that the Contractor may be called upon to do so in connection with any such special works or services will be measured and valued at schedule rates as executed.				
	SPECIALIST SUB-CONTRACTORS TO THE MAIN CONTRACTOR				
	COMMUNITY LIAISON OFFICER				
1	Provide the sum of R68 000.00 (Sixty Eight Thousand Rands) for the appointment of a Community Liaison Officer	Item		R68,000.00	R68,000.00
2	Allow for profit on above				
3	Allow for attendance on above				
	TRAINING OF LOCAL LABOUR				
4	Provide the sum of R130 000.00 (One Hundred and Thirty Thousand Rands) for the Training of Local Labour	Item		R130,000.00	R130,000.00
5	Allow for profit on above				
6	Allow for attendance on above				
	SMME MENTOR				
7	Provide the sum of R200 000.00 (Two Hundred Thousand Rands) for SMME mentor	Item		R200,000.00	R200,000.00
8	Allow for profit on above				
9	Allow for attendance on above				
	SECURITY GATES				
10	Provide the sum of R50 000.00 (Fifty Thousand Rand) for security gates including installation executed complete	Item		R50,000.00	R50,000.00
11	Allow for profit on above				
12	Allow for attendance on above				
BILL No. 26	**Bill No. 26 PROVISIONAL SUMS carried to collection**				

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ITEM NO	PAYMENT REFERS TO / DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	FANS TO LAPA				
13	Provide the sum of R25 000.00 (Twenty Five Thousand Rand) for the supply and installation of fans to Lapa executed complete	Item		R25,000.00	R25,000.00
14	Allow for profit on above				
15	Allow for attendance on above				
	ENTRANCE SIGNAGE				
16	Provide the sum of R25 000.00 (Twenty Five Thousand Rand) for the supply and installation of entrance signage executed complete	Item		R25,000.00	R25,000.00
17	Allow for profit on above				
18	Allow for attendance on above				
	ROOF STRUCTURE				
19	Provide the sum of R200 000.00 (Two Hundred Thousand Rand) for the design, fabrication and installation of roof structures executed complete	Item		R200,000.00	R200,000.00
20	Allow for profit on above				
21	Allow for attendance on above				
	ELECTRICAL WORKS				
22	Provide the sum of R60 000.00 (Fifty Thousand Rand) Relocation of existing water services on site, including cutting, capping, re-routing of pipework, fittings, valves, testing, and reinstatement	Sum		R60,000.00	R60,000.00
	WATER SERVICES				
23	Provide the sum of R50 000.00 (Fifty Thousand Rand) for the relocation of existing electrical services on site, including disconnection, cable trenching, cable laying, jointing, reconnection, and reinstatement	Sum		R50,000.00	R50,000.00
24	Provide the sum of R20 000.00 (Twenty Thousand Rand) For concrete encasing	Sum		R20,000.00	R20,000.00
25	Provide the sum of R50 000.00 (Fifty Thousand) for breaking down/demolishing and removing existing sewer line lot as directed by Principal Agent	Sum		R50,000.00	R50,000.00
26	Provide the sum of R30 000.00 (Thirty Thousand) for sewer connection as directed by Principal Agent	Sum		R30,000.00	R30,000.00
BILL No. 26	**Bill No. 26 PROVISIONAL SUMS carried to collection**				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE				Bill 26
ITEM NO	PAYMENT REFERS TO	Page No.			AMOUNT
	PROVISIONAL SUMS				
	COLLECTION				
	Total Brought Forward from Page No.	204 205			
BILL No. 26	Bill No. 26 PROVISIONAL SUMS carried to Summary				

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CONTRACT NUMBER: G540/2024	CONSTRUCTION OF A NEW LAPA AND THE REFURBISHMENT OF GATE HOUSE AND ABLUTIONS, EXTERNAL AREAS AND THE INSPECTION AND WORKS TO EXISTING AND NEW SERVICES AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE	SUMMARY
Item No.	DESCRIPTION	AMOUNT
BILL NO. 1	PRELIMINARIES AND GENERAL	
BILL NO. 2	ALTERATION & REMOVAL WORKS	
BILL NO. 3	EARTHWORKS	
BILL NO. 4	CONCRETE, FORMWORK AND REINFORCEMENT	
BILL NO. 5	MASONRY	
BILL No. 6	WATERPROOFING	
BILL NO. 7	ROOF COVERINGS	
BILL NO. 8	CARPENTRY & JOINERY	
BILL NO. 9	CEILINGS	
BILL NO. 10	IRONMONGERY	
BILL NO. 11	METALWORK	
BILL NO. 12	STRUCTURAL WORK	
BILL NO. 13	PLASTERING	
BILL NO. 14	TILING	
BILL NO. 15	PLUMBING & DRAINAGE	
BILL NO. 16	PAINTWORK	
BILL NO. 17	SITE WORKS AND DEMOLITIONS	
BILL NO. 18	ROADWORKS, PAVING	
BILL NO. 19	FENCING AND GATES	
BILL NO. 20	WATER RETICULATION	
BILL NO. 21	SEWER RETICULATION	
BILL NO. 22	STORMWATER DRAINAGE, SUB-SOIL DRAINAGE	
BILL NO. 23	STREET FURNITURE	
BILL NO. 24	ELECTRICAL	
BILL NO. 25	MECHANICAL	
BILL NO. 26	PROVISIONAL SUMS	
	SUBTOTAL	
	ADD 10% CONTIGENCY	
	TOTAL	
	ADD 15% VAT	
	TOTAL PROJECT CONSTRUCTION COSTS	

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PART C: THE CONTRACT
Part C3: Scope of Work

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
CONTRACT NO:	**G559/2025**

C3.1. Description of the Works

C3.1.1 Employer's Objectives

The Employer's objective is to erect various buildings/structures at the Mokopane Biodiversity Conservation Centre, Mokopane

C3.1.2 Overview of the Works

Ablution Facility
The existing ablution facility does not fully meet current operational and user requirements. The roof structure requires replacement, and the internal finishes and fittings must be renewed. The current layout and general condition necessitate refurbishment to improve functionality, durability, and hygiene in line with applicable standards.

Gate House
The gate house requires refurbishment to support effective access control and staff operations. The existing roof must be replaced. Finishes and fittings are to be upgraded to align with current operational needs and improve overall performance at the main entrance.

Lapa
There is currently no dedicated covered outdoor facility to support environmental education, staff functions, or visitor engagement. The provision of a new lapa structure is required to address this gap and improve public interface infrastructure.

External Works
Portions of the surrounding site require minor construction and landscaping works to integrate the upgraded facilities with existing infrastructure and to improve accessibility and site drainage.

Existing Services
Routine inspection and maintenance of existing water, sewer, and stormwater systems are required to ensure these networks continue to support the site's operational needs and are appropriately connected to the new and refurbished structures.

Electrical Installations
The affected buildings and new lapa require compliant and reliable electrical installations. Existing systems must be assessed and upgraded or extended to meet the requirements of the proposed works.

C3.1.3 Extent of the Works

The scope of works includes, but is not limited to, the following:

- Refurbishment to existing ablutions
- Refurbishment to existing gate house
- Construction of a new lapa
- Construction of gravel road and stormwater drainage
- Construction of new visitor and staff parking

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- Maintenance and inspection of existing services water, sewer, storm water. This includes the connection of new sewer to an existing sewer line, and the connection of existing storm water pipes to existing storm water pipes.
- Electrical works
- Installation of fire suppression system

The Contractor will be required to construct the works in conformity with design criteria specified in the Project Specification and/or shown on the drawings. The scope of work supplied must not be seen as exclusive and may be changed at any stage by the Employer.

C3.1.4 Location of the Works

The project is located at the Mokopane Biodiversity Conservation Centre, Limpopo

C3.1.5 Description of Site and Access

The Mokopane Biodiversity Conservation Centre (MBCC) is a national facility of the South African National Biodiversity Institute (SANBI) situated in Mokopane, Limpopo Province. This centre forms part of SANBI's network of conservation and research sites and plays a key role in the ex-situ conservation of threatened species, environmental education, and public awareness.

The Centre is located on a 1 300-hectare site comprising a mixture of bushveld vegetation and semi-natural open areas. The land supports a range of indigenous fauna and flora representative of the Savanna Biome, and includes animals such as antelope, zebras, and a variety of bird species. The area has been partially developed with research, administrative, and tourism-related infrastructure, while much of the site remains as conservation land.

The Centre also hosts educational and interpretive facilities, a small zoo, and breeding enclosures for rare and endangered species. The existing infrastructure includes staff accommodation, a main gate house, administration buildings, visitor amenities, and internal service roads.

Access to the site is gained from the R101 national route just outside the Mokopane town centre. The main entrance gate is located off the main road and leads directly to the internal road network. The site is accessible to standard vehicles, and appropriate signage is present along the access road. The new lapa and refurbished gate house and ablution facilities—subject to this contract—are all located within the developed portion of the Centre and are accessible via the established internal roadways.

C3.1.6 Temporary Works

All design and construction of any temporary works must be approved by the Engineer.

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PART C: THE CONTRACT
Part C3: Scope of Work

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
CONTRACT NO:	**G559/2025**

C3.2. Construction

C3.2.1 Construction Standards

The "Model Preambles for Trades (2008 Edition)" recommended and published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in the Bills of Quantities, with amendments as follows: References to "Architect" in the Model Preambles are to be read as "Principal Agent" shall apply to this contact.

This publication is available from The Association of South African Quantity Surveyors, P.O. Box 3527, Halfway House, 1685 - telephone (011) 315-4140, before a Tender is submitted.

The SANS 1200 Standardised Specification for Civil Engineering Construction prepared by Standards South Africa and specific amendments and additions to the SANS 1200 Standardized Specifications shall apply to this contract.

The SANS 1200 Standardised Specification publications are available from Standard south Africa, Private Bag X 191,Pretoria, 0001.

C3.2.2 Plant and Materials

C3.2.2.1 Plant and Materials Supplied by the Employer
None

C3.2.2.2 Materials, Samples and Shop Drawings
All materials are to be tested by a commercial laboratory as directed by the Engineer.

C3.2.3 Construction Equipment

C3.2.3.1 Requirements for Equipment
The Contractor is required to use plant and equipment that is sufficient for the contract.

C3.2.3.2 Equipment Provided by the Employer
None

C3.2.4 Existing Services

C3.2.4.1 Known Services
As-built information is unavailable at the time of tender, the onus still lies with the main Contractor to ensure that no services are damaged during the construction phase.

C3.2.4.2 Treatment of Existing Services
Contractor to use caution.

C3.2.4.3 Use of Detection Equipment for the Location of Underground Services
At main Contractor's discretion.

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C3.2.4.4 Damage to Services

It is the responsibility of the Contractor to ensure that no services are damaged during the construction process. In case the known services are damaged, the main Contractor shall be responsible for the repair off the services to the original state before it was damaged, as well as all cost associated with the damaged service.

C3.2.5 Site Establishment

C3.2.5.1 Services and Facilities Provided by the Employer

None.

C3.2.5.2 Facilities Provided by the Contractor

The onus lies with the main Contractor to find a suitable camp site, approved by the Employer.

C3.2.5.3 Storage

No requirements are specified.

C3.2.5.4 Other Facilities and Services

No requirements are specified.

C3.2.5.5 Vehicles and Equipment

No requirements are specified.

C3.2.5.6 Advertising Rights

It is the main Contractor's responsibility that no suppliers advertise on site. Any advertisement from suppliers shall be removed at the cost of the main Contractor.

C3.2.5.7 Notice Boards

The main Contractor is allowed to place a Notice board on site. The maximum allowed size of this board should be 2 x 3m.

C3.2.6 Site Usage

The Contractors are not allowed to work outside the allowed working hours, as agreed with the Engineer. The disturbance to the residence should be kept at a minimum.

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PART C: THE CONTRACT
Part C3: Scope of Work

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
CONTRACT NO:	

C3.3. Management

C3.3.1 Planning and Programming

C3.3.1.1 General

This clause describes the requirements for the preparation, submission, updating and revision of the programme for the works. The requirements are in addition to or in expansion of the JBCC PBA clause [15.6].

The programme shall be used by the contractor to plan and execute the works. The programme shall also be used by the Principal Agent to monitor progress and be the sole basis for the assessment of revisions of the date for Practical Completion.

The programme shall be produced by the contractor as follows:

a) A programme for the totality of the works shall be submitted to the principal agent for acceptance. If the principal does not accept such programme, it shall be revised and amended until it is accepted by the principal agent. This programme will then be regarded as the baseline programme.

b) This baseline programme shall be updated with actual progress on a monthly basis, or any more frequent basis as necessitated by construction events. The contractor may submit to the principal for acceptance revisions to the baseline programme.

c) Acceptance by the Principal Agent of any programme submitted by the contractor does not make such programme a contract document, nor does it mandate that the works shall be constructed strictly in accordance therewith. The contractor at all times remains responsible for the construction of the works.

C3.3.1.2 Submission of Programme

Within 10 (Ten) working days of been given possession of the site the Contractor shall submit to the Principal Agent for his review and acceptance a programme for the whole of the works showing the order in which the contractor proposes to execute the works. This programme becomes the baseline programme upon acceptance by the Principal Agent. The baseline programme shall have regard to the contract completion dates, any other milestones and any restraints set out in the contract. Thereafter, if the actual progress does not conform with the baseline programme, the Principal Agent is entitled to require the Contractor to submit a revised programme showing the order of activities necessary to ensure completion of the works by the contract completion dates.

The Contractor shall supply the Principal Agent with an electronic copy of each programme, together with a print-out bar chart or tabular report in a pre-agreed format. All programmes shall be prepared and submitted using Microsoft Project software.

Within 10 (Ten) working days of the contractor submitting a programme complete with all the information required by this clause to the principal agent for acceptance, the principal agent will accept the programme or state reasons for not accepting the programme. If such reasons are given,

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the contractor shall take account of the reasons and resubmit the programme within 5 (five) working days.

If the Principal Agent fails to act the programme is deemed to be rejected.

C3.3.1.3 Default in submission of programs

Should the contractor fail to submit a programme for acceptance as the baseline programme or not update the programme as described above, the principal agent shall be entitled to withhold 25% of the amount due to the contractor in interim payment certificates until the contractor has complied with its obligations in this regard.

C3.3.2 Health and Safety

C3.3.2.1 Health and Safety specification

In terms of the Occupational Health and Safety Act (Act 85 of 1993) (OHSA) and the Construction Regulation 2014, the Client must provide the Contractor with a Health and Safety Specification to which the Contractor must respond with a Health and Safety Plan for approval by the Client.

The purpose of this Specification is to ensure that Principal Contractors entering into a contract with the Employer maintain an acceptable level of performance with regard to health and safety issues during the performance of the contract. In this regard the OHSA Specification form an integral part of the Contract and the Principal Contractor shall ensure that their contractors and/or suppliers comply with the requirements of this Specification.

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PART C: THE CONTRACT
Part C4: Site Information

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
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PART C: THE CONTRACT
Part C4: Site Information

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION AND REFURBISHMENT WORKS AT THE MOKOPANE BIODIVERSITY CONSERVATION CENTRE**
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C4.1 Site Information

C4.1.1 Site Location

The site is located in Mokopane, at the Mokopane Biodiversity Conservation Centre, Limpopo.

Figure 1: Location of site

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ANNEXURE A: SPECIFICATIONS

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HEALTH & SAFETY SPECIFICATIONS FOR MINOR CONTRUCTION WORK ACTITIVITES 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 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
- 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)

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- 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
- 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
- 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

3. HEALTH AND SAFETY RISKS (AS BASELINE ASSESSMENT)

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

- Falling from height
- Exposure to electricity (overhead and underground cables)
- 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
- 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

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- 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 SANBIs 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. Ensue 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.

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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:
    i. Protective overalls;
    ii. Protective hand and footwear;
    iii. Protective headwear; and
    iv. 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.

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

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ANNEXURE B: GEOTECHNICAL REPORT

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SANBI
Biodiversity for Life
South African National Biodiversity Institute

CONTRACT NO.: G306/2018

ASSESSMENT, DESIGN AND PROJECT MANAGEMENT OF REQUIRED NEW BUILDINGS & REPAIRS, RENOVATIONS & UPGRADES TO VARIOUS INFRASTRUCTURE ASSETS IN THE THOHOYANDOU BOTANICAL GARDEN, THOHOYANDOU, & NATIONAL ZOOLOGICAL GARDEN CAMPUSES BASED IN PRETORIA & MOKOPANE

GEOTECHNICAL INVESTIGATION REPORT

FOR

MOKOPANE BIODIVERSITY CONSERVATION CENTRE

OCTOBER 2019

PREPARED FOR:

SANBI
Biodiversity for Life
South African National Biodiversity Institute

2 Cussonia Avenue, Brummeria,
Private Bag X101
Silverton
0184

TEL: +27 12 843 5200
EMAIL: c.willis@sanbi.org.za
WEB: www.sanbi.org

PREPARED BY:

PROJECTNEERS
CONSULTING ENGINEERS & PROJECT MANAGERS

Building 2, 1st Floor
Thornhill Office Park
94 Bekker Road,
Midrand, 1685

TEL: +27 11 043 1307
EMAIL: admin@projectneers.com
WEB: www.projectneers.com

QUALITY CONTROL

Valid from	DECEMBER 2018 TO FINAL COMPLETION			
	Name	**Org.-unit**	**Date**	**Signature**
Approved				
Released				
Revised				
Reviewed				
Released	Tshuma, B.	PJN_PM	2019-10-12	
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Prepared	Bloem, J.	GEOTHETA	2019-10-11	

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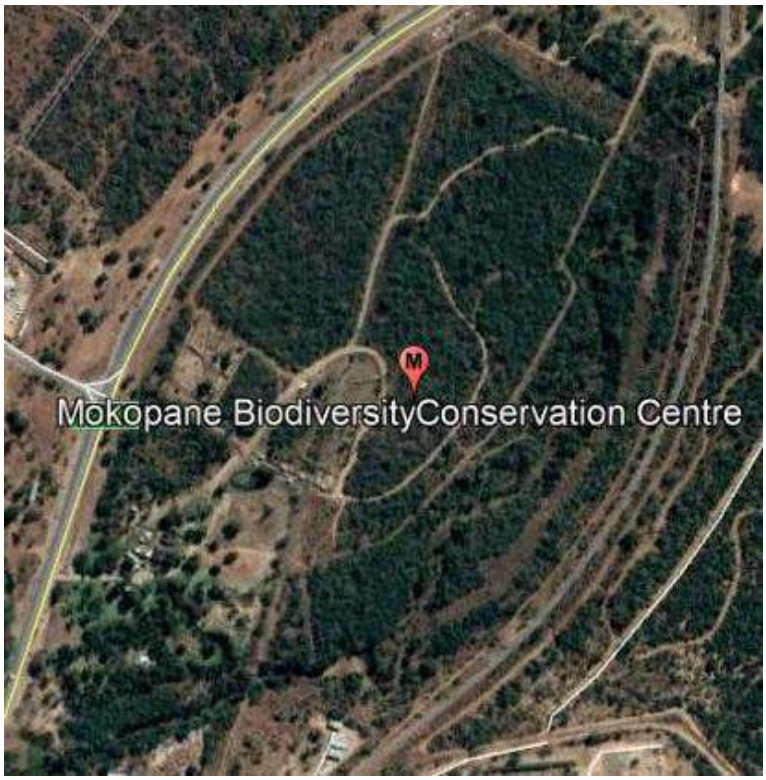
GEOTHETA CONSULTING ENGINEERS AND SCIENTISTS

Proposed New Parking areas, Private Lapa, Office Building and Staff Parking at the Biodiversity Conservation Centres, Mokopane, Limpopo

GEOTECHNICAL INVESTIGATION REPORT



Projectneers Consulting
94 New Road
Midrand
1685

1908543/01 Oct 2019

Projectneers Consulting

94 New Road, Midrand, 1685

Geotechnical Investigation and report

Report Reference Number: 1908543/01

Revision date: Oct 2019

1. Executive Summary

Projectneers Consulting commissioned Geotheta (Pty) Limited to prepare a geotechnical investigation report for the proposed new parking areas, private lapa, office building and staff parking at the Biodiversity Conservation Centre in Mokopane, Limpopo.

A near-surface geotechnical investigation was done and representative soil samples were retrieved.

The soils at the site comprise of fill (in some areas), consisting of builder's rubble, underlain by reworked residual (sandy silty clay) underlain by residual Shale (clayey silty gravel).

Due to the presence of the highly active clay to a depth of 2.0 m below surface, the construction of raft foundations is recommended above the residual to soft rock Shale.

No groundwater seepage was encounter during the investigations. However the presence of the ferricrete nodules below 1.1m could indicate the presence of a perched water level during the rainy season.

Sub-soil drainage needs to be constructed on site to protect the foundations from moisture ingress.

Laboratory results indicate that the material on site classify as MEDIUM TO HIGH according to the Van Der Merwe activity diagram.

Material excavation will be classed as *soft* to *Intermediate*.

Excess material from the foundation excavations will not be suitable as backfill material, therefore all construction material will have to be imported from a suitable source.

2. Disclaimer

2.1 Data provided to Geotheta

The opinions expressed in this Report have been based on the information supplied to Geotheta (Pty) Ltd (Geotheta) by Projectneers Consulting. The opinions in this report are provided in response to a specific request from Projectneers Consulting to do so. Geotheta has exercised all due care in reviewing the supplied information. Whilst Geotheta has compared key supplied data with expected values, the accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. Geotheta does not accept responsibility for any errors or omissions in the supplied information and does not accept any consequential liability arising from commercial decisions or actions resulting from them.

2.2 Data obtained by Geotheta

Opinions presented in this report apply to the site conditions and features as they existed at the time of Geotheta's investigations, and those reasonably foreseeable. These opinions do not necessarily apply to conditions and features that may arise after the date of this report, about which Geotheta had no prior knowledge nor had the opportunity to evaluate.

3. Statement of Geotheta Independence

Neither Geotheta nor any of the authors of this report have any material present or contingent interest in the outcome of this report, nor do they have any pecuniary or other interest that could be reasonably regarded as being capable of affecting their independence or that of Geotheta.

Geotheta has no beneficial interest in the outcome of the technical assessment being capable of affecting its independence.

Geotheta's fee for completing this report is based on its normal professional rates and/or fees plus incidental expenses. The payment of that professional fee or expense is not contingent upon the outcome of the report.

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5. Introduction

5.1 Projectneers Consulting commissioned Geotheta (Pty) Limited to prepare a geotechnical investigation report for the proposed new parking areas, private lapa, office building and staff parking at the Biodiversity Conservation Centre in Mokopane, Limpopo.

5.2 A near-surface geotechnical investigation was undertaken to measure upper soil conditions and to provide geotechnical parameters for the design of the surface infrastructure and to be able to specify the construction excavations.

5.3 The near-surface investigation comprised of a series of test pits and the retrieval of samples for laboratory testing. This was then analysed to determine the foundation conditions and soil classification.

5.4 The site investigation work commenced on 10 September 2019, and the laboratory testing results were received by 30 September 2018.

6. Terms of reference

6.1 Geotheta submitted proposal reference 1908543 – Projectneers – Thohoyandou Geotech - P01 13 Aug 2019.

6.2 Based on the proposal, Projectneers Consulting appointed Geotheta on 20 September 2019.

7. Scope of work

The accepted scope of work is:

7.1 Site geotechnical investigation

The following was done to determine the foundation geotechnical characteristics of the area

7.1.1 Test Pits

7.1.2 A Tractor Loader Backhoe (TLB) excavator was deployed to site to excavate test pits.

7.1.3 The test pits were profiled by an engineering geologist to determine the strata layers and soil characteristics. Soil samples were retrieved as necessary for laboratory testing.

7.2 Laboratory testing

The samples were sent to a SANAS certified geotechnical soils laboratory for testing and analysis. Foundation indicator tests were done.

7.3 Report

This geotechnical report was written.

8. Site Location and Description

8.1 The site is located on the northern outskirts of Mokopane just of the R101 (see Figure 1).

8.2 The proposed facilities are located around the main entrance into the Biodiversity Conservation Centre. These areas are mostly covered with grass and trees.

GEOTHETA CONSULTING ENGINEERS AND SCIENTISTS	Biodiversity Conservation Centre	1908543

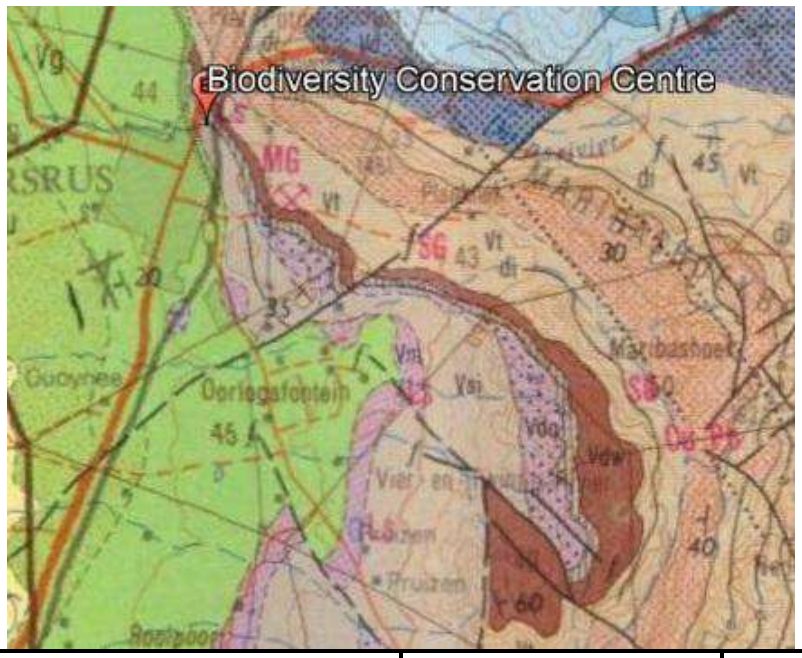
Figure 1 : Location of the site

9. GEOLOGY

9.1 Figure 2, below, indicates the regional geology of the area.

9.2 From the 1:250 000 geological map 2428 Nylstroom the site is underlain by Valian age hornfels, carbonaceous and calcareous shale, limestone and quartzite (Vst) of the Silverton Formation, Pretoria Group.

9.3 During the investigation a layer of fill was encountered underlain by clayey reworked residual material underlain by residual shale.



GEOTHETA CONSULTING ENGINEERS AND SCIENTISTS	Biodiversity Conservation Centre	1908543

Figure 2: Regional Geology

10. Engineering Geology

10.1 The influence of climate on weathering is expressed by the N-value (H.H. Weinert 1980). The most important is where N=5. Where N is more than 5, disintegration is dominant, and where N is less than 5, decomposition is dominant.

10.2 The Weinert N-value is 3.5 for this region, indicating that decomposition is the overriding process.

10.3 Weinert also mentions that where N is between 2 and 5, weathering profiles develop upwards from fresh rock to residual soil.

11. Method of Investigation

11.1 Desk study

11.1.1 The site location was submitted to the Council for Geosciences in Pretoria. It was confirmed that the site was most likely not underlain by dolomites.

11.1.2 The local geology was determined from the geological maps. The results of this study are discussed in section 11 and 12 above.

11.2 Test Pit

11.2.1 No formal grid spacing was used in setting out the test pit positions. Sites were selected instead to adequately cover the site, and to determine any variations in the site geology. The placement of the test pits was also determined by the placement of the previous foundations and structures on the site.

11.2.2 A total of 6 test pits were excavated. The positions of the test pits excavated are indicated on Figure 3.

GEOTHETA CONSULTING ENGINEERS AND SCIENTISTS	Biodiversity Conservation Centre	1908543

Figure 3: Test Pit Positions

11.2.3 The test pits were excavated with a Tractor Loader Backhoe (TLB) and soil profiles were logged according to the standard method of Jennings, Brink and Williams (1973). Test pit profiles and photographs are included in Appendices A and B respectively.

11.3 Soil Sampling

11.3.1 Samples were taken from test pit TP 1 to determine the material classification and the soil parameters of the soil present on site.

11.4 Laboratory Testing

11.4.1 The retrieved sample was submitted to Civilab in Hennopspark, Centurion, for testing.

11.4.2 Foundation Indicators tests were conducted on the samples.

11.4.3 The laboratory test results are included as Appendix C.

11.4.4 The results are discussed below.

12. Results

12.1 Site soils

12.1.1 The soil profiles of the different test pits encountered on the site are as follows

Test Pit No	Fill	Alluvial	Reworked residual	Residual to soft rock Shale	Test pit depth (m)
TP1	0.0 – 0.2	0.2 – 1.1	1.1 – 2.0	2.0– 2.6	2.6 – Partial Refusal
TP2	0.0 – 0.2	0.2 – 1.1	1.1 – 1.7	1.7 – 2.3	2.3 – Partial Refusal

TP3		0.0 – 0.8	0.8 – 1.7	1.7 – 2.4	2.4 – Partial Refusal
TP4		0.0 – 0.9	0.9 – 1.7	1.7 – 2.3	2.3 – Partial Refusal
TP5		0.0 – 0.8	0.8 – 1.1	1.1 – 1.7	1.7 – Partial Refusal
TP6		0.0 – 0.9	0.9 – 1.7	1.7 – 2.3	2.3 – Partial Refusal

12.2 Laboratory Results

12.2.1 The alluvial material classified as sandy clayey silt. The Plasticity Index is 25, the Liquid Limit 50 and the Linier Shrinkage 12.5. The value of the Grading Modulus is 0.35. The soil is HIGH activity on the van der Merwe Activity Diagram

12.2.2 The reworked residual material classified as sandy silty clay. The Plasticity Index is 25, the Liquid Limit 48 and the Linier Shrinkage 12.5. The value of the Grading Modulus is 0.37. The soil is HIGH activity on the van der Merwe Activity Diagram

12.2.3 The residual Shale classified as clayey silty gravel. The Plasticity Index is 25, the Liquid Limit 50 and the Linier Shrinkage 12.5. The value of the Grading Modulus is 1.76. The soil is MEDIUM activity on the van der Merwe Activity Diagram

13. Discussion of results

13.1 Soil profiles

13.1.1 The site is underlain by fill, consisting of builder's rubble, underlain by alluvial material, reworked residual and then by residual Shale. The typical soil profiles present on site can be summarised as follows:

- 0.0 – 0.2 m Fill (TP 1 and 2)
- 0.8 – 1.5 m Alluvial
- 0.8 – 1.5 m Reworked Residual (Pedogenic)
- 1.5 – 2.5 m Residual Andesite.

13.1.2 No groundwater seepage was encounter during the investigations. However the presence of the ferricrete could indicate the presence of a perched water level during the rainy season.

13.2 Construction material

13.2.1 The material on site cannot be used as engineered fill.

13.3 Foundation conditions

13.3.1 Due to the presence of the highly active clay to a depth of 2.0 m below surface, the construction of raft foundations is recommended above the residual to soft rock Shale.

13.3.2 All foundation excavations should be box cut to the depth of the foundation base.

13.3.3 The excavated material must be cut to spoil and replaced with a suitable G6 material and compacted in maximum 150mm thick layers to minimum density of 95% MOD AASHTO at -1% OMC

13.3.4 Lightly reinforced foundations can be used for foundation construction.

13.3.5 Maximum bearing capacity to be 150kPa.

13.3.6 The in-situ material tested have a MEDIUM to HIGH activity on the Van Der Merwe diagram. Therefore precautions must be taken to protect the foundations from moisture ingress.

13.4 Excavatability

13.4.1 The excavatability of the material on site was in the *Soft* to *Intermediate* range.

14. Summary, conclusions and recommendations

14.1 The site is underlain by fill, consisting of builder's rubble, underlain by alluvial material, reworked residual and then by residual Shale.

14.2 Six test pits were excavated using a TLB to determine the subsoil conditions on the site.

14.3 The excavatability of the material on site was *Soft* to *Intermediate*.

14.3.1 No groundwater seepage was encountered during the investigations. The presence of the ferricrete could indicates a possible perched water level during the rainy season.

14.4 Sub-surface drainage will therefore need to be constructed to prevent the accumulation of water in and/or against the foundations.

14.5 The foundations should also be protected from moisture ingress by constructing a concrete or paved apron around buildings and ensuring that all pipes are flexible and water tight.

14.6 Adequate storm water control needs to be implemented to direct the water away from the foundations.

14.6.1 Due to the presence of the highly active clay to a depth of 2.0 m below surface, the construction of raft foundations is recommended above the residual to soft rock shale.

14.6.2 All foundation excavations must be box cut to the depth of the foundation base.

14.6.3 The excavated material must be cut to spoil and replaced with a suitable G6 material and compacted in maximum 150mm thick layers to minimum density of 95% MOD AASHTO at -1% OMC

14.6.4 Lightly reinforced concrete can be used for foundation construction.

14.6.5 Maximum bearing capacity to be 150kPa.

Prepared by

Jaco Bloem – Pr Sci Nat

Reviewed by

_____

Ian Hammond Pr Eng

All data used as source material plus the text, tables, figures, and attachments of this document have been reviewed and prepared in accordance with generally accepted professional engineering and environmental practices.

15. References

15.1 WEINERT, HH. 1980. The natural road construction materials of southern Africa. Pretoria: Academica.

15.2 JENNINGS JE, BRINK ABA, and WILLIAMS AAB. 1973. Revised guide to soil profiling for civil engineering purposes in southern Africa, The Civil Engineer in South Africa, Jan 1973 Trans SAICE, Vol 15 No 1.

15.3 VAN DER MERWE, DH. 1964. The prediction of heave from the plasticity index and the percentage clay fraction of soils. The Civil Engineer in South Africa. June 1964, pp 103-107.

15.4 UNIFIED SOIL CLASSIFICATION SYSTEM. CALTRANS

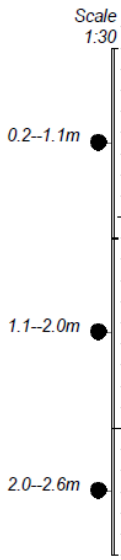
APPENDICES

Appendix A: Test Pit Profiles

Projectneers Consulting
Biodiversity Conservation Centre, Mokopane

HOLE No: TP 1
Sheet 1 of 1

JOB NUMBER: 1908543



0.00	Dry, Light brown, LOOSE, voided, SILTY SAND with rubble and tree roots. FILL.
0.20	Moist, Black and brown, FIRM, intact, SANDY CLAYEY SILT with roots and well rounded pebbles. Alluvial.
1.10	Moist, Red brown speckled white, FIRM TO STIFF, intact, SANDY SILTY CLAY with ferricrete nodules and roots. Pedogenic - Reworked Residual.
2.00	Moist, Orange and white, VERY DENSE, intact, CLAYEY SILTY GRAVEL. Residual to soft rock Shale.
2.60	Partial Refusal on soft rock Shale.

NOTES

1) No Groundwater seepage.
2) Partial Refusal at 2.6m.
3) Disturbed Sample taken at 0.2--1.1m.
4) Disturbed Sample taken at 1.1--2.0m.
5) Disturbed Sample taken at 2.0--2.6m.

CONTRACTOR : DotAfri
MACHINE : TLB
DRILLED BY :
PROFILED BY : J Bloem

TYPE SET BY : JB
SETUP FILE : STANDARD.SET

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DATE : 10.09.2019

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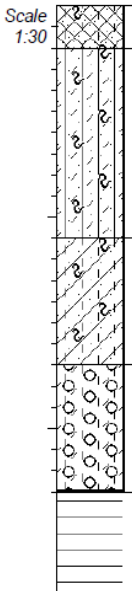
ELEVATION :
X-COORD :
Y-COORD :

HOLE No: TP 1

Projectneers Consulting
Biodiversity Conservation Centre, Mokopane

HOLE No: TP 2
Sheet 1 of 1

JOB NUMBER: 1908543



0.00	Dry, Light brown, LOOSE, voided, SILTY SAND with rubble and tree roots. FILL.
0.20	Moist, Black and brown, FIRM, intact, SANDY CLAYEY SILT with roots and well rounded pebbles. Alluvial.
1.10	Moist, Red brown speckled white, FIRM TO STIFF, intact, SANDY SILTY CLAY with ferricrete nodules and roots. Pedogenic - Reworked Residual.
1.70	Moist, Orange and white, VERY DENSE, intact, CLAYEY SILTY GRAVEL. Residual to soft rock Shale.
2.30	Partial Refusal on soft rock Shale.

NOTES

1) No Groundwater seepage.

2) Partial Refusal at 2.3m.

CONTRACTOR : DotAfri
MACHINE : TLB
DRILLED BY :
PROFILED BY : J Bloem

TYPE SET BY : JB
SETUP FILE : STANDARD.SET

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ELEVATION :
X-COORD :
Y-COORD :

HOLE No: TP 2

Projectneers Consulting
Biodiversity Conservation Centre, Mokopane

HOLE No: TP 3
Sheet 1 of 1

JOB NUMBER: 1908543

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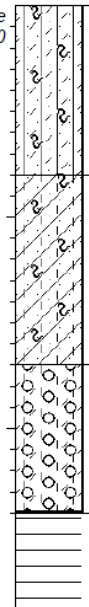

0.00 Moist, Black and brown, FIRM, intact, SANDY CLAYEY SILT with roots and well rounded pebbles.
Alluvial.

0.80 Moist, Red brown speckled white, FIRM TO STIFF, intact, SANDY SILTY CLAY with ferricrete nodules and roots.
Pedogenic - Reworked Residual.

1.70 Moist, Orange and white, VERY DENSE, intact, CLAYEY SILTY GRAVEL.
Residual to soft rock Shale.

2.40 Partial Refusal on soft rock Shale.

NOTES

1) No Groundwater seepage.

2) Partial Refusal at 2.6m.

CONTRACTOR : DotAfri
MACHINE : TLB
DRILLED BY :
PROFILED BY : J Bloem
TYPE SET BY : JB
SETUP FILE : STANDARD.SET

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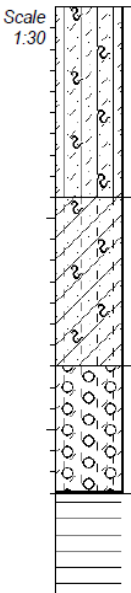
ELEVATION :
X-COORD :
Y-COORD :

HOLE No: TP 3

Projectneers Consulting
Biodiversity Conservation Centre, Mokopane

HOLE No: TP 4
Sheet 1 of 1

JOB NUMBER: 1908543



0.00 Moist, Black and brown, FIRM, intact, SANDY CLAYEY SILT with roots and well rounded pebbles.
Alluvial.

0.90 Moist, Red brown speckled white, FIRM TO STIFF, intact, SANDY SILTY CLAY with ferricrete nodules and roots.
Pedogenic - Reworked Residual.

1.70 Moist, Orange and white, VERY DENSE, intact, CLAYEY SILTY GRAVEL.
Residual to soft rock Shale.

2.30 Partial Refusal on soft rock Shale.

NOTES

1) No Groundwater seepage.

2) Partial Refusal at 2.3m.

CONTRACTOR : DotAfri
MACHINE : TLB
DRILLED BY :
PROFILED BY : J Bloem
TYPE SET BY : JB
SETUP FILE : STANDARD.SET

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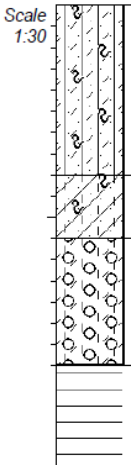
X-COORD :
Y-COORD :

HOLE No: TP 4

Projectneers Consulting
Biodiversity Conservation Centre, Mokopane

HOLE No: TP 5
Sheet 1 of 1

JOB NUMBER: 1908543



0.00	Moist, Black and brown, FIRM, intact, SANDY CLAYEY SILT with roots and well rounded pebbles. Alluvial.
0.80	Moist, Red brown speckled white, FIRM TO STIFF, intact, SANDY SILTY CLAY with ferricrete nodules and roots. Pedogenic - Reworked Residual.
1.10	Moist, Orange and white, VERY DENSE, intact, CLAYEY SILTY GRAVEL. Residual to soft rock Shale.
1.70	Partial Refusal on soft rock Shale.

NOTES

1) No Groundwater seepage.

2) Partial Refusal at 1.7m.

CONTRACTOR : DotAfri
MACHINE : TLB
DRILLED BY :
PROFILED BY : J Bloem

TYPE SET BY : JB
SETUP FILE : STANDARD.SET

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ELEVATION :
X-COORD :
Y-COORD :

HOLE No: TP 5

Projectneers Consulting
Biodiversity Conservation Centre, Mokopane

HOLE No: TP 6
Sheet 1 of 1

JOB NUMBER: 1908543

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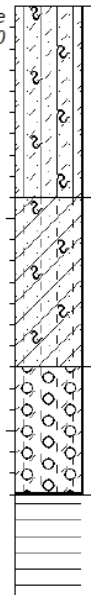

0.00 Moist, Black and brown, FIRM, intact, SANDY CLAYEY SILT with roots and well rounded pebbles.
Alluvial.

0.90 Moist, Red brown speckled white, FIRM TO STIFF, intact, SANDY SILTY CLAY with ferricrete nodules and roots.
Pedogenic - Reworked Residual.

1.70 Moist, Orange and white, VERY DENSE, intact, CLAYEY SILTY GRAVEL.
Residual to soft rock Shale.

2.30 Partial Refusal on soft rock Shale.

NOTES

1) No Groundwater seepage.

2) Partial Refusal at 2.3m.

CONTRACTOR : DotAfri
MACHINE : TLB
DRILLED BY :
PROFILED BY : J Bloem
TYPE SET BY : JB
SETUP FILE : STANDARD.SET

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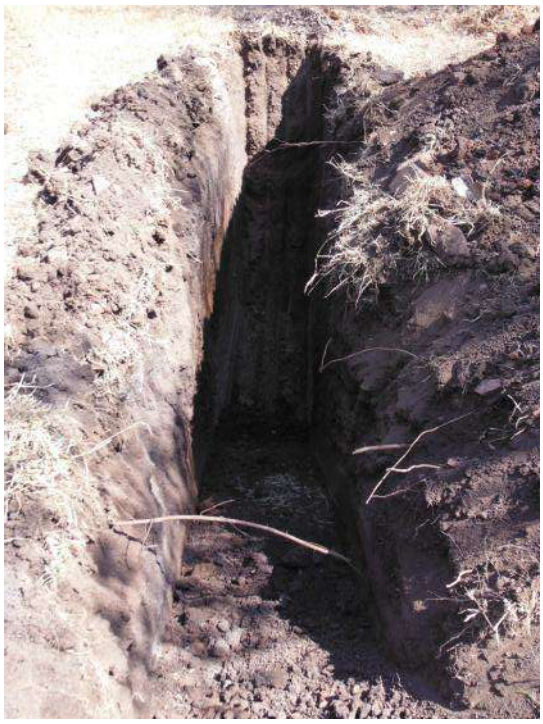
Y-COORD :

HOLE No: TP 6

Appendix B: Test Pit Photos



TP1

TP2

TP3

TP4

TP5

TP6

Appendix C: Laboratory Results

144 Edward Street, Hennopspark, Centurion 0157
PO Box 7661, Centurion 0046
Tel: +27 (0)12 653 1818 Fax: +27 (0)12 653 0997
E-mail: adminhennops@civilab.co.za
Website: www.civilab.co.za

sanas T0661

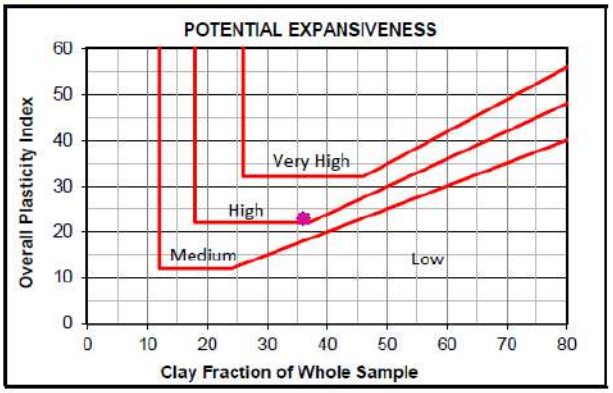
Civilab

Civil Engineering Testing Laboratories

Client	:	GEOTHETA (PTY) LTD	Date Received:		19/09/2019
Project	:	Mokopane	Date Reported:		10/10/2019
Project No	:	2019-H-715	Page No.	:	2 of 3

FOUNDATION INDICATOR

Laboratory Number		1 ◆	2 ■
Field Number		TP 1	TP 1
Client Reference			
Depth (m)		0.2 - 1.1	1.1 - 2.0
Position			
Coordinates	X		
	Y		
Description			
Aditional Information			
Calcrete / Crushed Stabilizing Agent			

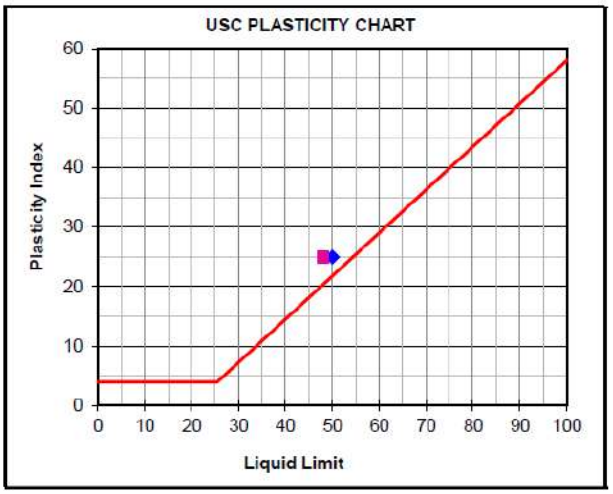


Moisture Content & Relative Density

Moisture Content (%)		
Relative Density (S.G.)		

Sieve Analysis (Wet Prep) — SANS 3001 GR1

Percentage Passing	100 mm	100	100
	75 mm	100	100
	63 mm	100	100
	50 mm	100	100
	37.5 mm	100	100
	28 mm	100	100
	20 mm	100	100
	14 mm	100	100
	5 mm	97	98
	2 mm	95	97
	1 mm	94	95
	0.425 mm	93	93
	0.250 mm	87	87
	0.150 mm	82	78
	0.075 mm	77	73
Grading Modulus		0.35	0.37

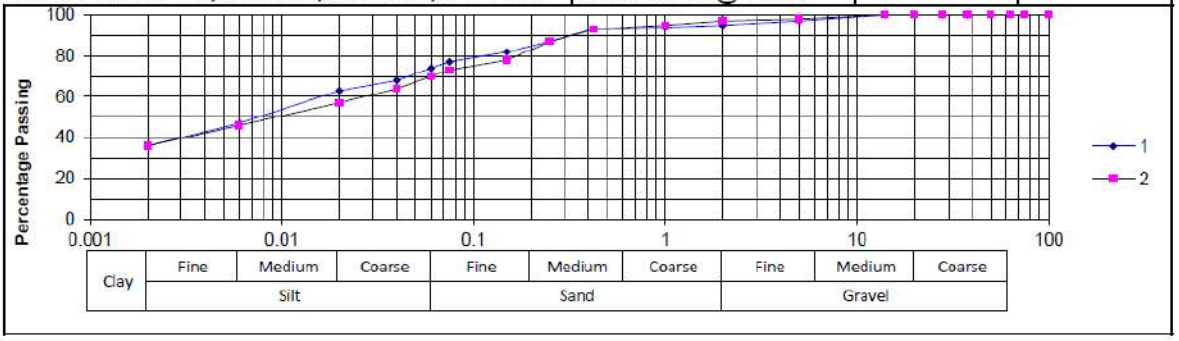


Hydrometer Analysis — SANS 3001 GR3

Percentage Passing	0.060 mm	74	70
	0.040 mm	68	64
	0.020 mm	63	57
	0.006 mm	47	46
	0.002 mm	36	36
Gravel	%	5	3
Sand	%	21	27
Silt	%	38	34
Clay	%	36	36

Note: An assumed S.G. may be used in Hydrometer Analysis calculations

Laboratory Number		1 ◆	2 ■
Atterberg Limits -425µ		SANS 3001 GR10	
Liquid Limit	%	50	48
Plasticity Index	%	25	25
Linear Shrinkage	%	12.5	12.5
Overall PI	%	23	23
Classifications			
HRB (AASHTO)		A-7-6(20)	A-7-6(18)
Unified (ASTM D2487)		CH	CL
Weston Swell @ 1 kPa			



144 Edward Street, Hennopspark, Centurion 0157
PO Box 7661, Centurion 0046
Tel: +27 (0)12 653 1818 Fax: +27 (0)12 653 0997
E-mail: adminhennops@civilab.co.za
Website: www.civilab.co.za

sanas T0661

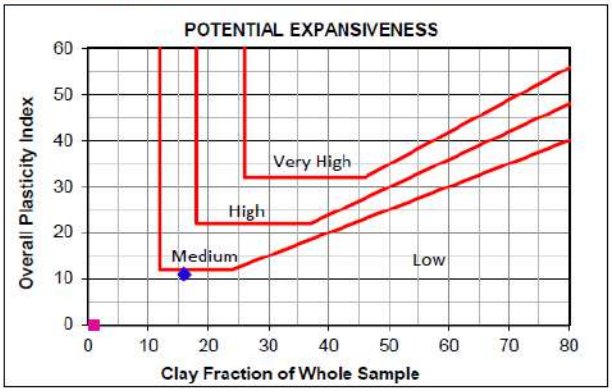
Civilab

Civil Engineering Testing Laboratories

Client	:	GEOTHETA (PTY) LTD	Date Received:		19/09/2019
Project	:	Mokopane	Date Reported:		10/10/2019
Project No	:	2019-H-715	Page No.	:	3 of 3

FOUNDATION INDICATOR

Laboratory Number		3 ◆	■
Field Number		TP 1	
Client Reference			
Depth (m)		2.0 - 2.6	
Position			
Coordinates	X		
	Y		
Description			
Aditional Information			
Calcrete / Crushed			
Stabilizing Agent			

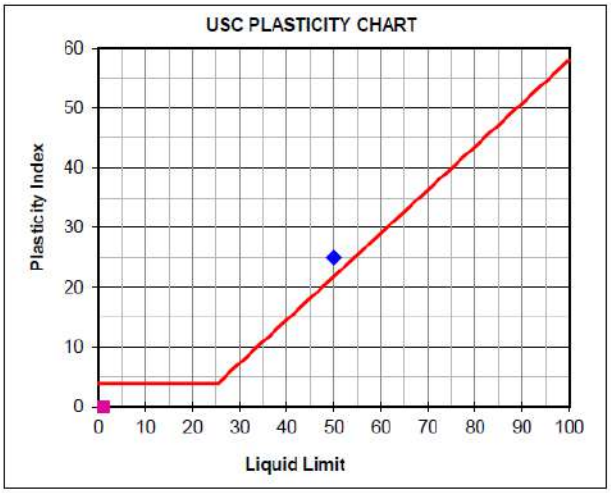


Moisture Content & Relative Density

Moisture Content (%)	
Relative Density (S.G.)	

Sieve Analysis (Wet Prep) — **SANS 3001 GR1**

Percentage Passing	100 mm	100	
	75 mm	100	
	63 mm	100	
	50 mm	100	
	37.5 mm	100	
	28 mm	100	
	20 mm	100	
	14 mm	100	
	5 mm	91	
	2 mm	46	
	1 mm	44	
	0.425 mm	42	
	0.250 mm	40	
	0.150 mm	38	
	0.075 mm	36	
Grading Modulus		1.76	

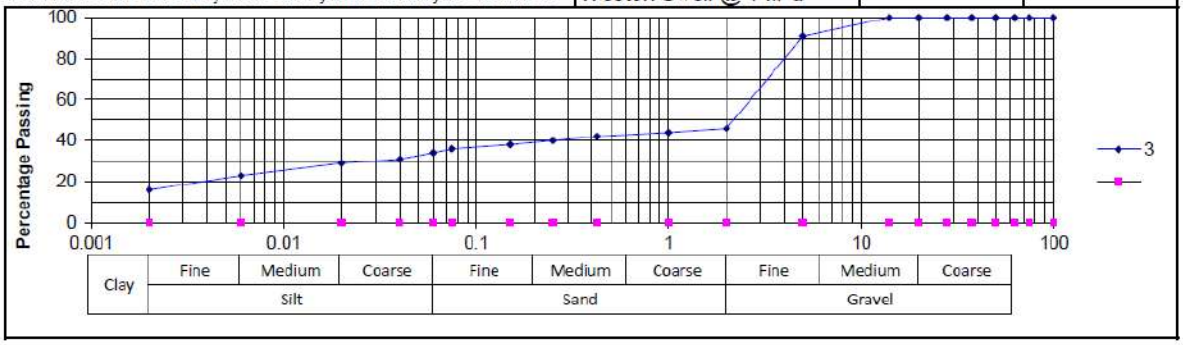


Hydrometer Analysis — **SANS 3001 GR3**

Percentage Passing	0.060 mm	34	
	0.040 mm	31	
	0.020 mm	29	
	0.006 mm	23	
	0.002 mm	16	
Gravel	%	54	
Sand	%	12	
Silt	%	18	
Clay	%	16	

Note: An assumed S.G. may be used in Hydrometer Analysis calculations

Laboratory Number		3 ◆	■
Atterberg Limits -425µ		**SANS 3001 GR10**	
Liquid Limit	%	50	
Plasticity Index	%	25	
Linear Shrinkage	%	12.5	
Overall PI	%	11	
Classifications			
HRB (AASHTO)		A-7-6(3)	
Unified (ASTM D2487)		SC	
Weston Swell @ 1 kPa			



Geotheta Report Distribution Record

Report No.	1908543/01
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Name/Title	Company	Copy	Date	Authorised by
Brighton Tshuma	Projectneers	Electronic	11 Oct 2019	Ian Hammond

Approval Signature:

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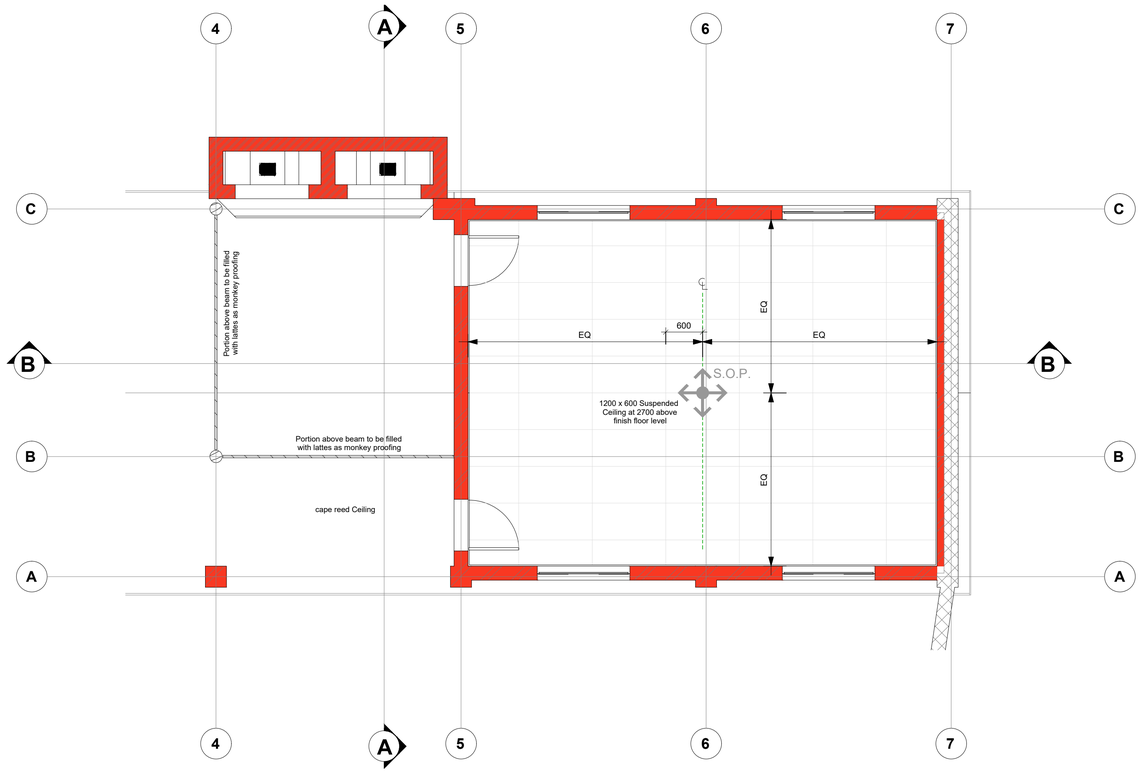
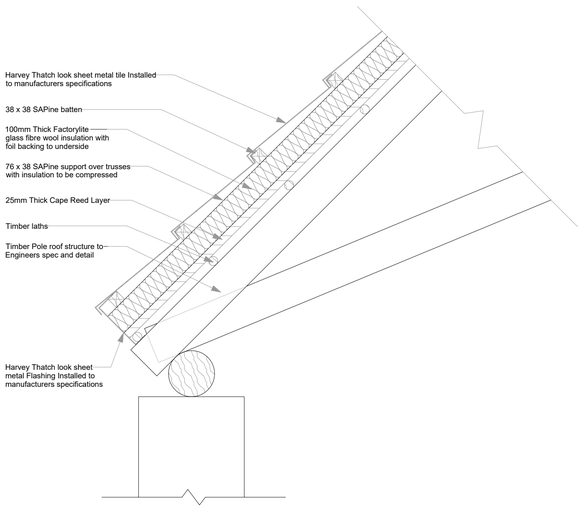
ANNEXURE C: DRAWINGS

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”.



Ground Floor Ceiling Plan

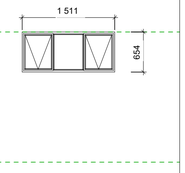
Scale 1 : 50



Roof Detail

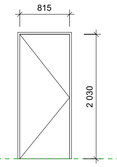
Scale 1 : 10

WINDOW SCHEDULE



DESCRIPTION	New mild steel window. Code: NE4
QUANTITY	4
WINDOW NUMBER	W1
GENERAL	
WINDOW FRAME	Manufactured from standard steel profiles with standard top hung window frame and opening section as supplied complete with hinges and handles by manufacture. Window frames to be delivered to site.
WINDOW FRAME FINISH	Prepare and apply one coat merit universal undercoat and two coats gloss enamel paint Colour – to be confirmed by Architects.
GLASS	4 mm thick clear float glass. Glass to be in accordance with SANS 10400.
WINDOW FURNITURE	As supplied complete by manufacturer.
BURGLAR BARS	Standard mild steel flat bar burglar proofing bars to window opening sections with finish as per window frames

DOOR SCHEDULE



DESCRIPTION	New steel frame with new timber door leaf
QUANTITY	2
DOOR NUMBER	D1
DOOR FRAME	Standard 1.2 mm thick mild steel double rebated single door frame. Door frame to be suitable for wall with plaster and paint both sides. Door frame to be supplied complete with 1½ pair hinges per door leaf with lugs and rubber buffers as supplied complete by manufacturer. Door frame to be pre painted and delivered to site with a factory applied Red Oxide metal primer.
DOOR FRAME FINISH	Apply Plascon or similar approved mild steel primer as required to any damaged pre painted metal primer areas. Prepare and clean door frame and apply one coat Plascon or similar approved merit universal undercoat and finish with two coats Plascon or similar approved gloss enamel paint finish. Colour – to be confirmed by Architects.
DOOR LEAF	TDM Doors or similar approved solid single door leaf with hardwood edges and Masonite finish suitable for painting to both sides.
DOOR LEAF FINISH	Prepare and apply timber door leaf and apply one coat Plascon or similar approved wood primer – Pink UC 2, one coat merit universal undercoat - White UC 1 and two coats Plascon or similar approved gloss enamel paint. Paint to be roller applied. Colour – to Architects approval.
KICK PLATE	None
PUSH PLATE	None
HANDLE	Union/Assa Abloy or similar approved Sable lever door handle on backplate code AL 65A63 lever handle on 152x76mm modular backplate to both sides suitable for euro profile cylinder lock. Finish – Anodised Silver.
LOCK	Union/Assa Abloy or similar approved upright mortice lock,, code 22315 suitable for Euro cylinder lock. SABS approved and to conforms to SABS ISO 9001:2000 norms.
CYLINDER	Union/Assa Abloy or similar approved 2 x 18 Euro profile double cylinder. Cylinder to be supplied complete with three keys.
FLUSH BOLT	-
CABIN HOOKS	-
COAT HOOKS	-
DOOR STOP	Union/Assa Abloy or similar approved AL8730AS floor mounted door stop. Position to be confirmed on site.

GENERAL NOTES

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9.Do not scale this drawing; refer to figured dimensions only

NOTE:
ALL ENERGY USAGE TO COMPLY WITH SANS 10400 - XA AND SANS 204

AIR LEAKAGE TO WINDOWS & DOORS:
- ALL TO COMPLY WITH SANS 204 PART 4.4.3
- FENESTRATION AREA - max 2L/s/mqs
- FIXED GLAZING - max 0.36L/s/mqs
- REVOLVING & SWINGING DOORS - max 5L/s/mqs
- ALL EXTERNAL DOORS INCLUDING THE GARAGE DOOR TO COMPLY TO SANS 204 : 2011, PART 4.4.3.4

WINDOWS & DOORS:
- FENESTRATION TO COMPLY TO SANS 10400 XA PART 4.4.4. AND SANS 613.
- SEE FENESTRATION CALCULATIONS IF REQUIRED
- SEE WINDOW & DOOR SCHEDULE

EXTERNAL WALL CONSTRUCTION:
- DOUBLE SKIN (230mm) MASONRY WALL WITH NO CAVITY. PLASTERED INTERNALLY OR RENDERED EXTERNALLY WILL COMPLY - SANS 10400 XA PART 4.4.3.

FLOORS:
- INSULATION WITH A R-VALUE OF 1 TO BE INSTALLED UNDER ALL FLOOR SLABS WITH UNDER FLOOR HEATING.
- BUILDINGS WITH A FLOOR AREA OF LESS THAN 500msq WITH A CONCRETE SLAB ON GROUND SHALL HAVE INSULATION INSTALLED AROUND THE VERTICAL EDGE OF ITS PERIMETER - TO COMPLY WITH SANS 204 PART 4.3.2.1 - SEE DETAIL

WATER & SEWER INSTALLATION:
- SEWER INSTALLATION TO COMPLY WITH SANS 10400 PART P AND SANS 10252-2
- WATER INSTALLATION TO COMPLY WITH SANS 10152-1 AND SANS 10400 PART XA WHERE APPLICABLE

WATER PIPES:
- ALL HOT WATER PIPING TO BE INSULATED WITH INSULATION WITH MIN R-VALUE AS PER SANS 10400 XA PART 4.1

HOT WATER REQUIREMENTS:
- A MINIMUM OF 50% BY VOLUME OF THE ANNUAL AVERAGE HOT WATER HEATING REQUIREMENT SHALL BE PROVIDED BY MEANS OTHER THAN ELECTRICAL RESISTANCE HEATING AS PER SANS 204 PART 4.5.2

ROOF:
- ROOF TO ACHIEVE MIN R-VALUE AS PER SANS 10400 XA PART 4.4.5

FIRE NOTES:

1. Design as per SANS-10400 of 2011 - or as per the rational assessment submitted.
2. **SANS-10400 -Part A** - building classification - **H4**
3. **Fire Hydrants**
   To be installed as per SANS-1128 and 4.35.
4. **Fire Hose Reels**
   To be installed as per SANS-534 and 4.37.
5. **Fire Extinguishers**
   To be installed as per SANS-0105 and 4.37.
6. **Water supply**
   To be independent from domestic - too comply to SANS-10400 - part W
7. Only approved locking devices to be installed on escape door.
8. **Width of escape door**
   All escape doors to be minimum 813mm.
9. **Floor coverings**
   As per SANS-10400 - 4.14
10. **Wall coverings**
    As per SANS-10400 - 4.15.
11. **Emergency lighting**
    As per SANS-10400 - 4.30.
12. **Fire signage**
    As per SANS-1186.
13. **Structural Stability:**
    As per SANS - 10400 - 4.7

Proposed New Building(s) & Refurbishment Of Building(s) on Portion 30 Of The Farm Piet Potgietersrus And Townlands 44ks for South African National Biodiversity Institute

FOR TENDER

TECHI Engineers

Drawing No. LPSD-202

Pr. Eng. Approved

Date

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2026.06.30							

Client: SANBI – Mobilising for a South African National Biodiversity Institute

Signature:

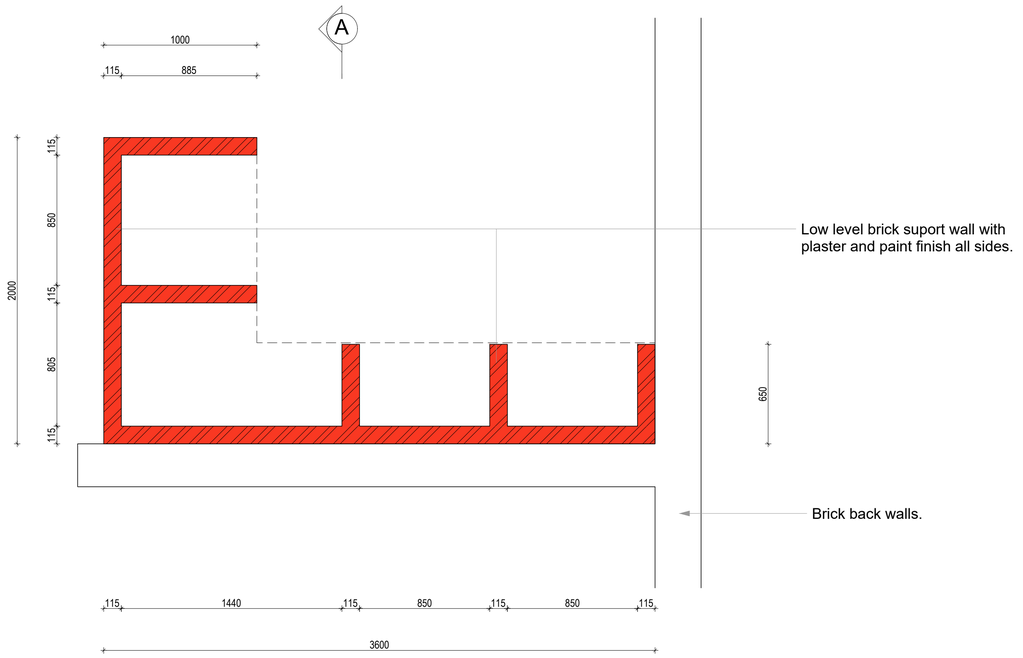
Date:

PROJECT DESCRIPTION
ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

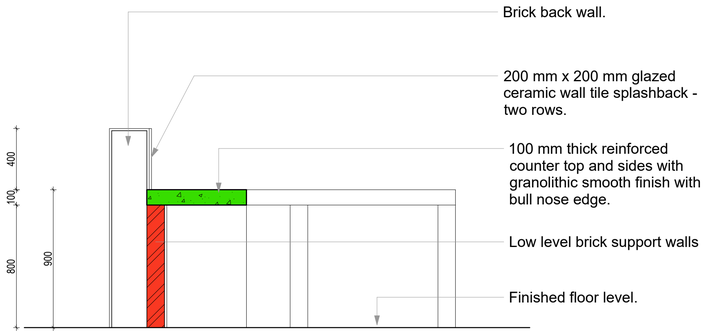
TITLE
LAPA CEILING PLAN,
WINDOW AND DOOR SCHEDULE

A1

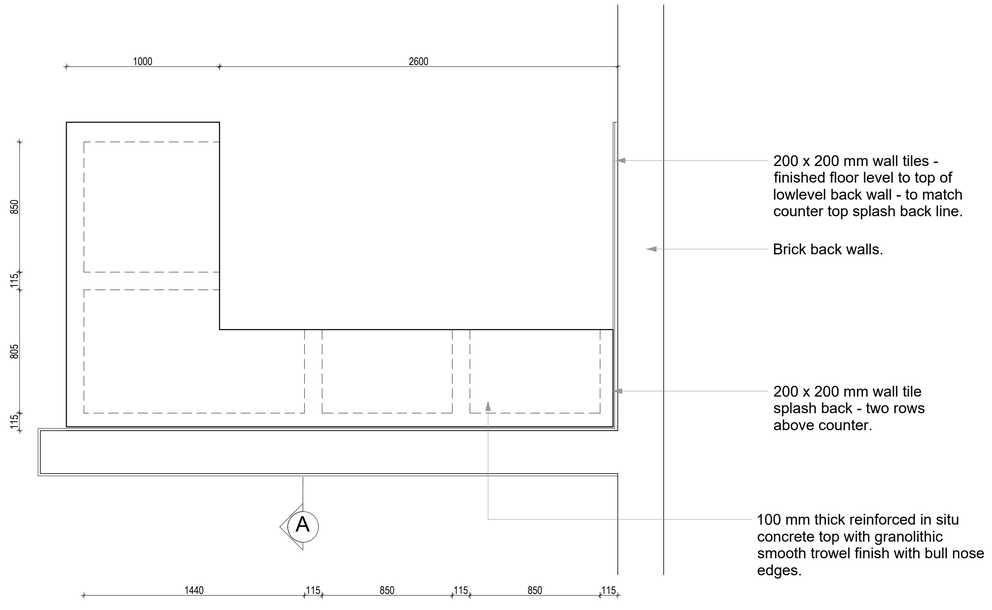
DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG No:	REV:
EM	2026.06.30					AS SHOWN		2516-G540-LPSD-202	0



BRICK SUPPORT STRUCTURE PLAN 1: 20



DETAIL SECTION A-A 1 : 20



COUNTER TOP PLAN 1 : 20

NOTE - Provide Kirk or similar approved stainless steel straight edge trim to top of all wall/splashback and exposed side edges of all wall tiles.

KITCHEN COUNTER DETAILS

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NOTE:
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AIR LEAKAGE TO WINDOWS & DOORS:
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- FENESTRATION AREA - max 2L/s/mqs
- FIXED GLAZING - max 0.306L/s/mqs
- REVOLVING & SWINGING DOORS - max 5L/s/mqs
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ROOF:
- ROOF TO ACHIEVE MIN R-VALUE AS PER SANS 10400 XA PART 4.4.5

FOR TENDER

TECHI Engineers

Drawing No. LPSD-203

Pr. Eng. Approved

Date

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2026.06.30							

Client: SANBI — South African National Biodiversity Institute

Signature:

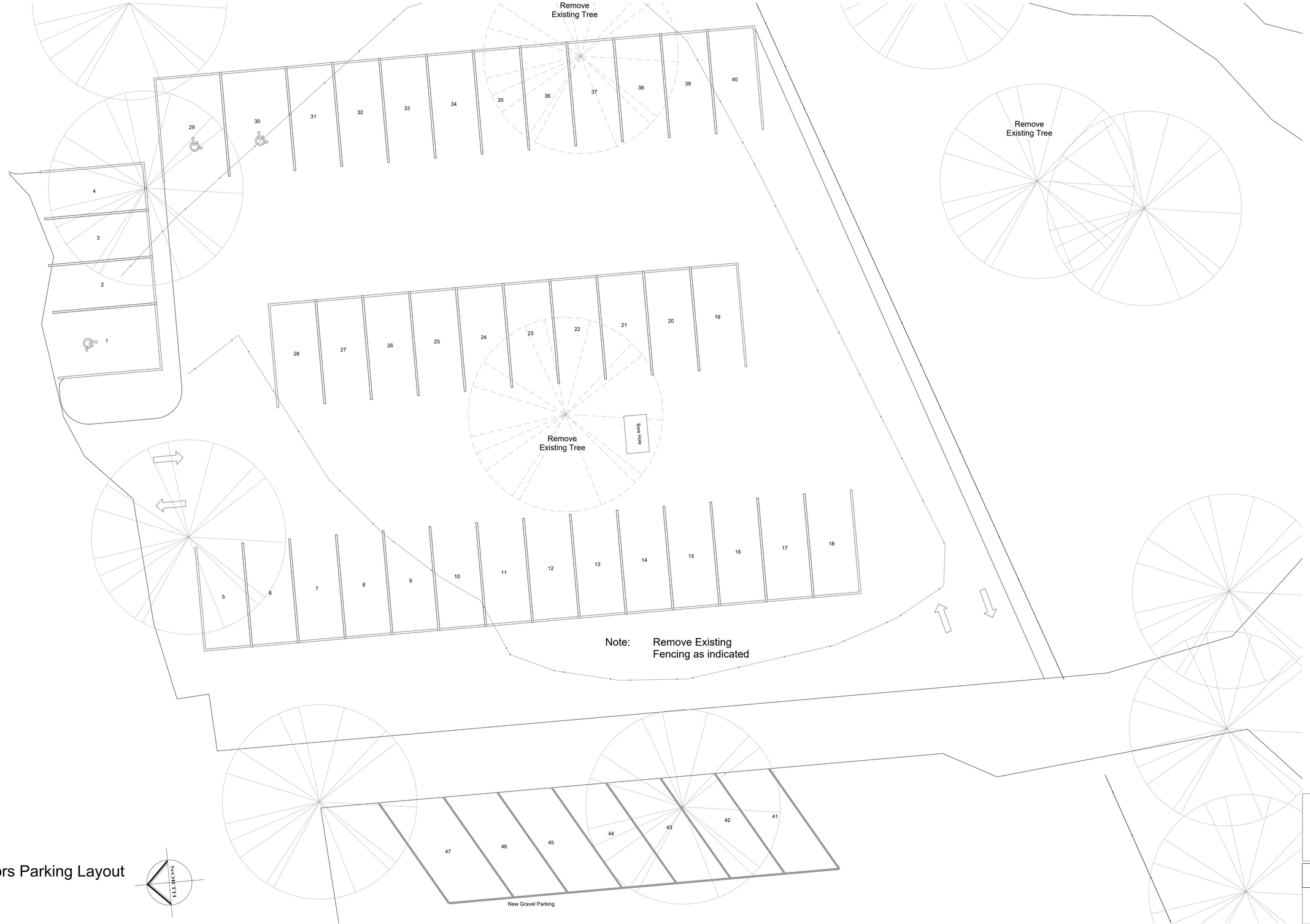
Date:

PROJECT DESCRIPTION: MOKOPANE BIODIVERSITY CONSERVATION CENTRE

TITLE: LAPA KITCHEN COUNTER DETAIL

A1

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG No:	REV:
EM	2026.06.30					AS SHOWN		2516-G540-LPSD-203	0



Visitors Parking Layout

1 : 100

NORTH

Proposed New Building(s) & Refurbishment Of Building(s) on Portion 30 Of The Farm Piet Potgietersrus And Townlands 44ks for South African National Biodiversity Institute

FOR TENDER

TECHI Engineers

Drawing No. PPSD-500

Pr. Eng. Approved

Date

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REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2026.06.30							

Client: SANBI — South African National Biodiversity Institute

Signature:

Date:

PROJECT DESCRIPTION: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

TITLE: PUBLIC PARKING

A1

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
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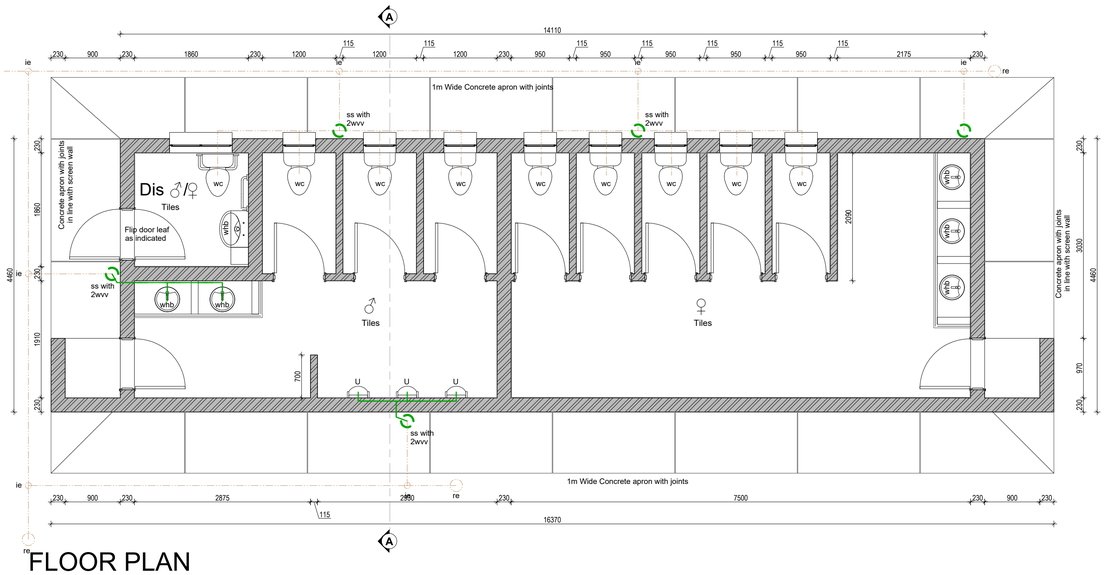
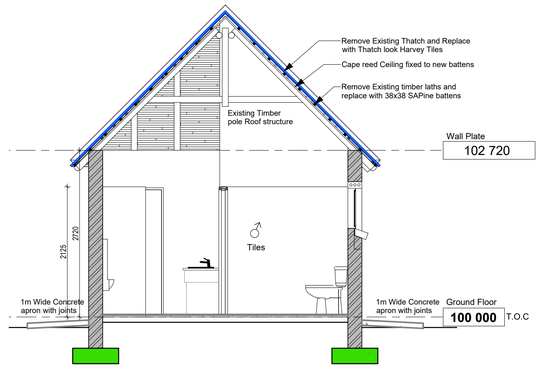
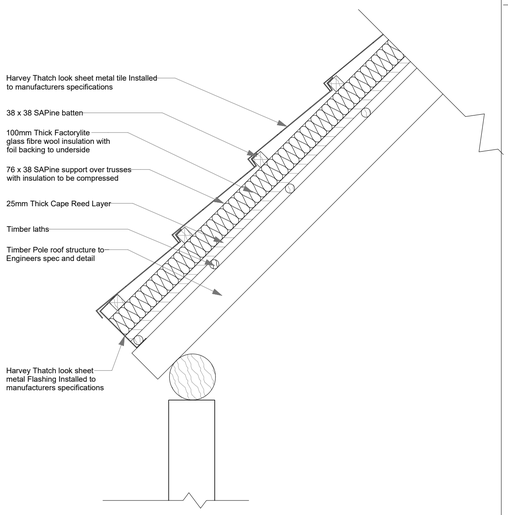


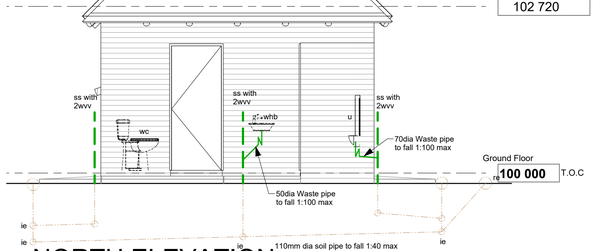
FLOOR PLAN
Scale 1 : 50



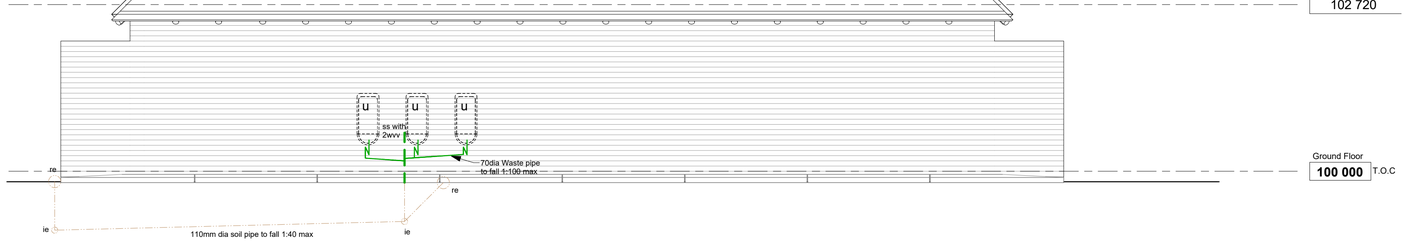
SECTION A-A
Scale 1 : 50



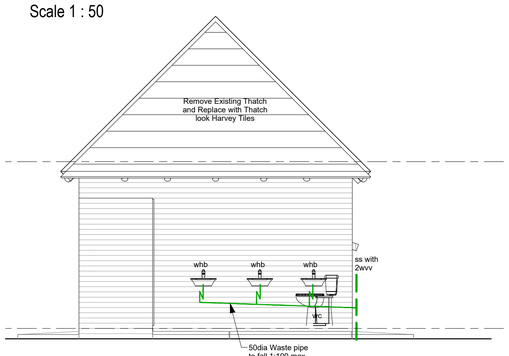
ROOF DETAIL
1 : 10



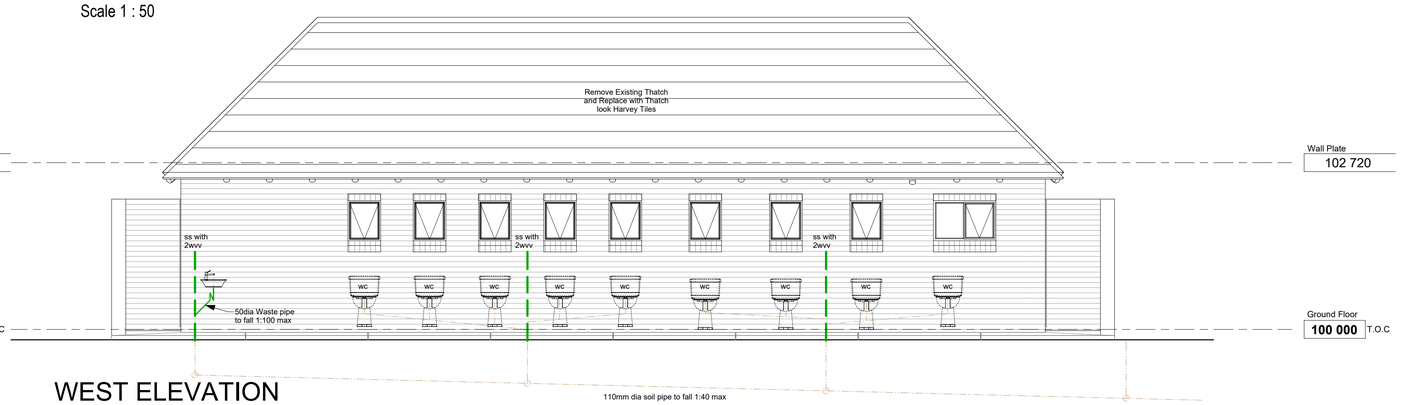
NORTH ELEVATION
Scale 1 : 50



EAST ELEVATION
Scale 1 : 50



SOUTH ELEVATION
Scale 1 : 50



WEST ELEVATION
Scale 1 : 50

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- SEE WINDOW & DOOR SCHEDULE

EXTERNAL WALL CONSTRUCTION:
- DOUBLE SKIN (230mm) MASONRY WALL WITH NO CAVITY. PLASTERED INTERNALLY OR RENDERED EXTERNALLY WILL COMPLY - SANS 10400 XA PART 4.4.3.

FLOORS:
- INSULATION WITH A R-VALUE OF 1 TO BE INSTALLED UNDER ALL FLOOR SLABS WITH UNDER FLOOR HEATING.
- BUILDINGS WITH A FLOOR AREA OF LESS THAN 500msq WITH A CONCRETE SLAB ON GROUND SHALL HAVE INSULATION INSTALLED AROUND THE VERTICAL EDGE OF ITS PERIMETER - TO COMPLY WITH SANS 204 PART 4.3.2.1 - SEE DETAIL

WATER & SEWER INSTALLATION:
- SEWER INSTALLATION TO COMPLY WITH SANS 10400 PART P AND SANS 10252-2
- WATER INSTALLATION TO COMPLY WITH SANS 10152-1 AND SANS 10400 PART XA WHERE APPLICABLE

WATER PIPES:
- ALL HOT WATER PIPING TO BE INSULATED WITH INSULATION WITH MIN R-VALUE AS PER SANS 10400 XA PART 4.1

HOT WATER REQUIREMENTS:
- A MINIMUM OF 50% BY VOLUME OF THE ANNUAL AVERAGE HOT WATER HEATING REQUIREMENT SHALL BE PROVIDED BY MEANS OTHER THAN ELECTRICAL RESISTANCE HEATING AS PER SANS 204 PART 4.5.2

ROOF:
- ROOF TO ACHIEVE MIN R-VALUE AS PER SANS 10400 XA PART 4.4.5

TYPICAL DRAINAGE NOTES:
- sanitary facilities required during construction shall comply with SANS 10400 part F 4.2
- any waste pipe exceeding 6m to be back vented
- head of drain or branch exceeding 6m to be back vented.
- all plumbing to be back vented
- re seal traps on all basins
- all drainage from canteen or kitchens other than tea kitchens to go to a grease trap to local authorities approval
- all internal drainage to specialist details & to Architectural Professional approval
- all external drainage layouts to ENGINEER'S details & specifications to Architectural Professional's approval
- ducts & toilets to be mechanically ventilated where required to Mechanical ENGINEER'S details & specifications & to Architectural professional's approval
- All plumbing & drainage work & installation of sanitary fittings to comply with SANS 10400 (part P) & the relevant Local Authority by-laws, regulations & requirements.
- Provide R.E.'s to all bends & junctions with suitable markers at ground level.
- Minimum fall to all drain pipes to be 1:60.
- Provide approved reseal traps to all waste fittings.
- I.E.'s to waste pipes to be fully accessible at all times.
- All soil pipes passing under buildings or footings are to be protected from the load at all times.
- All waste fittings on the one-pipe system to have 65mm deep seal trap & to be A.S.V.P.'d.
- RE'S to be provided at max. every 25m.
- Plumber to confirm all new work as laid out on drawings is correct.
- All drains to be accessible for repair along entire length.
- Domestic water supply to be balanced.
- Geysers to be high pressure geysers.
- All stub stacks to be fitted with two way vent valves.
- Open vent pipe to be provided at head of drain.
- The plumber is to keep all piping free of rubble & building materials.
- PLUMBER TO CALL FOR ALL LOCAL AUTHORITY INSPECTIONS AS & WHEN REQUIRED
- ALL DRAINAGE AS PER SANS 10400 PART P

ALL DRAINAGE TO BE CARRIED OUT BY A TRAINED & REGISTERED PLUMBER AS PER SANS 10400 PART A AZ2

FIRE NOTES:
1. Design as per SANS-10400 of 2011 - or as per the rational assessment submitted.
2. **SANS-10400 -Part A** - building classification - **H4**
3. **Fire Hydrants**
   To be installed as per SANS-1128 and 4.35.
4. **Fire Hose Reels**
   To be installed as per SANS-534 and 4.37.
5. **Fire Extinguishers**
   To be installed as per SANS-0105 and 4.37.
6. **Water supply**
   To be independent from domestic - too comply to SANS-10400 - part W
7. Only approved locking devices to be installed on escape door.
8. **Width of escape door**
   All escape doors to be minimum 813mm.
9. **Floor coverings**
   As per SANS-10400 - 4.14
10. **Wall coverings**
    As per SANS-10400 - 4.15.
11. **Emergency lighting**
    As per SANS-10400 - 4.30.
12. **Fire signage**
    As per SANS-1186.
13. **Structural Stability:**
    As per SANS - 10400 - 4.7

Proposed New Building(s) & Refurbishment Of Building(s) on Portion 30 Of The Farm Piet Potgietersrus And Townlands 44ks for South African National Biodiversity Institute

FOR TENDER

TECHI Engineers

Drawing No. PTSD-300

Pr. Eng. Approved

Date

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
1	ISSUED FOR TENDER	2026.06.30							

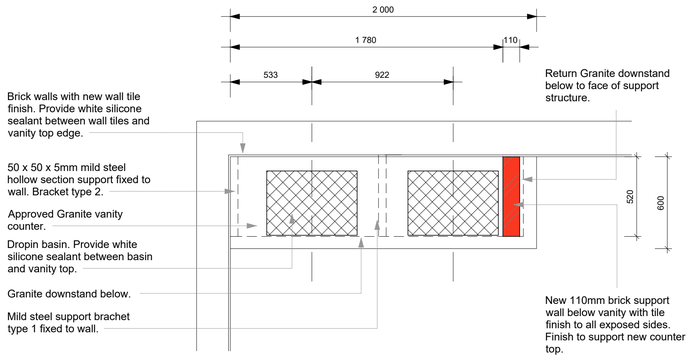
Client: SANBI — South African National Biodiversity Institute
Signature:
Date:

PROJECT DESCRIPTION
ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

TITLE
PUBLIC TOILET FLOOR PLAN, SECTION, ELEVATIONS AND ROOF DETAIL

A1

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG No:	REV:
EM	2026.06.30					AS SHOWN		2516-G540-PTSD-300	0

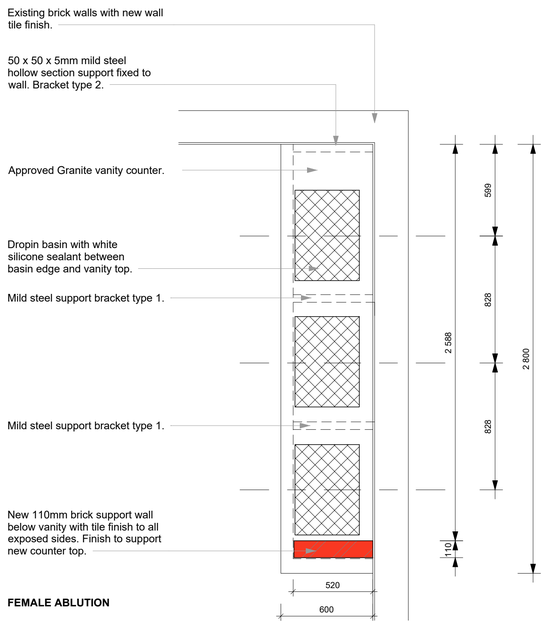


MALE ABLUTION

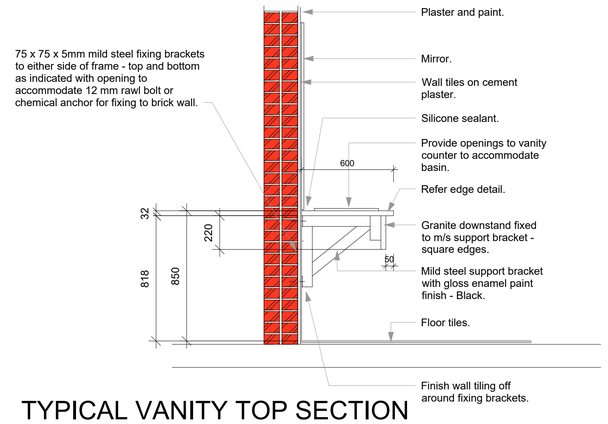
NOTE: CHECK ALL DIMENSIONS ON SITE PRIOR TO MANUFACTURE OF COUNTER TOPS

VANITY TOP PLANS

1 : 20

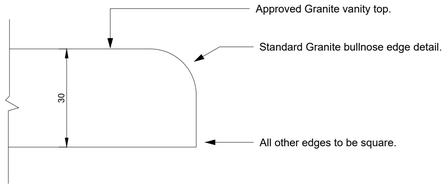


FEMALE ABLUTION



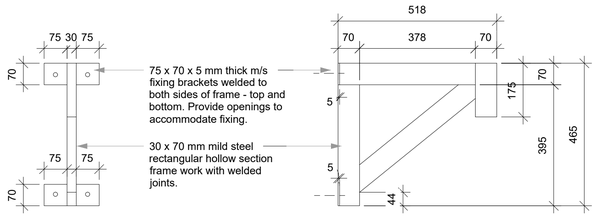
TYPICAL VANITY TOP SECTION

1 : 20



VANITY TOP EDGE DETAIL

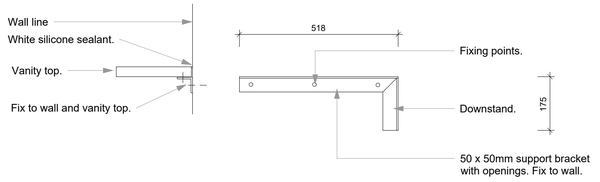
1 : 1



FINISH: Prepare and clean m/s and apply one coat red oxide factory primer, finish with one coat Plascon merit universal primer and two coats Plascon gloss enamel paint. Colour - Black.

TYPE 1 SUPPORT BRACKET

1 : 10



TYPE 2 SUPPORT BRACKET

1 : 10

GENERAL NOTES

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1.The Contractor is responsible for the correct setting out of the buildings and allexternal and internal walls with particular reference to boundaries, building lines and setting out points.

2.The Contractor is to verify all levels, heights and dimensions on site and is to checkthese against the drawing before putting any work in hand.

3.The Contractor is to locate and identify existing services on the site and to protect these from damage throughout the duration of the contract.

4.The Contractor is referred to the Standard Guidelines for Quality Control issued by this office for all minimum requirements for workmanship and materials. This document is to be used in conjunction with this drawing.

5.Any errors, discrepancies or omissions are to be reported to the Architect immediately

6.Any errors, discrepancies or omissions are to be reported to the Architect immediately

7.Contractor is to build in Approved D.P.C.'s, whether or not these are shown on drawings, to all external walls at each floor, beam or parapet level and to all windows, doors, grilles or other opening in external walls. Cavity walls to have stepped D.P.C.'s.

8.Any queries arising from all the above must be reported to the Architects for clarification before any work is put in hand.

9.Do not scale this drawing; refer to figured dimensions only

NOTE:
ALL ENERGY USAGE TO COMPLY WITH SANS 10400 - XA AND SANS 204

AIR LEAKAGE TO WINDOWS & DOORS:
- ALL TO COMPLY WITH SANS 204 PART 4.4.3
- FENESTRATION AREA - max 2L/s/msq
- FIXED GLAZING - max 0.30ℓL/s/mqs
- REVOLVING & SWINGING DOORS - max 5L/s/mqs
- ALL EXTERNAL DOORS INCLUDING THE GARAGE DOOR TO COMPLY TO SANS 204 : 2011, PART 4.4.3.4

WINDOWS & DOORS:
- FENESTRATION TO COMPLY TO SANS 10400 XA PART 4.4.4. AND SANS 613.
- SEE FENESTRATION CALCULATIONS IF REQUIRED
- SEE WINDOW & DOOR SCHEDULE

EXTERNAL WALL CONSTRUCTION:
- DOUBLE SKIN (230mm) MASONRY WALL WITH NO CAVITY. PLASTERED INTERNALLY OR RENDERED EXTERNALLY WILL COMPLY - SANS 10400 XA PART 4.4.3.

FLOORS:
- INSULATION WITH A R-VALUE OF 1 TO BE INSTALLED UNDER ALL FLOOR SLABS WITH UNDER FLOOR HEATING.
- BUILDINGS WITH A FLOOR AREA OF LESS THAN 500msq WITH A CONCRETE SLAB ON GROUND SHALL HAVE INSULATION INSTALLED AROUND THE VERTICAL EDGE OF ITS PERIMETER - TO COMPLY WITH SANS 204 PART 4.3.2.1 - SEE DETAIL

WATER & SEWER INSTALLATION:
- SEWER INSTALLATION TO COMPLY WITH SANS 10400 PART P AND SANS 10252-2
- WATER INSTALLATION TO COMPLY WITH SANS 10152-1 AND SANS 10400 PART XA WHERE APPLICABLE

WATER PIPES:
- ALL HOT WATER PIPING TO BE INSULATED WITH INSULATION WITH MIN R-VALUE AS PER SANS 10400 XA PART 4.1

HOT WATER REQUIREMENTS:
- A MINIMUM OF 50% BY VOLUME OF THE ANNUAL AVERAGE HOT WATER HEATING REQUIREMENT SHALL BE PROVIDED BY MEANS OTHER THAN ELECTRICAL RESISTANCE HEATING AS PER SANS 204 PART 4.5.2

ROOF:
- ROOF TO ACHIEVE MIN R-VALUE AS PER SANS 10400 XA PART 4.4.5

FOR TENDER

TECHI Engineers

Drawing No. PTSD-301

Pr. Eng. Approved

Date

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
1	ISSUED FOR TENDER	2026.06.30							

Client: SANBI — South African National Biodiversity Institute

Signature:

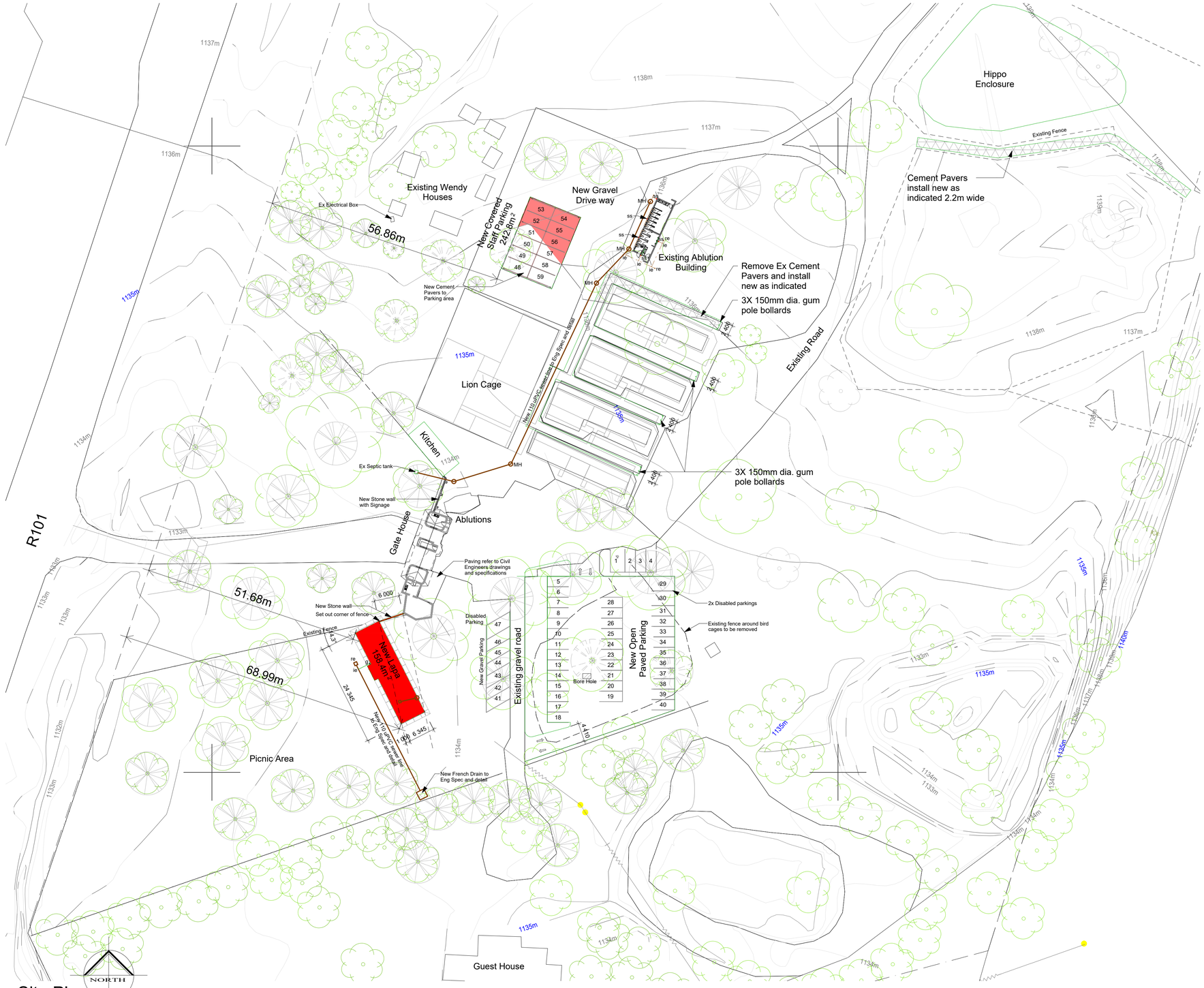
Date:

PROJECT DESCRIPTION: MOKOPANE BIODIVERSITY CONSERVATION CENTRE

TITLE: TOILET VANITY TOP DETAILS

A1

DRAWN: EM | DATE: 2026.06.30 | CHECKED: | DATE: | APPROVED: | DATE: | SCALE: AS SHOWN | SECTION: | DRG No: 2516-G540-PTSD-301 | REV: 0



FIRE NOTES:

1. Design as per SANS-10400 of 2011 - or as per the rational assessment submitted.
2. **SANS-10400 -Part A** - building classification - **H4**

3. **Fire Hydrants**
   To be installed as per SANS-1128 and 4.35.
4. **Fire Hose Reels**
   To be installed as per SANS-534 and 4.37.
5. **Fire Extinguishers**
   To be installed as per SANS-0105 and 4.37.
6. **Water supply**
   To be independent from domestic - too comply to SANS-10400 - part W

7. Only approved locking devices to be installed on escape door.

8. **Width of escape door**
   All escape doors to be minimum 813mm.
9. **Floor coverings**
   As per SANS-10400 - 4.14
10. **Wall coverings**
    As per SANS-10400 - 4.15.
11. **Emergency lighting**
    As per SANS-10400 - 4.30.
12. **Fire signage**
    As per SANS-1186.
13. **Structural Stability:**
    As per SANS - 10400 - 4.7

Proposed New Building(s) & Refurbishment Of Building(s) on Portion 30 Of The Farm Piet Potgietersrus And Townlands 44ks for South African National Biodiversity Institute

FOR TENDER

TECHI Engineers

Drawing No. SDPSD-0000

Pr. Eng. Approved

Date

GENERAL NOTES

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9. Do not scale this drawing; refer to figured dimensions only

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2026.06.30							

Client: SANBI — South African National Biodiversity Institute

Signature:

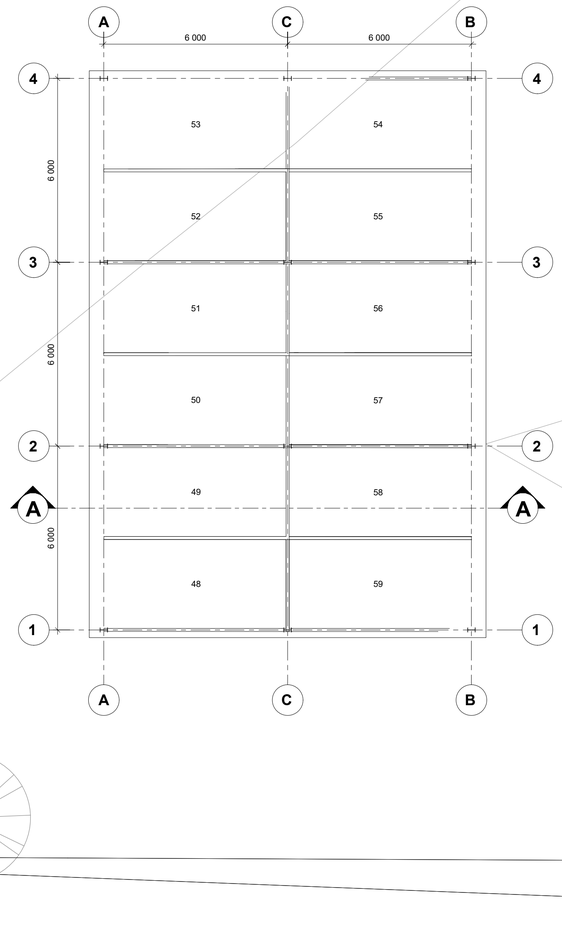
Date:

PROJECT DESCRIPTION: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

TITLE: SITE PLAN

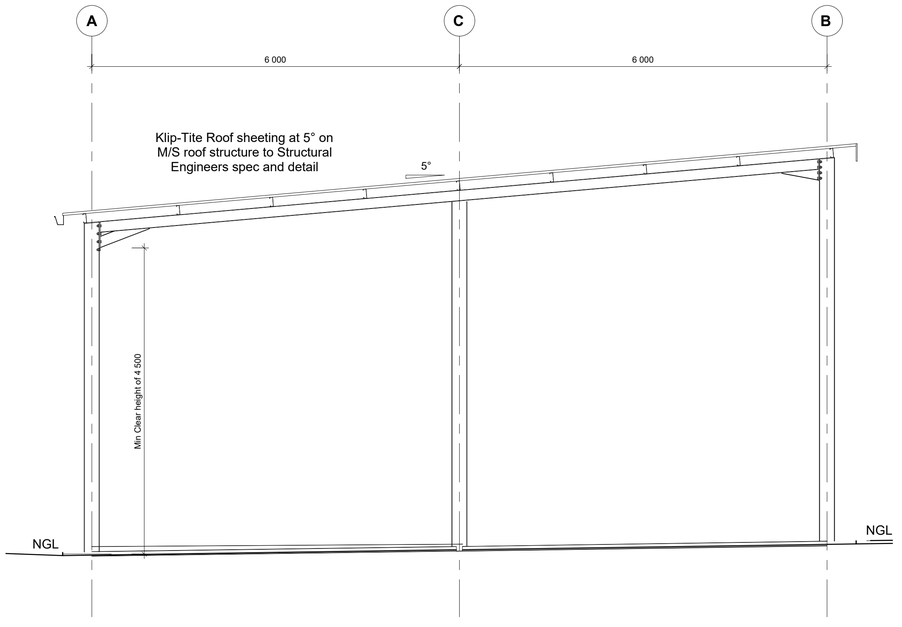
A1

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV.
EM	2026.06.30					AS SHOWN		2516-G540-SDPSD-0000	A



Staff Parking - Carport

Scale 1 : 100



Section A-A

Scale 1 : 50

Proposed New Building(s) & Refurbishment Of Building(s) on Portion 30 Of The Farm Piet Potgietersrus And Townlands 44ks for South African National Biodiversity Institute

FOR TENDER

TECHI Engineers

Drawing No. SPSD-400

Pr. Eng. Approved

Date

GENERAL NOTES

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4.The Contractor is referred to the Standard Guidelines for Quality Control issued by this office for all minimum requirements for workmanship and materials. This document is to be used in conjunction with this drawing.

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6.Any errors, discrepancies or omissions are to be reported to the Architect immediately

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8.Any queries arising from all the above must be reported to the Architects for clarification before any work is put in hand.

9.Do not scale this drawing; refer to figured dimensions only

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2026-06-30							

Client: SANBI — South African National Biodiversity Institute

Signature:

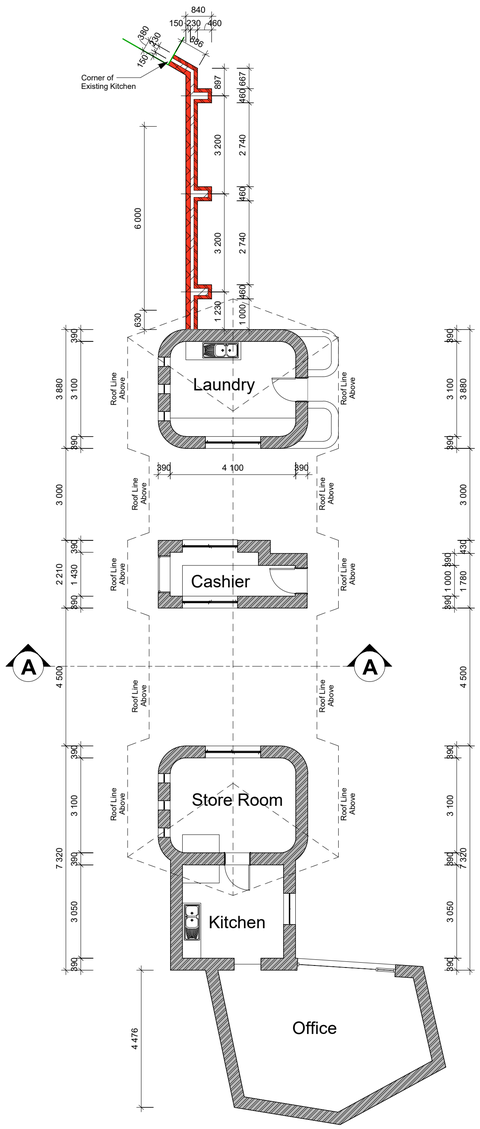
Date:

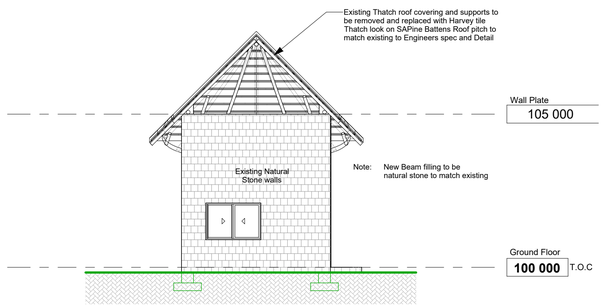
PROJECT DESCRIPTION: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

TITLE: STAFF COVERED PARKING

A1

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG No:	REV:
EM	2026.06.30					AS SHOWN		2516-G540-SPSD-400	0





Section A-A

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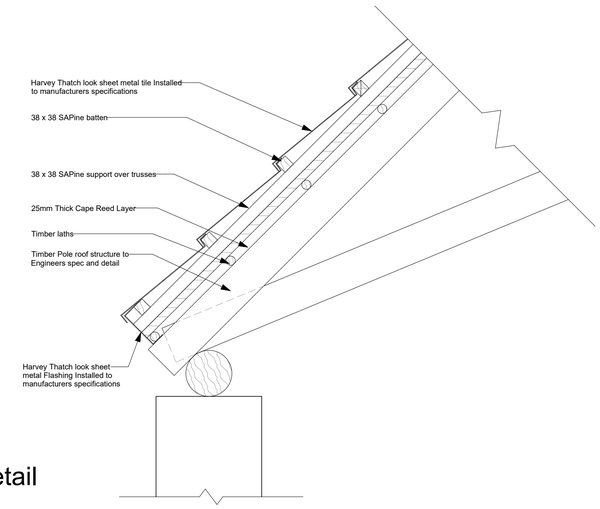


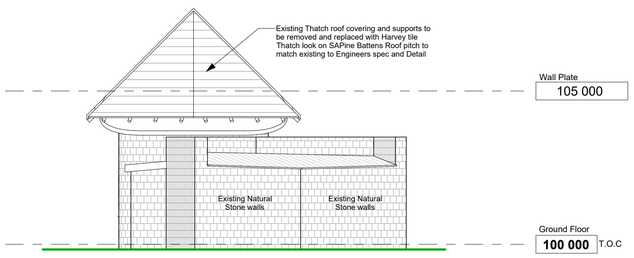
Roof Detail

1 : 10

TYPICAL DRAINAGE NOTES:

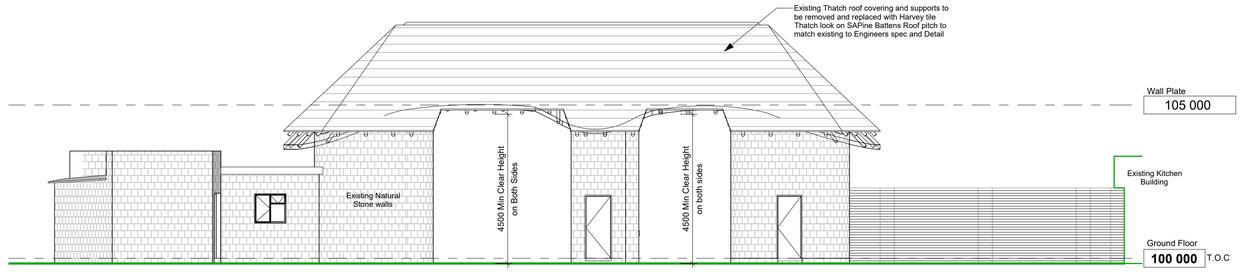
- sanitary facilities required during construction shall comply with SANS 10400 part F 4.2
- any waste pipe exceeding 6m to be back vented
- head of drain or branch exceeding 6m to be back vented.
- all plumbing to be back vented
- re seal traps on all basins
- all drainage from canteen or kitchens other than tea kitchens to go to a grease trap to local authorities approval
- all internal drainage to specialist details & to Architectural Professional approval
- all external drainage layouts to ENGINEER'S details & specifications to Architectural Professional's approval
- ducts & toilets to be mechanically ventilated where required to Mechanical ENGINEER'S details & specifications & to Architectural professional's approval
- All plumbing & drainage work & installation of sanitary fittings to comply with SANS 10400 (part P) & the relevant Local Authority by-laws, regulations & requirements.
- Provide R.E.'s to all bends & junctions with suitable markers at ground level.
- Minimum fall to all drain pipes to be 1:60.
- Provide approved reseal traps to all waste fittings.
- I.E.'s to waste pipes to be fully accessible at all times.
- All soil pipes passing under buildings or footings are to be protected from the load at all times.
- All waste fittings on the one-pipe system to have 65mm deep seal trap & to be A.S.V.P.'d.
- RE'S to be provided at max. every 25m.
- Plumber to confirm all new work as laid out on drawings is correct.
- All drains to be accessible for repair along entire length.
- Domestic water supply to be balanced.
- Geysers to be high pressure geysers.
- All stub stacks to be fitted with two way vent valves.
- Open vent pipe to be provided at head of drain.
- The plumber is to keep all piping free of rubble & building materials.
- PLUMBER TO CALL FOR ALL LOCAL AUTHORITY INSPECTIONS AS & WHEN REQUIRED
- ALL DRAINAGE AS PER SANS 10400 PART P

ALL DRAINAGE TO BE CARRIED OUT BY A TRAINED & REGISTERED PLUMBER AS PER SANS 10400 PART A AZ2



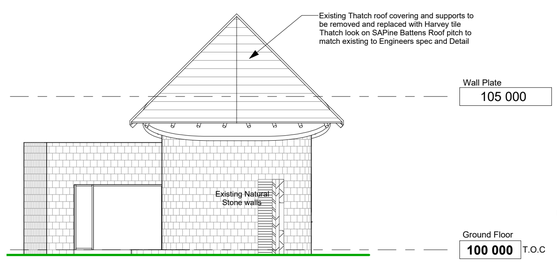
North Elevation

1 : 100



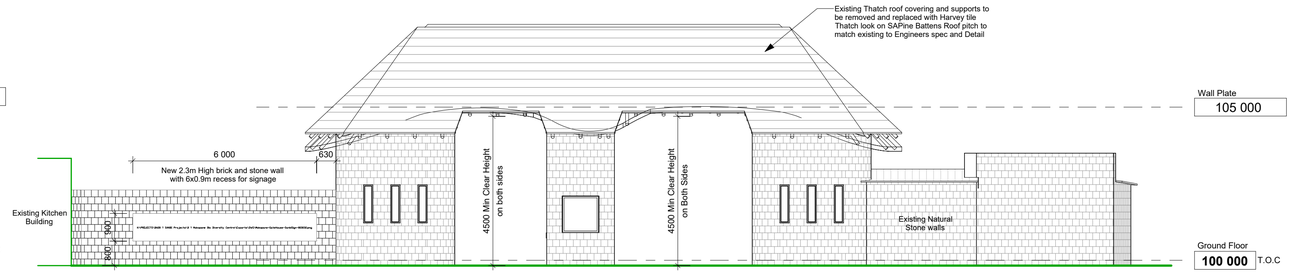
East Elevation

1 : 100



South Elevation

1 : 100



West Elevation

1 : 100

Ground FLoor Plan

1 : 100

NOTE:
ALL ENERGY USAGE TO COMPLY WITH SANS 10400 - XA AND SANS 204

AIR LEAKAGE TO WINDOWS & DOORS:
- ALL TO COMPLY WITH SANS 204 PART 4.4.3
- FENESTRATION AREA - max 2L/s/mqs
- FIXED GLAZING - max 0.306L/s/mqs
- REVOLVING & SWINGING DOORS - max 5L/s/mqs
- ALL EXTERNAL DOORS INCLUDING THE GARAGE DOOR TO COMPLY TO SANS 204 : 2011, PART 4.4.3.4

WINDOWS & DOORS:
- FENESTRATION TO COMPLY TO SANS 10400 XA PART 4.4.4. AND SANS 613
- SEE FENESTRATION CALCULATIONS IF REQUIRED
- SEE WINDOW & DOOR SCHEDULE

EXTERNAL WALL CONSTRUCTION:
- DOUBLE SKIN (230mm) MASONRY WALL WITH NO CAVITY, PLASTERED INTERNALLY OR RENDERED EXTERNALLY WILL COMPLY - SANS 10400 XA PART 4.4.3.

FLOORS:
- INSULATION WITH A R-VALUE OF 1 TO BE INSTALLED UNDER ALL FLOOR SLABS WITH UNDER FLOOR HEATING.
- BUILDINGS WITH A FLOOR AREA OF LESS THAN 500msq WITH A CONCRETE SLAB ON GROUND SHALL HAVE INSULATION INSTALLED AROUND THE VERTICAL EDGE OF ITS PERIMETER - TO COMPLY WITH SANS 204 PART 4.3.2.1 - SEE DETAIL

WATER & SEWER INSTALLATION:
- SEWER INSTALLATION TO COMPLY WITH SANS 10400 PART P AND SANS 10252-2
- WATER INSTALLATION TO COMPLY WITH SANS 10152-1 AND SANS 10400 PART XA WHERE APPLICABLE

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- ALL HOT WATER PIPING TO BE INSULATED WITH INSULATION WITH MIN R-VALUE AS PER SANS 10400 XA PART 4.1

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- A MINIMUM OF 50% BY VOLUME OF THE ANNUAL AVERAGE HOT WATER HEATING REQUIREMENT SHALL BE PROVIDED BY MEANS OTHER THAN ELECTRICAL RESISTANCE HEATING AS PER SANS 204 PART 4.5.2

ROOF:
- ROOF TO ACHIEVE MIN R-VALUE AS PER SANS 10400 XA PART 4.4.5

FIRE NOTES:
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2. **SANS-10400 -Part A** - building classification - **H4**
3. **Fire Hydrants**
   To be installed as per SANS-1128 and 4.35.
4. **Fire Hose Reels**
   To be installed as per SANS-534 and 4.37.
5. **Fire Extinguishers**
   To be installed as per SANS-0105 and 4.37.
6. **Water supply**
   To be independent from domestic - too comply to SANS-10400 - part W
7. Only approved locking devices to be installed on escape door.
8. **Width of escape door**
   All escape doors to be minimum 813mm.
9. **Floor coverings**
   As per SANS-10400 - 4.14
10. **Wall coverings**
    As per SANS-10400 - 4.15.
11. **Emergency lighting**
    As per SANS-10400 - 4.30.
12. **Fire signage**
    As per SANS-1186.
13. **Structural Stability:**
    As per SANS - 10400 - 4.7

GENERAL NOTES

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Proposed New Building(s) & Refurbishment Of Building(s) on Portion 30 Of The Farm Piet Potgietersrus And Townlands 44ks for South African National Biodiversity Institute

FOR TENDER

TECHI Engineers

Drawing No. GHSD-100

Pr. Eng. Approved

Date

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2026.06.30							

Client: SANBI Biodiversity For Life, South African National Biodiversity Institute

Signature:

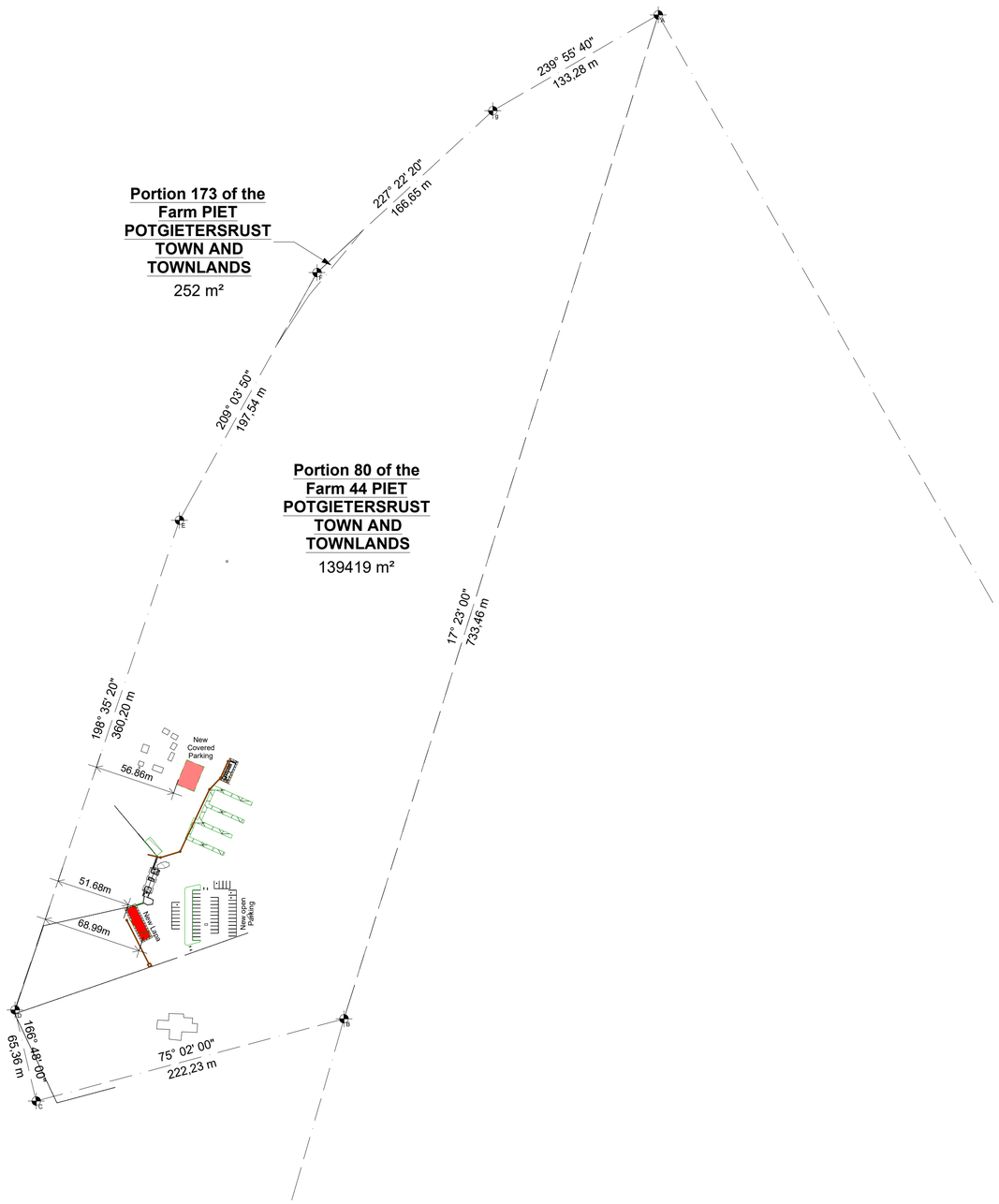
Date:

PROJECT DESCRIPTION: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

TITLE: GATE HOUSE FLOOR PLAN, ELEVATIONSAND ROOF DETAIL

A1

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
EM	2026.06.30					AS SHOWN		2516-G540-GHSD-100	0



Locality
1 : 2000

NORTH

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Proposed New Building(s) & Refurbishment Of Building(s) on Portion 30 Of The Farm Piet Potgietersrus And Townlands 44ks for South African National Biodiversity Institute

FOR TENDER

TECHI Engineers

Drawing No. LPSD-000

Pr. Eng. Aproved

Date

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
1	ISSUE FOR TENDER	2026.06.30							

Client: SANBI Biodiversity for life South African National Biodiversity Institute

Signature:

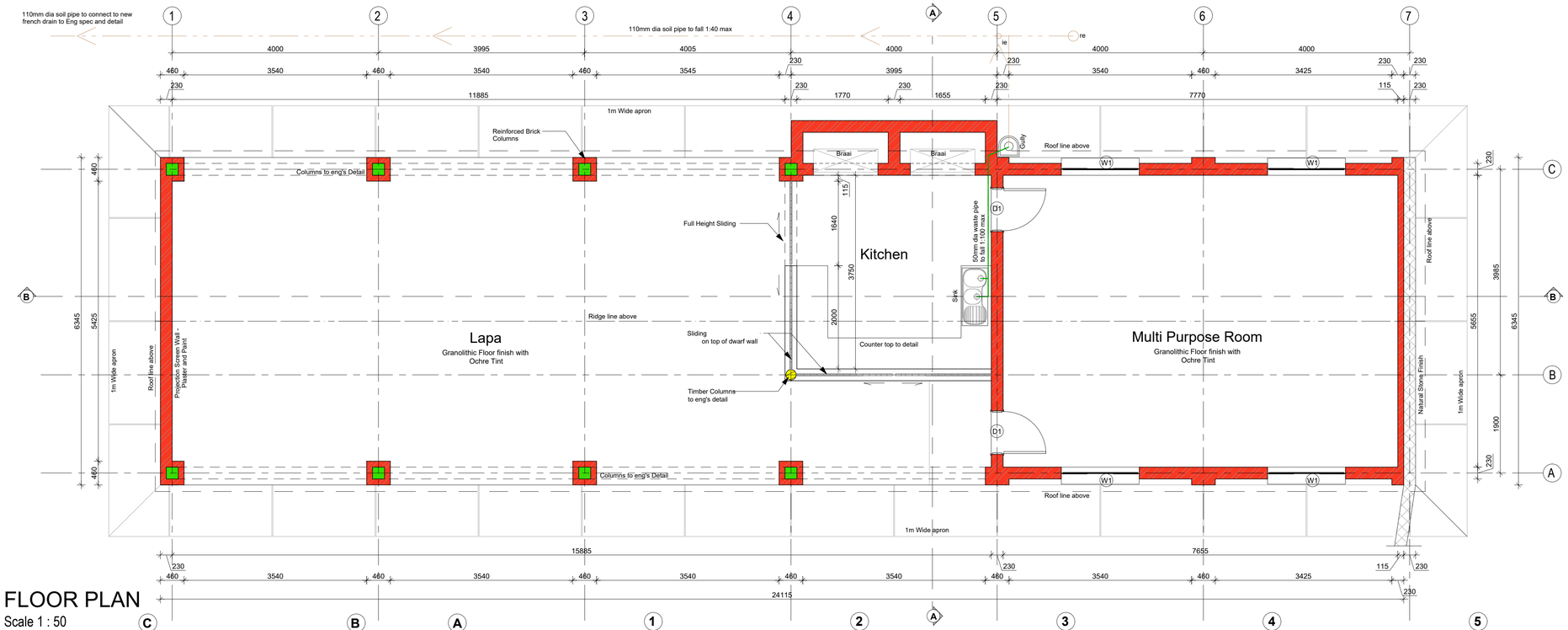
Date:

PROJECT DESCRIPTION: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

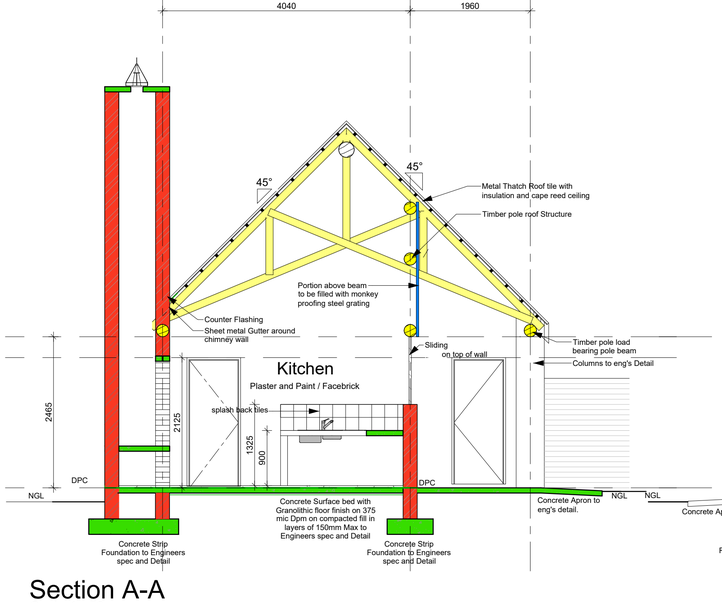
TITLE: LOCALITY PLAN

A1

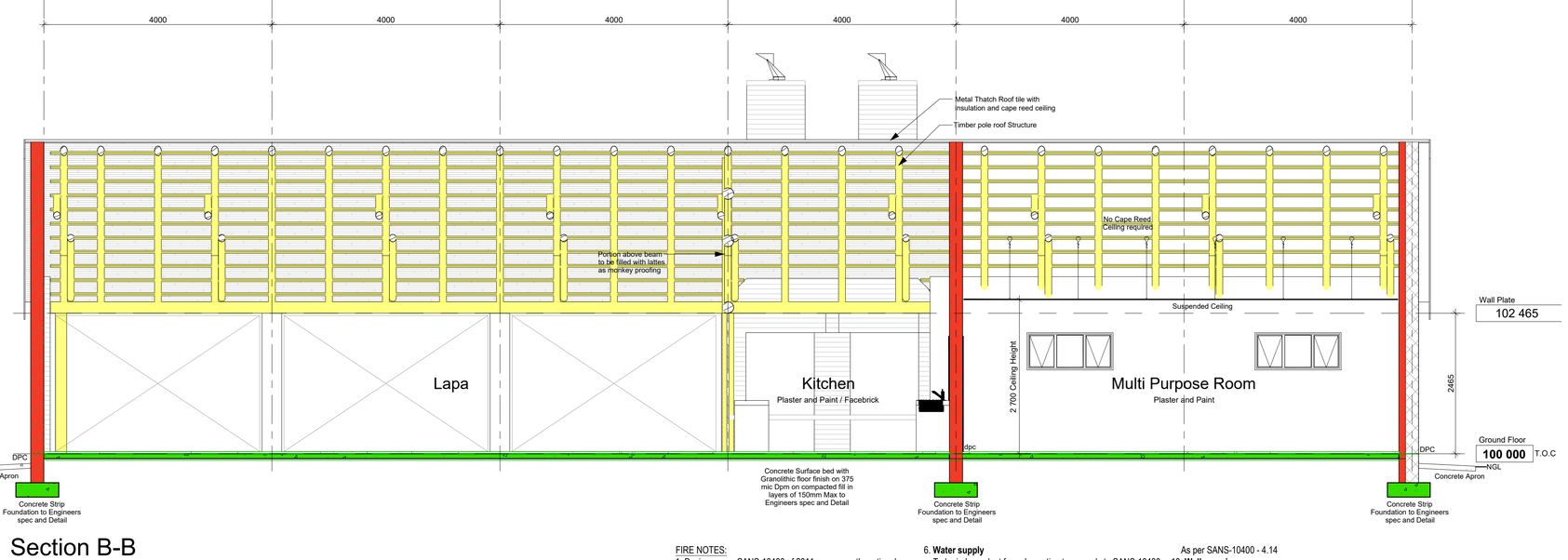
DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
EM	2026.06.30					AS SHOWN		2516-G540-LPSD-000	0



FLOOR PLAN
Scale 1 : 50



Section A-A
Scale 1 : 50



Section B-B
Scale 1 : 50

TYPICAL DRAINAGE NOTES:
- sanitary facilities required during construction shall comply with SANS 10400 part F 4.2
- any waste pipe exceeding 6m to be back vented
- head of drain or branch exceeding 6m to be back vented.
- all plumbing to be back vented
- re seal traps on all basins
- all drainage from canteen or kitchens other than tea kitchens to go to a grease trap to local authorities approval
- all internal drainage to specialist details & to Architectural Professional approval
- all external drainage layouts to ENGINEER'S details & specifications to Architectural Professional's approval
- ducts & toilets to be mechanically ventilated where required to Mechanical ENGINEER'S details & specifications & to Architectural professional's approval
- All plumbing & drainage work & installation of sanitary fittings to comply with SANS 10400 (part P) & the relevant Local Authority by-laws, regulations & requirements.
- Provide R.E.'s to all bends & junctions with suitable markers at ground level.
- Minimum fall to all drain pipes to be 1:60.
- Provide approved reseal traps to all waste fittings.
- I.E.'s to waste pipes to be fully accessible at all times.
- All soil pipes passing under buildings or footings are to be protected from the load at all times.
- All waste fittings on the one-pipe system to have 65mm deep seal trap & to be A.S.V.P.'d.
- RE'S to be provided at max. every 25m.
- Plumber to confirm all new work as laid out on drawings is correct.
- All drains to be accessible for repair along entire length.
- Domestic water supply to be balanced.
- Geysers to be high pressure geysers.
- All stub stacks to be fitted with two way vent valves.
- Open vent pipe to be provided at head of drain.
- The plumber is to keep all piping free of rubble & building materials.
- PLUMBER TO CALL FOR ALL LOCAL AUTHORITY INSPECTIONS AS & WHEN REQUIRED
- ALL DRAINAGE AS PER SANS 10400 PART P

ALL DRAINAGE TO BE CARRIED OUT BY A TRAINED & REGISTERED PLUMBER AS PER SANS 10400 PART A AZ2

FIRE NOTES:
1. Design as per SANS-10400 of 2011 - or as per the rational assessment submitted.
2. **SANS-10400 -Part A** - building classification - **H4**
3. **Fire Hydrants**
   To be installed as per SANS-1128 and 4.35.
4. **Fire Hose Reels**
   To be installed as per SANS-534 and 4.37.
5. **Fire Extinguishers**
   To be installed as per SANS-0105 and 4.37.
6. **Water supply**
   To be independent from domestic - too comply to SANS-10400 - part W
7. Only approved locking devices to be installed on escape door.
8. **Width of escape door**
   All escape doors to be minimum 813mm.
9. **Floor coverings**
   As per SANS-10400 - 4.14
10. **Wall coverings**
    As per SANS-10400 - 4.15.
11. **Emergency lighting**
    As per SANS-10400 - 4.30.
12. **Fire signage**
    As per SANS-1186.
13. **Structural Stability:**
    As per SANS - 10400 - 4.7

FOR TENDER

TECHI Engineers

Drawing No. LPSD-200

Pr. Eng. Approved | Date

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REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.08.04							

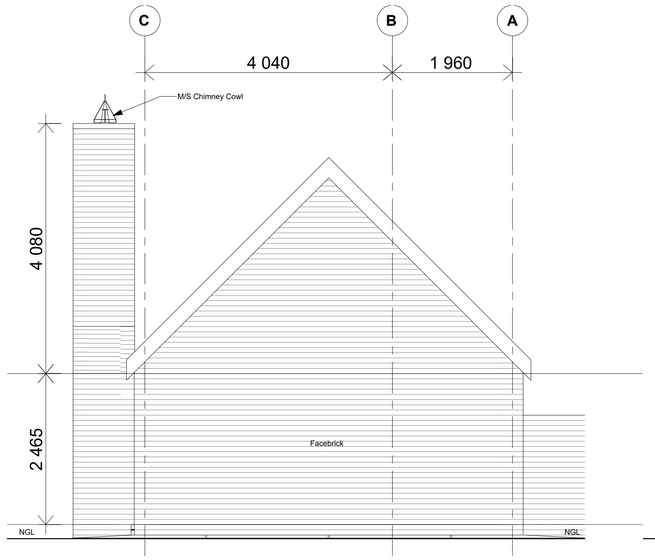
Client: SANBI — South African National Biodiversity Institute
Signature:
Date:

PROJECT DESCRIPTION
ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

TITLE
LAPA FLOOR PLAN AND SECTIONS

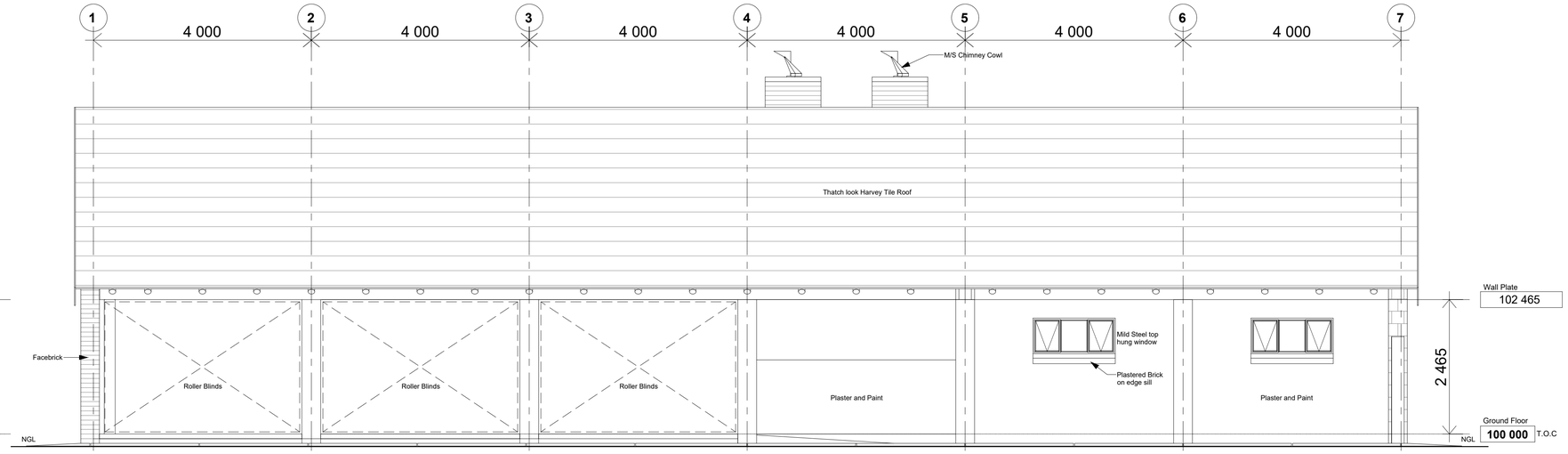
DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
EM	2025.08.04					AS SHOWN		2516-G540-LPSD-200	A

A1



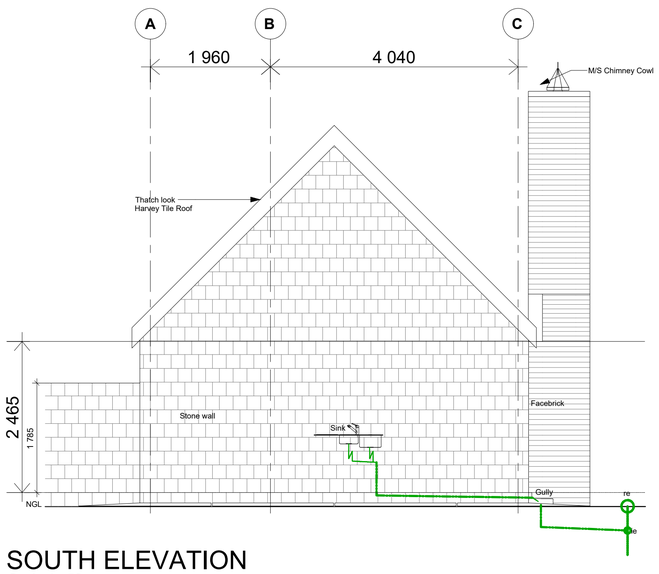
NORTH ELEVATION

Scale 1 : 50



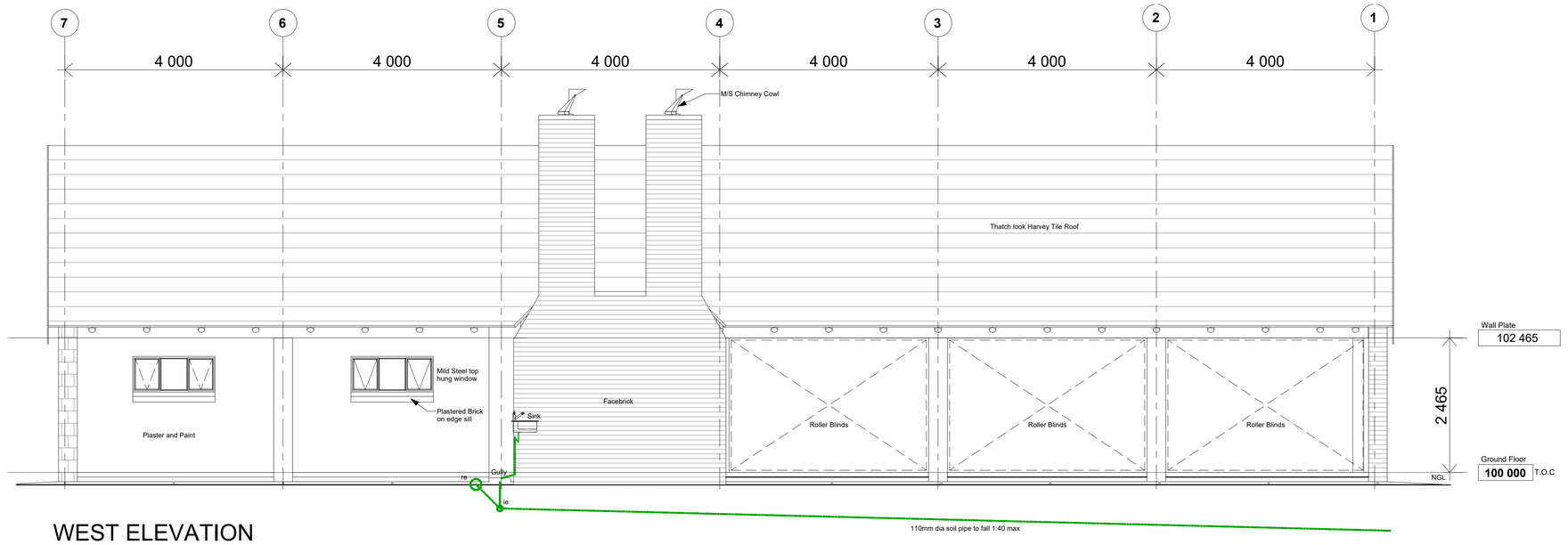
EAST ELEVATION

Scale 1 : 50



SOUTH ELEVATION

Scale 1 : 50



WEST ELEVATION

Scale 1 : 50

NOTE:
ALL ENERGY USAGE TO COMPLY WITH SANS 10400 - XA AND SANS 204

AIR LEAKAGE TO WINDOWS & DOORS:
- ALL TO COMPLY WITH SANS 204 PART 4.4.3
- FENESTRATION AREA - max 2L/s/mqs
- FIXED GLAZING - max 0.306L/s/mqs
- REVOLVING & SWINGING DOORS - max 5L/s/mqs
- ALL EXTERNAL DOORS INCLUDING THE GARAGE DOOR TO COMPLY TO SANS 204 : 2011, PART 4.4.3.4

WINDOWS & DOORS:
- FENESTRATION TO COMPLY TO SANS 10400 XA PART 4.4.4. AND SANS 613
- SEE FENESTRATION CALCULATIONS IF REQUIRED
- SEE WINDOW & DOOR SCHEDULE

EXTERNAL WALL CONSTRUCTION:
- DOUBLE SKIN (230mm) MASONRY WALL WITH NO CAVITY, PLASTERED INTERNALLY OR RENDERED EXTERNALLY WILL COMPLY - SANS 10400 XA PART 4.4.3.

FLOORS:
- INSULATION WITH A R-VALUE OF 1 TO BE INSTALLED UNDER ALL FLOOR SLABS WITH UNDER FLOOR HEATING.
- BUILDINGS WITH A FLOOR AREA OF LESS THAN 500msq WITH A CONCRETE SLAB ON GROUND SHALL HAVE INSULATION INSTALLED AROUND THE VERTICAL EDGE OF ITS PERIMETER - TO COMPLY WITH SANS 204 PART 4.3.2.1 - SEE DETAIL

WATER & SEWER INSTALLATION:
- SEWER INSTALLATION TO COMPLY WITH SANS 10400 PART P AND SANS 10252-2
- WATER INSTALLATION TO COMPLY WITH SANS 10152-1 AND SANS 10400 PART XA WHERE APPLICABLE

WATER PIPES:
- ALL HOT WATER PIPING TO BE INSULATED WITH INSULATION WITH MIN R-VALUE AS PER SANS 10400 XA PART 4.1

HOT WATER REQUIREMENTS:
- A MINIMUM OF 50% BY VOLUME OF THE ANNUAL AVERAGE HOT WATER HEATING REQUIREMENT SHALL BE PROVIDED BY MEANS OTHER THAN ELECTRICAL RESISTANCE HEATING AS PER SANS 204 PART 4.5.2

ROOF:
- ROOF TO ACHIEVE MIN R-VALUE AS PER SANS 10400 XA PART 4.4.5

FIRE NOTES:
1. Design as per SANS-10400 of 2011 - or as per the rational assessment submitted.
2. **SANS-10400 -Part A** - building classification - **H4**
3. **Fire Hydrants**
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    As per SANS-10400 - 4.15.
11. **Emergency lighting**
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12. **Fire signage**
    As per SANS-1186.
13. **Structural Stability:**
    As per SANS - 10400 - 4.7

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Proposed New Building(s) & Refurbishment Of Building(s) on Portion 30 Of The Farm Piet Potgietersrus And Townlands 44ks for South African National Biodiversity Institute

FOR TENDER

TECHI Engineers

Drawing No. **LPSD-201**

Pr. Eng. Approved

Date

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
1	ISSUED FOR TENDER	2026-06-30							

Client: SANBI — South African National Biodiversity Institute

Signature:

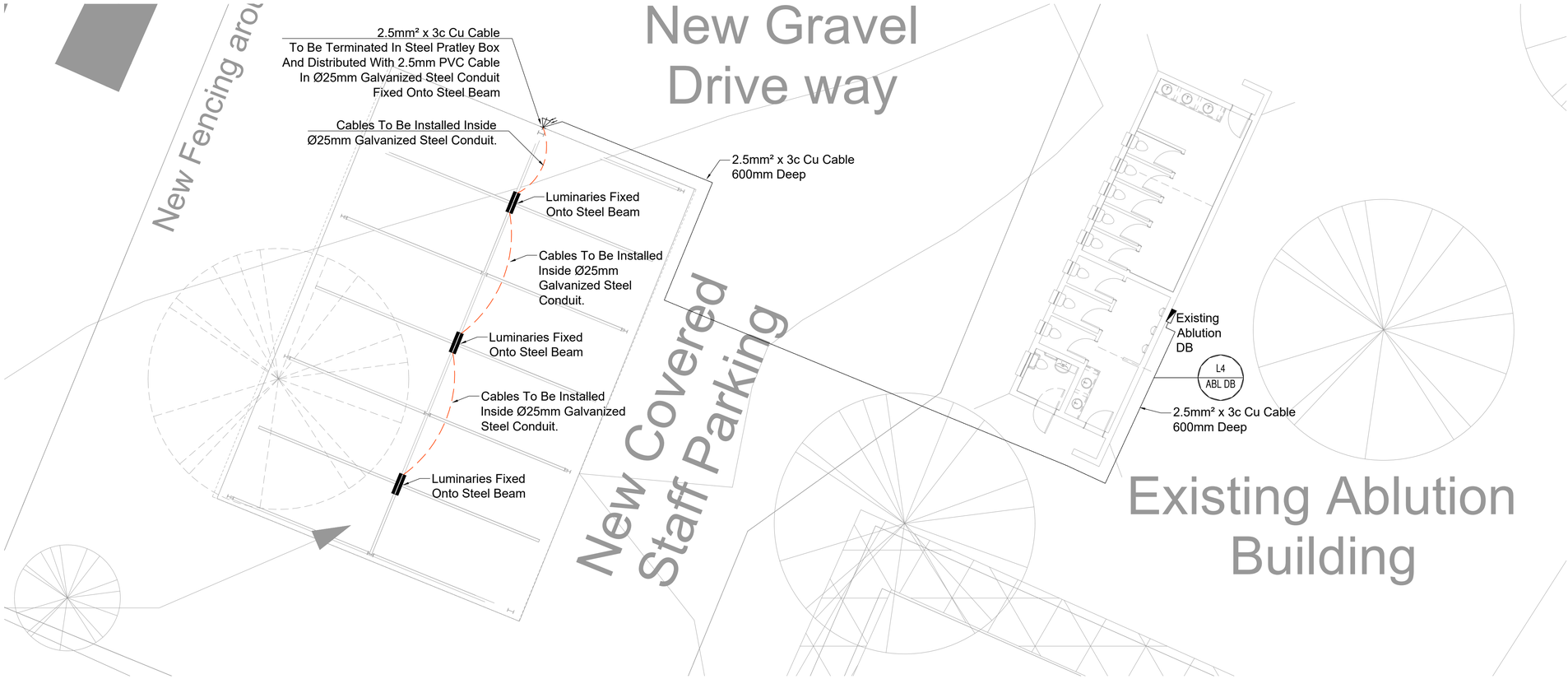
Date:

PROJECT DESCRIPTION: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

TITLE: LAPA ELEVATIONS

A1

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG No:	REV:
EM	2026.06.30					AS SHOWN		2516-G540-LPSD-201	0



Ground Floor Plan

1 : 100

Proposed Luminaires

Lascon Reel D/L

LEGEND:	
SYMBOL	DESCRIPTION
	SURFACE MOUNTED LINEAR LUMINAIRE COMPLETE WITH 4000K 24W LED's: TYPE LASCON C10 / 24W LED TRIDONIC / 6080LM / PHOTO ENGRAVE LENSE - 4000K IP65 RATED OR SIMILAR.
	DAY/NIGHT SWITCH
	2.5mm² WIRING + 2.5mm² BCEW

NOTES:

1. USE STEEL CONDUIT FOR INDOOR SURFACE/WOODEN POLE MOUNTED OR OUTDOOR APPLICATIONS AND PVC CONDUIT IN CEILING VOID OR CONCRETE APPLICATIONS. USE HOSPITAL SADDLES FOR STEEL CONDUIT.
2. CONNECT SURFACE MOUNTED LUMINAIRE VIA 65mmØ OUTLET BOX MOUNTED IN CEILING VOID OR FLUSH IN WALL.
3. ON SITE COORDINATION BETWEEN ALL SERVICES SHOULD BE DONE (BY CONTRACTOR) BEFORE ANY INSTALLATION WORK COMMENCES.
4. INSTALL WIRING/CABLING IN CONDUIT, WIRING CHANNEL OR ON CABLE LADDER.
5. FLOOD LIGHTS SHOULD BE INSTALLED ON A RETROFIT SWIVEL POLE MOUNTING BRACKET EQUAL OR SIMILAR TO EAZYREACH ROTATE POLE AND MOUNTED AT GUTTER HEIGHT AGAINST THE STRUCTURE.

FOR TENDER

TECHT Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114 :
E-mail: technical@techt.co.za

Drawing No. 2516-E-05

Pr. Eng. Number 20180410

Date 2025.07.01

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.01							

Client: SANBI Biodiversity for Life — South African National Biodiversity Institute

Signature:

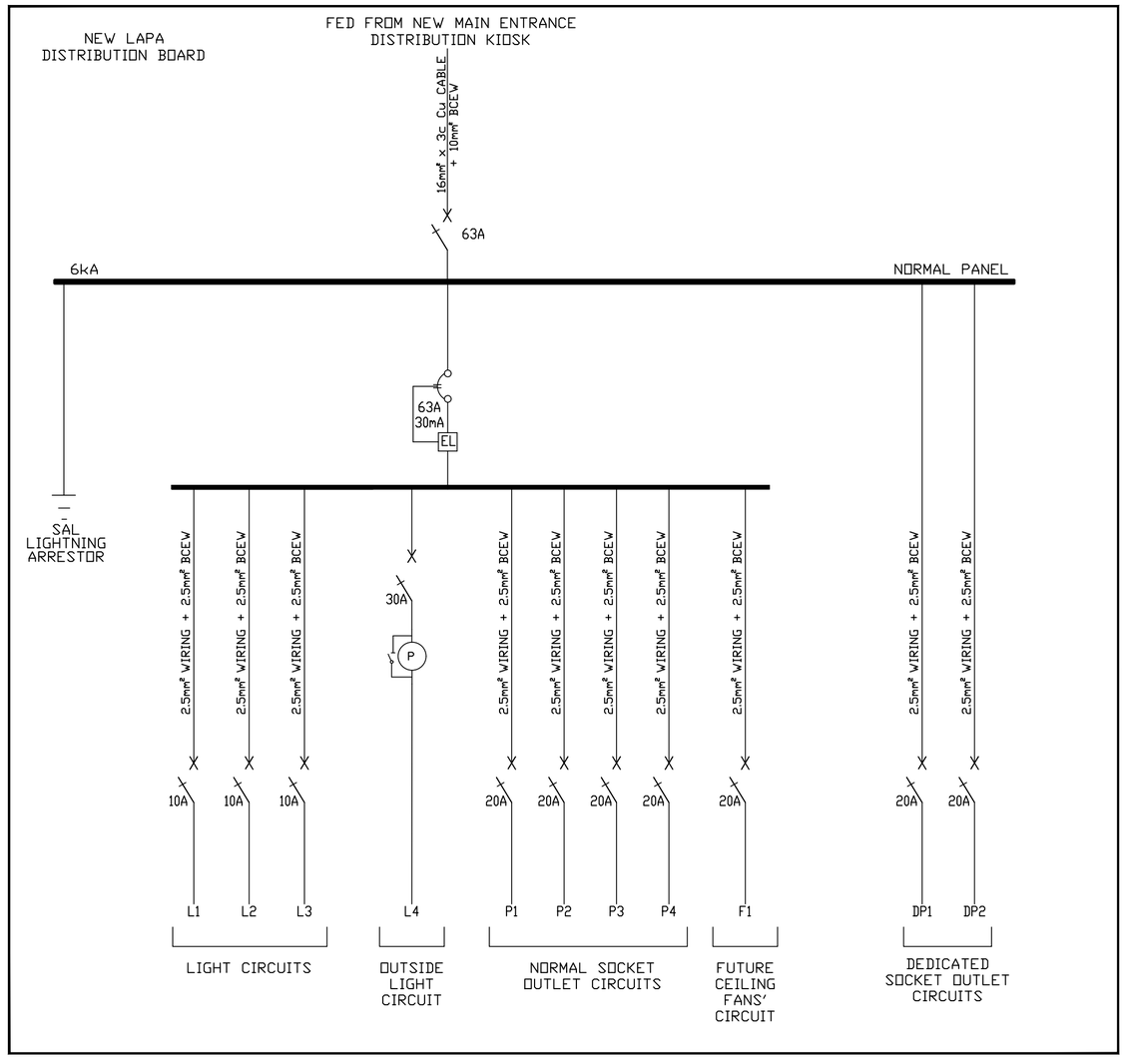
Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title: NEW CARPORT–GROUND FLOOR PLAN LIGHTING LAYOUT

A1

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
V.G.M	2025.07.01	L.E.M	2025.07.01	L.E.M	2025.07.01	AS SHOWN	NEW CARPORT	2516-E-05	A



LEGEND

- BUSBAR
- SINGLE POLE
- DOUBLE POLE
- TRIPLE POLE
- ISOLATOR
- MOULDED CASE CIRCUIT BREAKER SIZE AS SHOWN
- EARTH LEAKAGE PROTECTION UNIT WITH OVERLOAD PROTECTION
- EARTH LEAKAGE PROTECTION UNIT WITH DISCONNECTOR
- ELECTRICITY CONSUMPTION METER
- COMBINATION FUSE SWITCH UNIT 125 A = FUSE SIZE 160 A = SWITCH FUSE FRAME SIZE
- TIMER
- SPLIT METERING FOR PRE-PAID METER
- PHOTO CELL
- CABLES
  - 4C — NO. OF CORES
  - 10 — CORE SIZE mm
  - 6 — EARTH CONDUCTOR mm²
- WIRING IN CONDUIT
  - 25 — CONDUIT SIZE mm²
  - 2x4 — NO. & CONDUCTOR SIZE mm²
  - 2,5 — EARTH CONDUCTOR mm²
- CONTACTOR IN DB WITH BYPASS SWITCH IN DB, CONTROLLED VIA PHOTO CELL MOUNTED ELSEWHERE

NOTES:
1. DISTRIBUTION BOARD TO BE FLUSH MOUNTED
2. DISTRIBUTION BOARD TO BE IP54 RATED
3. DISTRIBUTION BOARD TO HAVE A LOCKABLE DOOR
4. ALLOW FOR 25% SPARE SPACE
5. CIRCUIT BREAKERS TO BE CBI
6. COLOUR: ORANGE

FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114 :
E-mail: technical@techi.co.za
Pr. Eng. Number: ECSA PR 20150167

Drawing No. 2516-E-06
Date 2025.07.01

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.01							

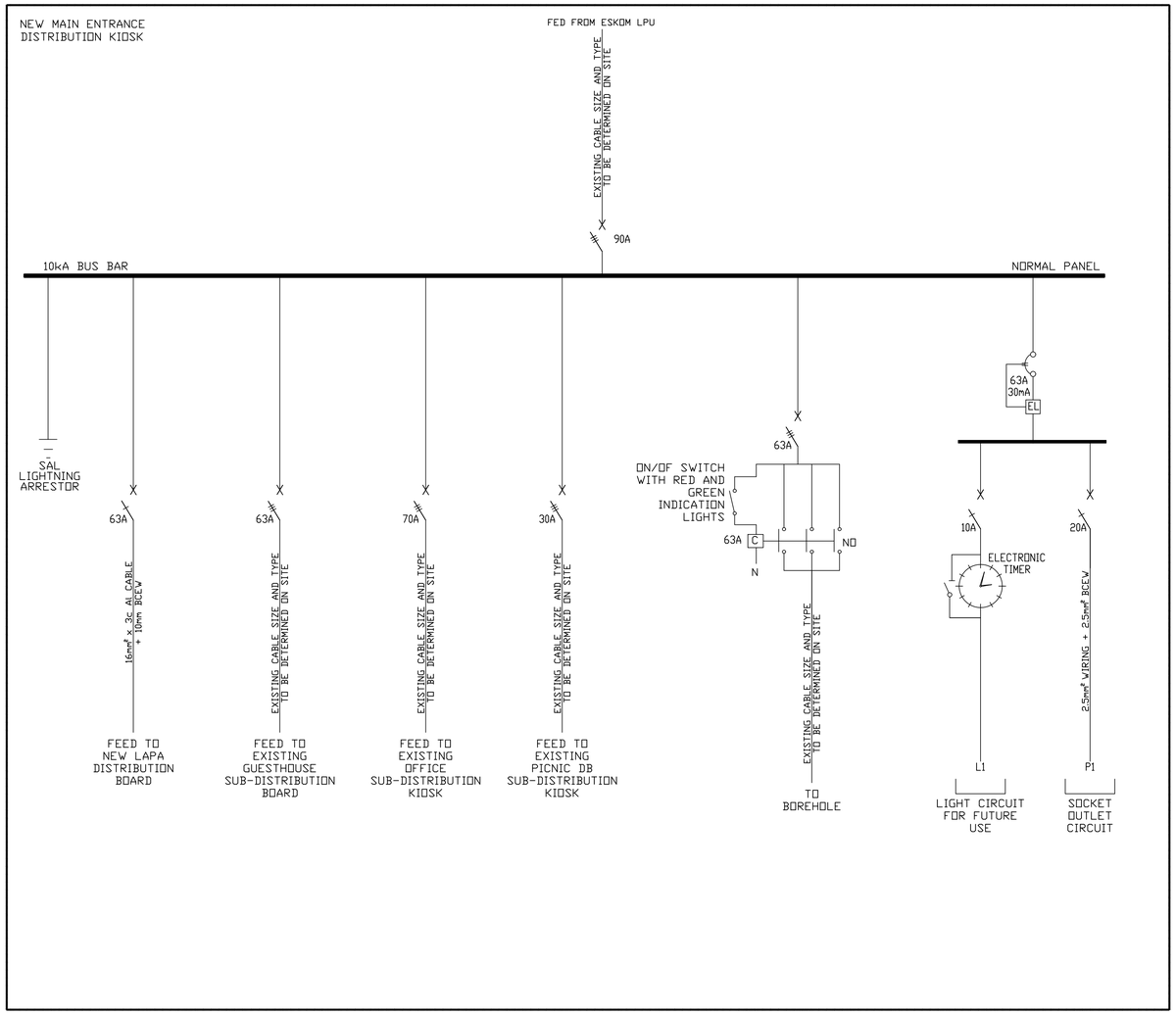
Client: SANBI — Biodiversity for Life — South African National Biodiversity Institute
Signature:
Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

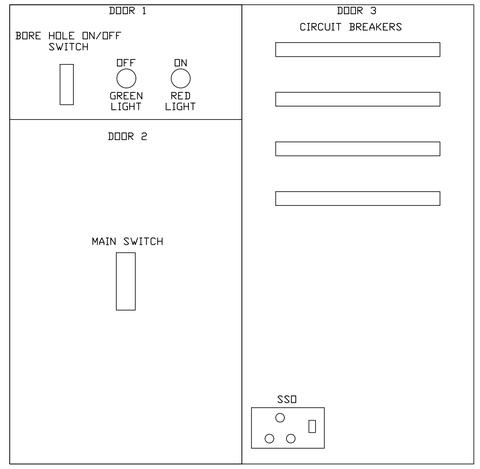
Title: NEW LAPA–GROUND FLOOR PLAN SCHEMATIC LAYOUT

A2

DRAWN:	DATE	CHECKED:	DATE	APPROVED:	DATE	SCALE:	SECTION:	DRG.No:	REV:
V.S.M	2025.07.01	I.E.M	2025.07.01	I.E.M	2025.07.01	AS SHOWN	NEW LAPA	2516-E-06	A

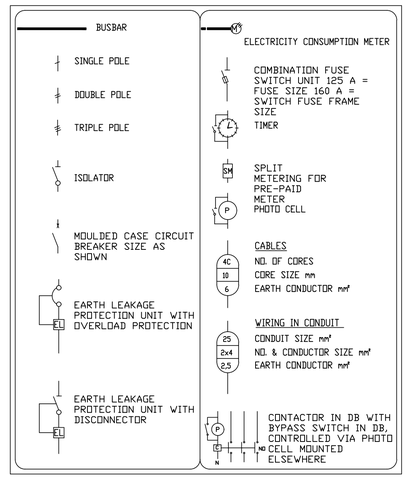


NOTES:
1. DISTRIBUTION KIOSK TO BE MOUNTED IN THE GROUND (FREE STANDING)
2. DISTRIBUTION KIOSK TO BE IP54 RATED
3. DISTRIBUTION KIOSK TO HAVE LOCKABLE DOORS
4. ALLOW FOR 30% SPARE SPACE
5. CIRCUIT BREAKERS TO BE CBI
6. INSTALL 16A SOCKET OUTLET INSIDE DISTRIBUTION KIOSK.
7. COLOUR: ORANGE



TYPICAL DETAIL OF DISTRIBUTION KIOSK

LEGEND



FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114 :
E-mail: technical@techi.co.za

Drawing No. 2516-E-07

Pr. Eng. Number 20180410

Date 2025.07.01

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
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Signature:

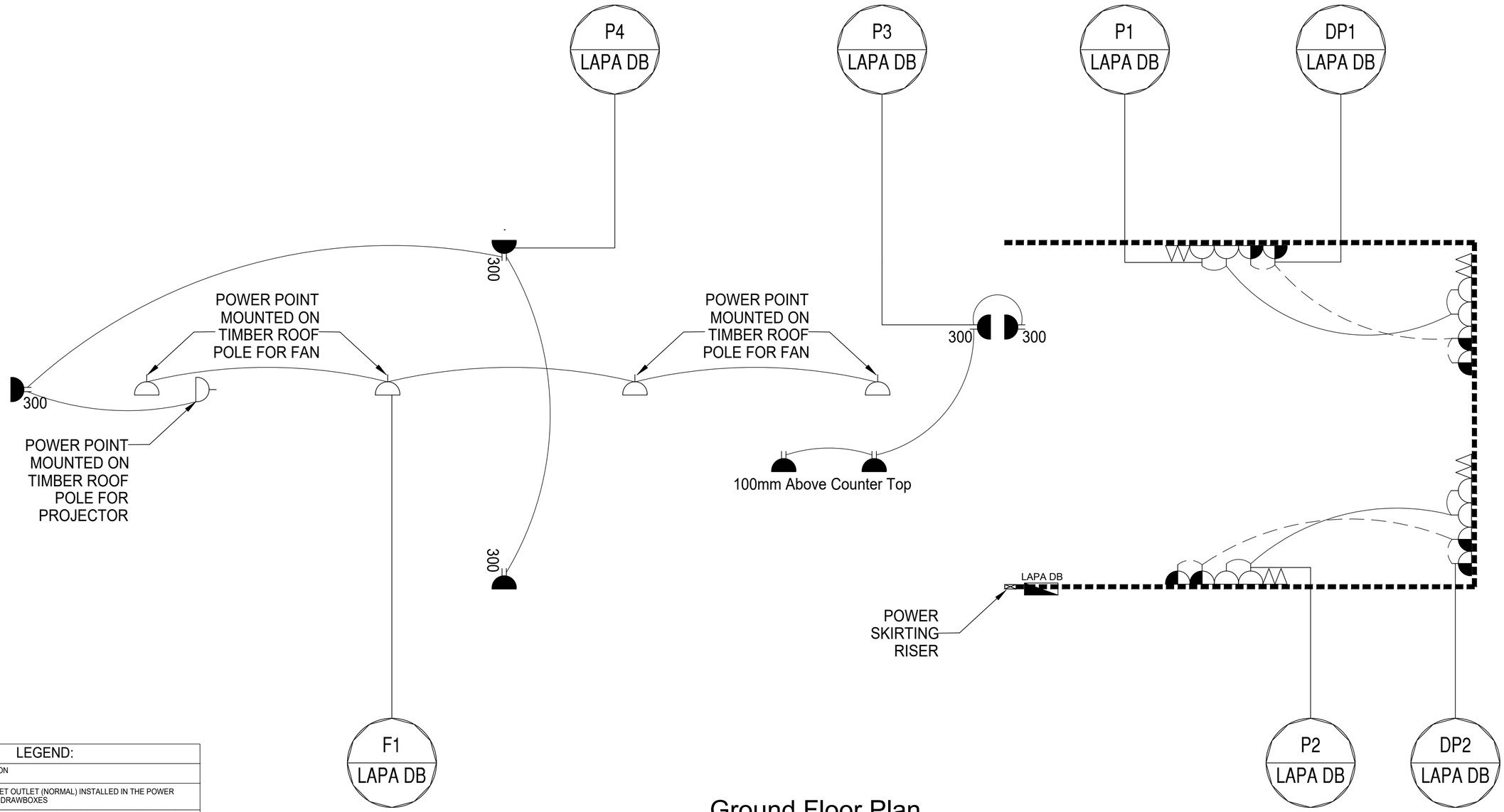
Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title: MAIN ENTRANCE–DISTRIBUTION KIOSK SCHEMATIC LAYOUT

A1

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
V.G.M	2025.07.01	L.E.M	2025.07.01	L.E.M	2025.07.01	AS SHOWN	MAIN ENTRANCE	2516-E-07	A



Ground Floor Plan

1 : 50

	LEGEND:
SYMBOL	DESCTRIPTION
	16 AMP SOCKET OUTLET (NORMAL) INSTALLED IN THE POWER SKIRTING OR DRAWBOXES
	16 AMP DEDICATED SOCKET OUTLET (RED - FLAT EARTH PIN) INSTALLED IN THE POWER SKIRTING OR DRAWBOXES
	16 AMP DOUBLE SOCKET OUTLET (NORMAL) INSTALLED IN DRAWBOXES
	CAT 6 NETWORK POINT
	POWER SKIRTING RISER VERTICAL AGAINST WALL. (LINKING TO CEILING VOID)
	TWO CHANNEL TWO COMPARTMENT POWER SKIRTING
	DISTRIBUTION BOARD

NOTES:

1. CONDUIT: STEEL
2. FINAL POSITION OF ALL EQUIPMENT TO BE CONFIRMED ON SITE
3. INSTALL SOCKETS FLUSH IN WALL AT 300mm A.F.F.L. IN 100x100x50mm STEEL WALL BOXES OR AS OTHERWISE INDICATED.
4. HEIGHT OF POWER SKIRTING TO BE DETERMINED ON SITE
5. INSTALL 3X32mmØ FLEXIBLE CONDUIT LINKING BETWEEN POWER SKIRTING UPRIGHT AND P9000 WIRING CHANNEL IN CEILING VOID.
6. CONTRACTOR SHALL COORDINATE POSITIONING OF SUPPLY SLEEVES TO ENTER THE DISTRIBUTION BOARD UNDERNEATH THE MAIN CIRCUIT BREAKER.
7. CABLES SHALL BE SECURED TO CABLE LADDER WITH BAND-IT STAINLESS STEEL CABLE STRAPS. CABLES ABOVE 185mm² SHALL BE FIXED WITH CLAMPS.

FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114
E-mail: technical@techi.co.za

Drawing No. 2516-E-01

Pr. Eng. Number 20180410

Date 2025.07.01

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUE FOR TENDER	2025.07.01							

Client: SANBI — South African National Biodiversity Institute

Signature:

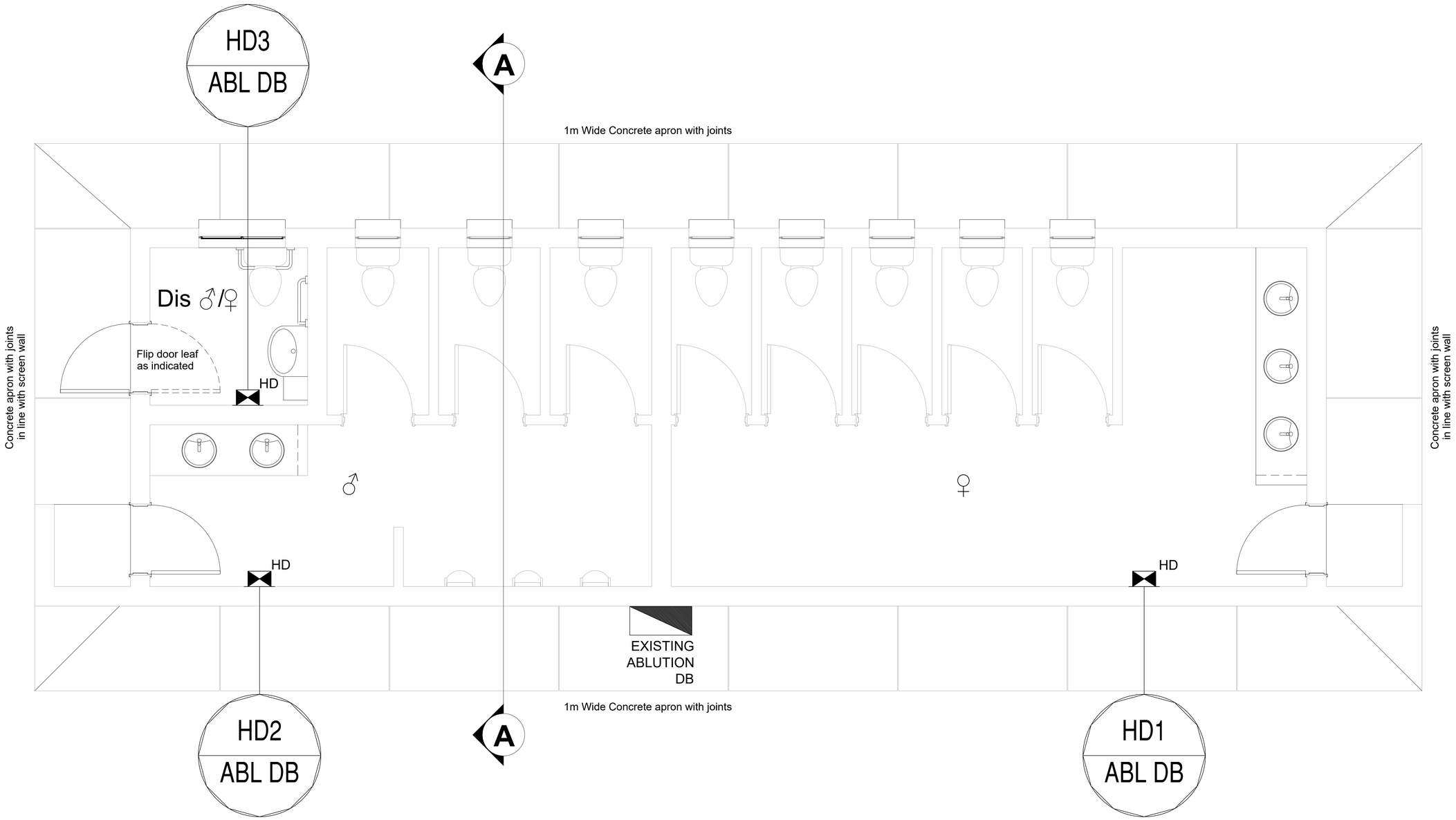
Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title: NEW LAPA–GROUND FLOOR PLAN ELECTRICAL POINTS

A2

DRAWN:	DATE	CHECKED:	DATE	APPROVED:	DATE	SCALE:	SECTION:	DRG.No:	REV:
V.S.M	2025.07.01	L.E.M	2025.07.01	L.E.M	2025.07.01	AS SHOWN	NEW LAPA	2516-E-01	A



LEGEND:	
SYMBOL	DESCRIPTION
HD	SURFACE MOUNTED 20A DOUBLE POLE HAND DRYER ISOLATOR SWITCH WITH STEEL COVER PLATE. HEIGHT - 250mm BELOW CEILING - 4mm² WIRING + 4mm² BCEW.
	SURFACE MOUNTED DISTRIBUTION BOARD

NOTES:

1. USE STEEL CONDUIT FOR INDOOR SURFACE MOUNTED OR OUTDOOR APPLICATIONS AND PVC CONDUIT IN CEILING VOID OR CONCRETE APPLICATIONS. USE HOSPITAL SADDLES FOR STEEL CONDUIT.
2. ON SITE COORDINATION BETWEEN ALL SERVICES SHOULD BE DONE (BY CONTRACTOR) BEFORE ANY INSTALLATION WORK COMMENCES.
3. INSTALL WIRING/CABLING IN CONDUIT, WIRING CHANNEL OR ON CABLE LADDER.
4. FLOOD LIGHTS SHOULD BE INSTALLED ON A RETROFIT SWIVEL POLE MOUNTING BRACKET EQUAL OR SIMILAR TO EAZYREACH ROTATE POLE AND MOUNTED AT GUTTER HEIGHT AGAINST THE STRUCTURE.

FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114 :
E-mail: technical@techi.co.za

Drawing No. 2516-E-02

Pr. Eng. Number 20180410

Date 2025.07.01

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.01							

Client: SANBI Biodiversity for Life
South African National Biodiversity Institute

Signature:

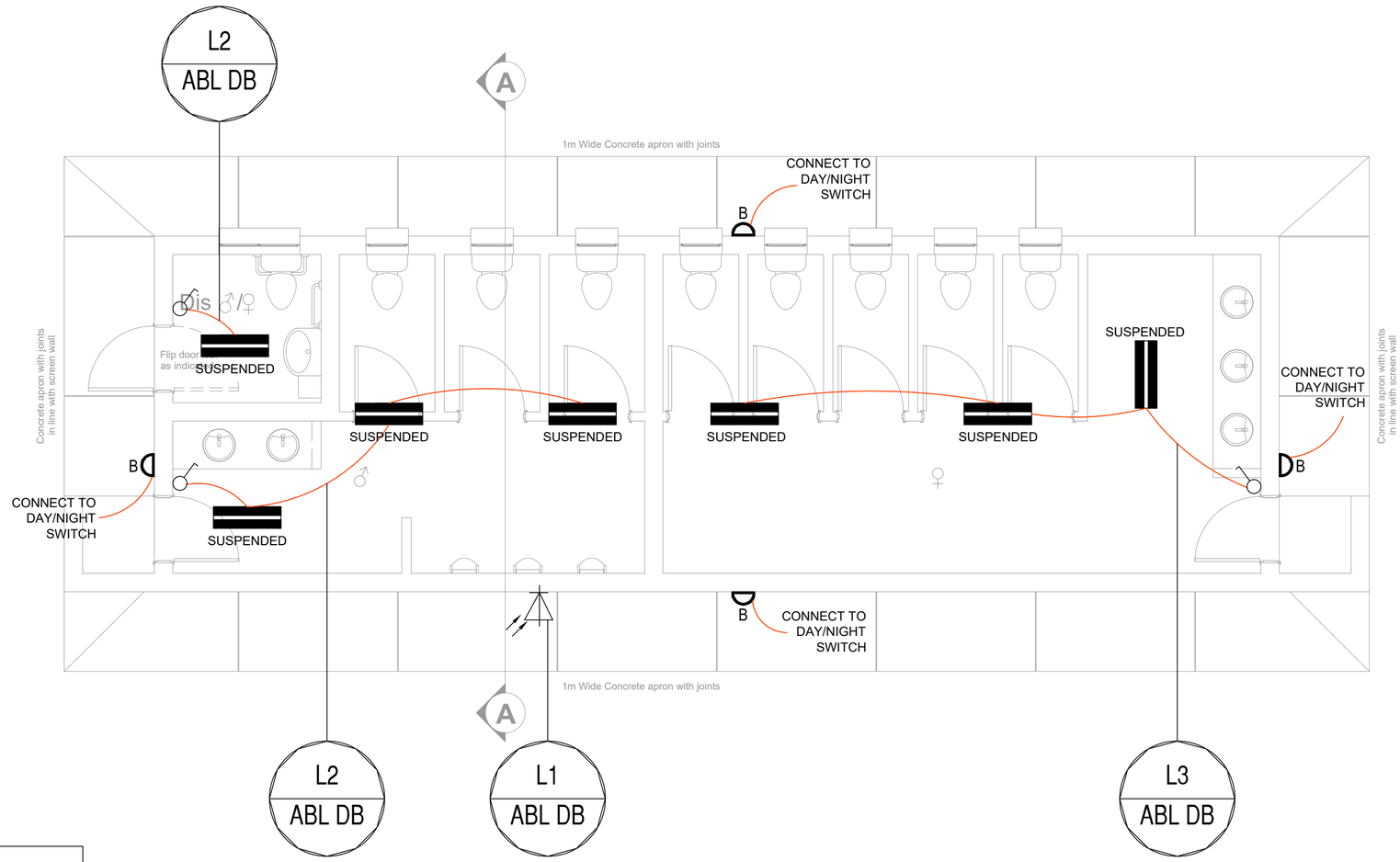
Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title: EXISTING ABLUTION BLOCK–GROUND FLOOR PLAN ELECTRICAL LAYOUT

A1

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
V.G.M	2025.07.01	L.E.M	2025.07.01	L.E.M	2025.07.01	AS SHOWN	EXISTING ABLUTION BLOCK	2516-E-02	A



Ground FLoor Plan

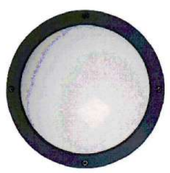
1 : 50

LEGEND:	
SYMBOL	DESCRIPTION
	SUSPENDED MOUNTED LINEAR LUMINAIRE COMPLETE WITH 4000K 24W LED's: TYPE LASCON C10 / 24W LED TRIDONIC / 6080LM / PHOTO ENGRAVE LENSE - 4000K IP65 RATED OR SIMILAR.
DB	SURFACE MOUNTED BULKHEAD LUMINAIRE COMPLETE WITH 4000K 17W LED's: TYPE BEKA SERIES 30 17W 4000K BLACK TEXTURED BULKHEAD OR SIMILAR.
	FLUSH MOUNTED ONE WAY ONE LEVER LIGHT SWITCH WITH STEEL COVER PLATE. HEIGHT - 1200mm AFFL.
	DAY/NIGHT SWITCH
	2.5mm² WIRING + 2.5mm² BCEW

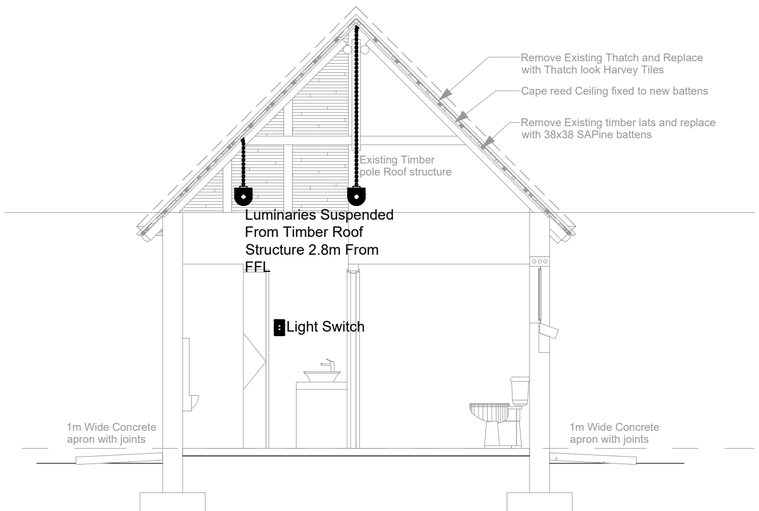
NOTES:

1. USE STEEL CONDUIT FOR INDOOR SURFACE MOUNTED OR OUTDOOR APPLICATIONS AND PVC CONDUIT IN CEILING VOID OR CONCRETE APPLICATIONS. USE HOSPITAL SADDLES FOR STEEL CONDUIT.
2. CONNECT SURFACE MOUNTED LUMINAIRE VIA 65mmØ OUTLET BOX MOUNTED IN CEILING VOID OR FLUSH IN WALL.
3. ON SITE COORDINATION BETWEEN ALL SERVICES SHOULD BE DONE (BY CONTRACTOR) BEFORE ANY INSTALLATION WORK COMMENCES.
4. INSTALL WIRING/CABLING IN CONDUIT, WIRING CHANNEL OR ON CABLE LADDER.
5. FLOOD LIGHTS SHOULD BE INSTALLED ON A RETROFIT SWIVEL POLE MOUNTING BRACKET EQUAL OR SIMILAR TO EAZYREACH ROTATE POLE AND MOUNTED AT GUTTER HEIGHT AGAINST THE STRUCTURE.

Proposed Luminaires



Beka Series 30 Lascon C10



Section A-A

1 : 50

FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114 :
E-mail: technical@techi.co.za

Drawing No. 2516-E-03

Pr. Eng. Number 20180410

Date 2025.07.01

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.01							

Client: SANBI (Biodiversity for a livelihood) South African National Biodiversity Institute

Signature:

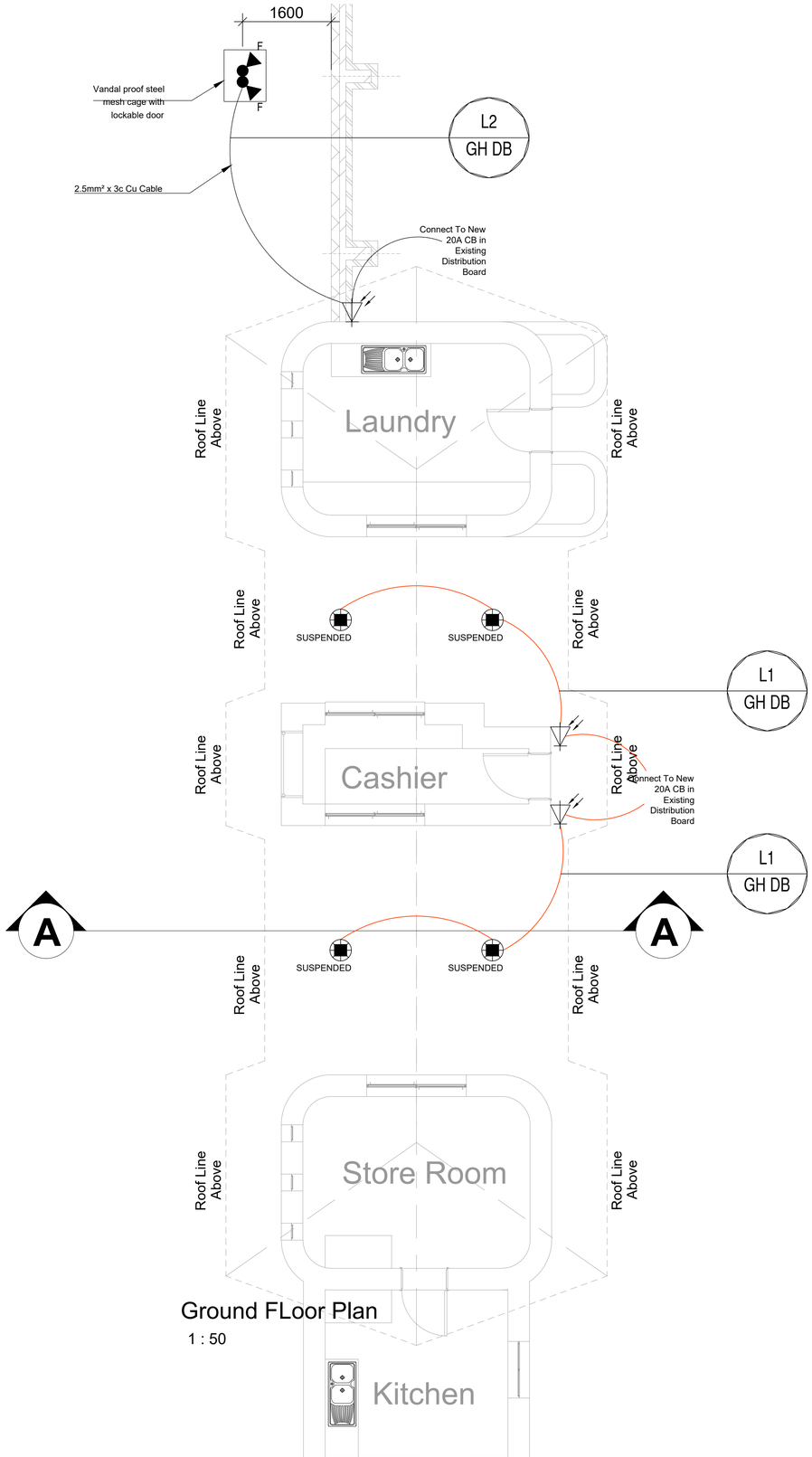
Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title: EXISTING ABLUTION BLOCK–GROUND FLOOR PLAN LIGHTING LAYOUT

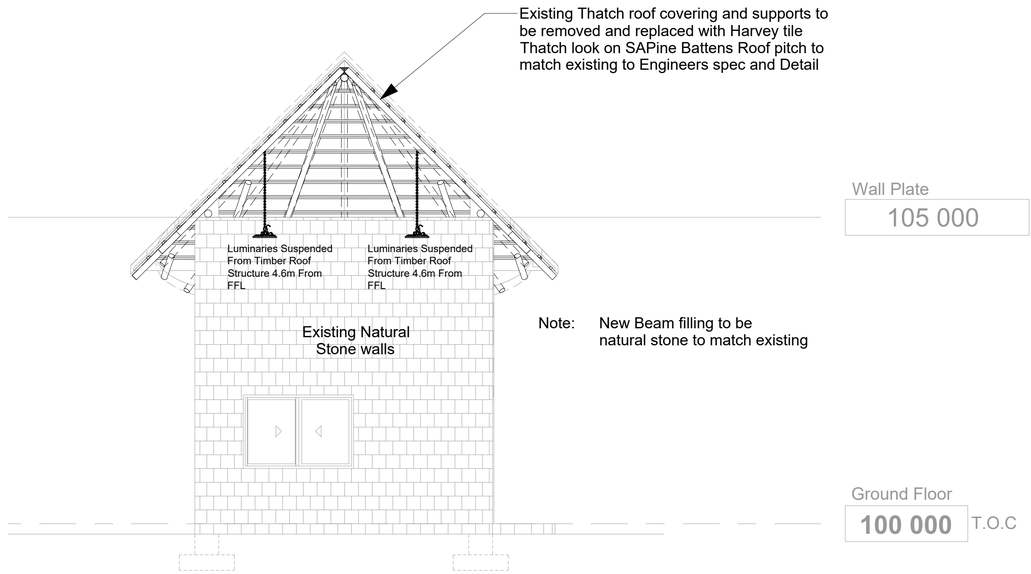
A2

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
V.L.M	2025.07.01	L.E.M	2025.07.01	L.E.M	2025.07.01	AS SHOWN	EXISTING ABLUTION BLOCK	2516–E–03	A



Ground FLoor Plan

1 : 50



Section A-A

1 : 50

LEGEND:	
SYMBOL	DESCRIPTION
	SUSPENDED MOUNTED HI-BAY LUMINAIRE COMPLETE WITH 4000K 146W LED's: TYPE BEKA ECOBAY 146W LED WITH GLASS PROTECTOR - 4000K IP66 RATED OR SIMILAR.
	SIGNAGE LUMINAIRE COMPLETE WITH 4000K 26W LED's: TYPE BEKA FOCUS 26W LED - 4000K IP66 RATED OR SIMILAR.
	DAY/NIGHT SWITCH
	2.5mm² WIRING + 2.5mm² BCEW

NOTES:

1. USE STEEL CONDUIT FOR INDOOR SURFACE MOUNTED OR OUTDOOR APPLICATIONS AND PVC CONDUIT IN CEILING VOID OR CONCRETE APPLICATIONS. USE HOSPITAL SADDLES FOR STEEL CONDUIT.
2. CONNECT SURFACE MOUNTED LUMINAIRE VIA 65mmØ OUTLET BOX MOUNTED IN CEILING VOID OR FLUSH IN WALL.
3. ON SITE COORDINATION BETWEEN ALL SERVICES SHOULD BE DONE (BY CONTRACTOR) BEFORE ANY INSTALLATION WORK COMMENCES.
4. INSTALL WIRING/CABLING IN CONDUIT, WIRING CHANNEL OR ON CABLE LADDER.
5. FLOOD LIGHTS SHOULD BE INSTALLED ON A RETROFIT SWIVEL POLE MOUNTING BRACKET EQUAL OR SIMILAR TO EAZYREACH ROTATE POLE AND MOUNTED AT GUTTER HEIGHT AGAINST THE STRUCTURE.

Proposed Luminaire

BEKA ECOBAY

BEKA FOCUS

FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 482 1306
Tell: +27 11 452 5114 :
E-mail: technical@techi.co.za

Drawing No. 2516-E-04

Pr. Eng. Number 20180410

Date 2025.07.01

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.01							

Client: SANBI Biodiversity for Life — South African National Biodiversity Institute

Signature:

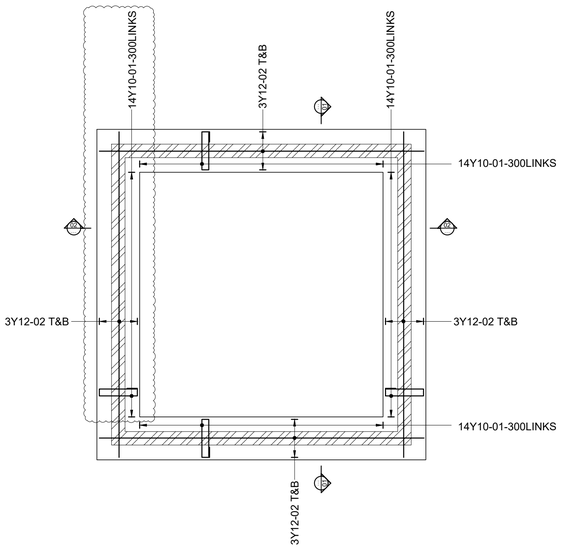
Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

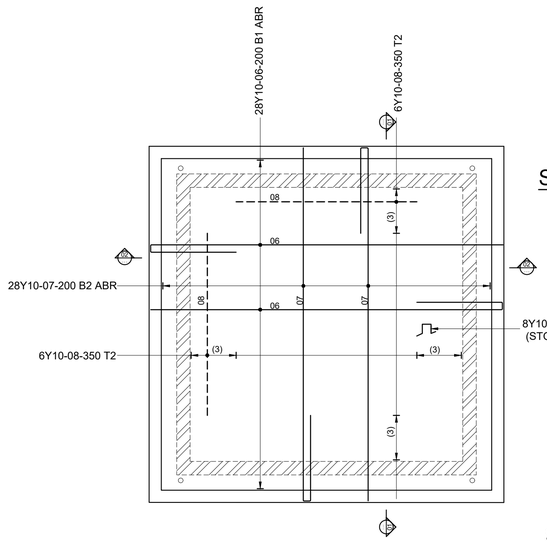
Title: GATE HOUSE–GROUND FLOOR PLAN LIGHTING LAYOUT

A1

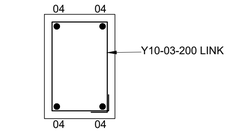
DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
V.G.M	2025.07.01	L.E.M	2025.07.01	L.E.M	2025.07.01	AS SHOWN	GATE HOUSE	2516–E–04	A



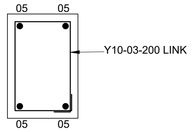
FOUNDATION REBAR DETAILS
SCALE: 1:50



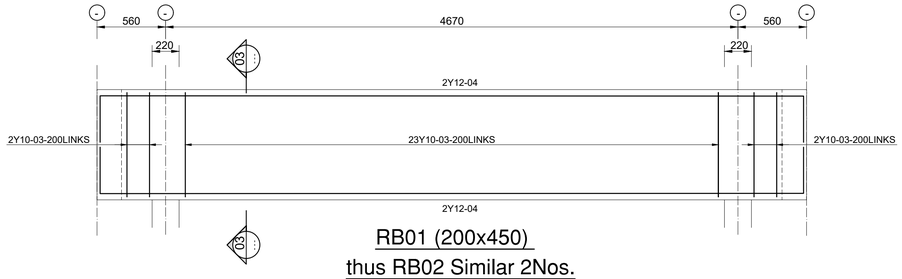
ROOF SLAB REBAR DETAILS
SCALE: 1:50



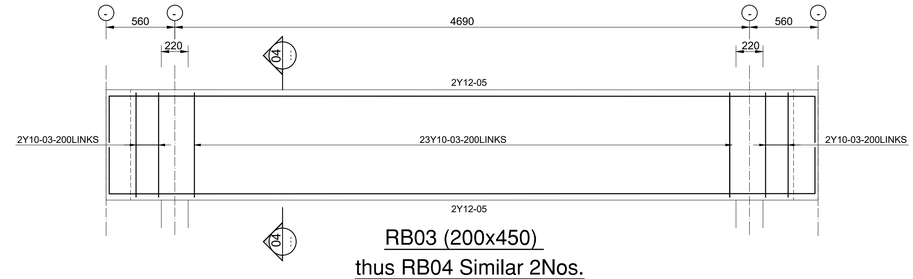
SECTION 03-03
SCALE: 1:10



SECTION 04-04
SCALE: 1:10



RB01 (200x450)
thus RB02 Similar 2Nos.
SCALE: 1:25



RB03 (200x450)
thus RB04 Similar 2Nos.
SCALE: 1:25

A. GENERAL :

1. THE CONTRACTOR SHALL ENSURE THAT WATER-PROOFING MATERIALS ARE NOT DAMAGED DURING BACKFILLING OPERATIONS AND FIXING OF STEEL.
2. SHOP FRONTS, PARTITIONS AND WINDOW FRAMES ARE TO ALLOW FOR LONG TERM DEFLECTION OF 12mm.

B. CONCRETE :

1. CONCRETE STRENGTH SHALL BE AT 28 DAYS AS FOLLOWS :

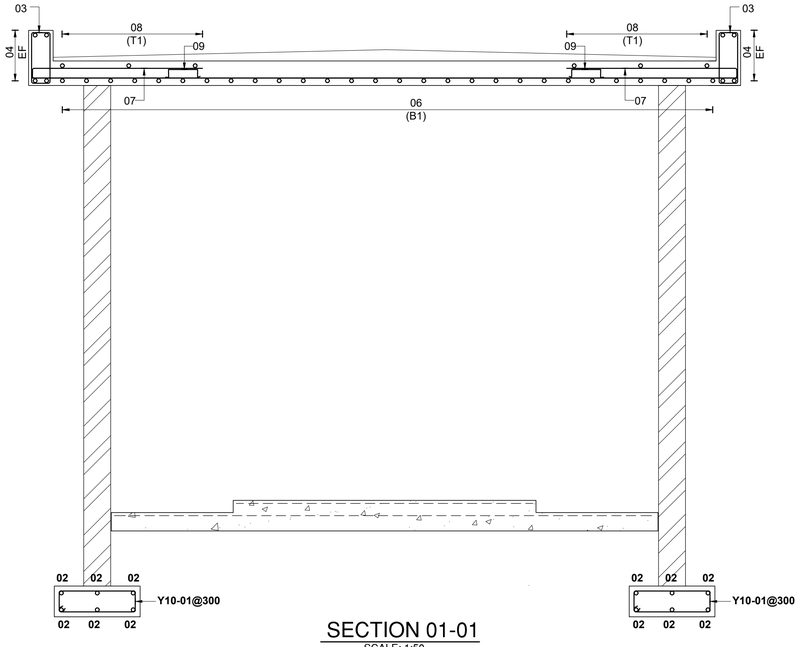
BLINDING	15 MPa / 19 mm
FOUNDATIONS	
STRIP FOOTING	25 MPa / 19 mm
PAD FOOTING	30 MPa / 19 mm
SURFACE BED	25 MPa / 19 mm
BEAMS	30 MPa / 19 mm
COLUMNS	30 MPa / 19 mm
RETAINING WALL	30 MPa / 19 mm
CAVITY WALLS	20 MPa / 19 mm
SUSPENDED SLAB	30 Mpa / 19mm
STAIRCASE	30 Mpa / 19mm

2. STRUCTURAL DRAWINGS MUST BE READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS AND ANY DISCREPANCIES MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
3. CURING OF CONCRETE SHALL BE CARRIED OUT STRICTLY IN ACCORDANCE WITH SABS 1200 G.
4. NO BRICK WALLS SHALL BE BUILT ON SUSPENDED FLOOR SLABS UNTIL THE SLABS HAVE REACHED THEIR 14 DAY STRENGTH. AND PROPPING SHOULD BE LEFT IN PLACE FOR 28 DAYS
5. ALL CONCRETE WORK SHALL COMPLY WITH THE REQUIREMENTS OF SABS 1200 G.
6. STRIPPING TIMES OF SHUTTERING AND PROPPING SHALL BE IN ACCORDANCE WITH SABS 1200 G.

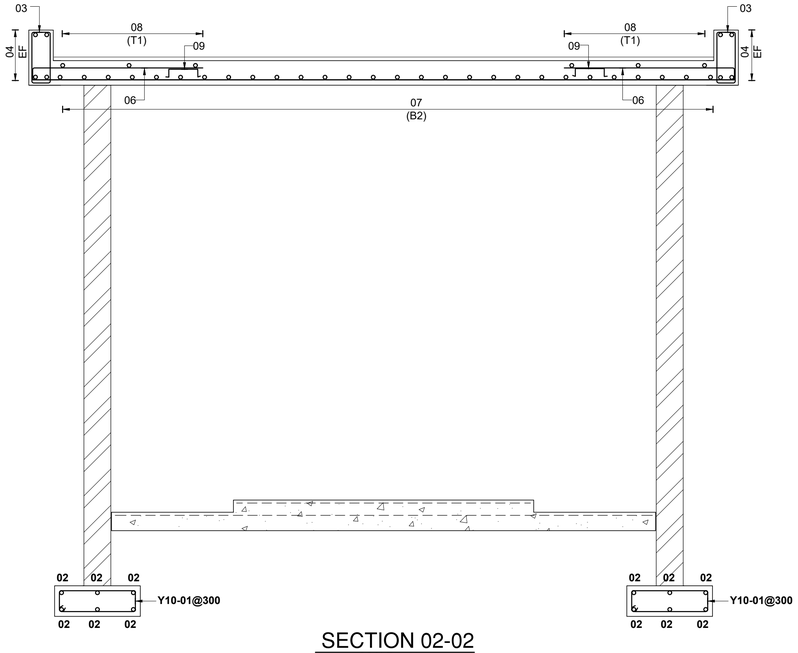
C. REINFORCEMENT :

1. THE CONTRACTOR SHALL INSPECT AND APPROVE THE FIXED REINFORCEMENT BEFORE THE ENGINEER IS NOTIFIED ALL REINFORCEMENT SHALL BE INSPECTED AND APPROVED IN WRITING BY THE ENGINEER BEFORE CASTING OF CONCRETE MAY COMMENCE.
2. BENDING OF REINFORCEMENT SHALL BE IN ACCORDANCE WITH SABS 82.
3. REINFORCEMENT SHALL BE FIXED TO COMPLY WITH THE TOLERANCES AS SPECIFIED IN SABS 1200 G AND/OR THE PROJECT SPECIFICATION.
4. MAXIMUM CONCRETE COVER TO REINFORCING, EXCEPT WHERE NOTED OTHERWISE ON BENDING SCHEDULES, IS AS FOLLOWS :

FOUNDATIONS	40 mm
GROUND BEAMS	40 mm
COLUMNS	
BELOW GROUND	40 mm
ABOVE GROUND	25 mm
SUSPENDED BEAMS	25 mm
SLABS	25 mm



SECTION 01-01
SCALE: 1:50



SECTION 02-02
SCALE: 1:50

Membe r	No OF Mbrs	No o f bars in each	Type and size	Cutting length	TOTA L NUMBER	Bar mark	Shape Code	BENDING DIMENSIONS FOR SHAPE CODES SABS 82 A mm	B mm	C mm	D mm	E /r mm
STRIP FOUNDATION 700x250 1 No.	1	56	Y10	1700	56	01	60	170	620			
		24	Y12	5300	24	02	20	(5300)				
RB01 (220x450) thus RB02 Similar 2Nos.	2	27	Y10	1300	54	03	60	170	400			
		4	Y12	6200	8	04	38	250	5740	(250)		
RB03 (220x450) thus RB04 Similar 2Nos.	2	27	Y10	1300	54	03	60	170	400			
		4	Y12	6250	8	05	38	250	5760	(250)		
ROOF SLAB REBAR 200mm THICK 1 No.	1	28	Y10	7250	28	06	38	1400	150	(5740)		
		28	Y10	7250	28	07	38	1400	140	(5760)		
		12	Y10	3000	12	08	20	(3000)				
		8	Y10	900	8	09	83	250	110	250	(250)	

Bar size	8	10	12	16	20	25	32	40	TOTA L
R kg									
Y kg		422	201						623
TOT		422	201						623

FOR TENDER

TECHI Engineers

Drawing No. 2516-R-03

Pr. Eng. Approved ECSA PR 20150167

Date 2025.10.23

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.15							
B	FOUNDATION REINF. DETAILS REVISED	2025.10.23							

Client: SANBI Biodiversity For Life — South African National Biodiversity Institute

Signature:

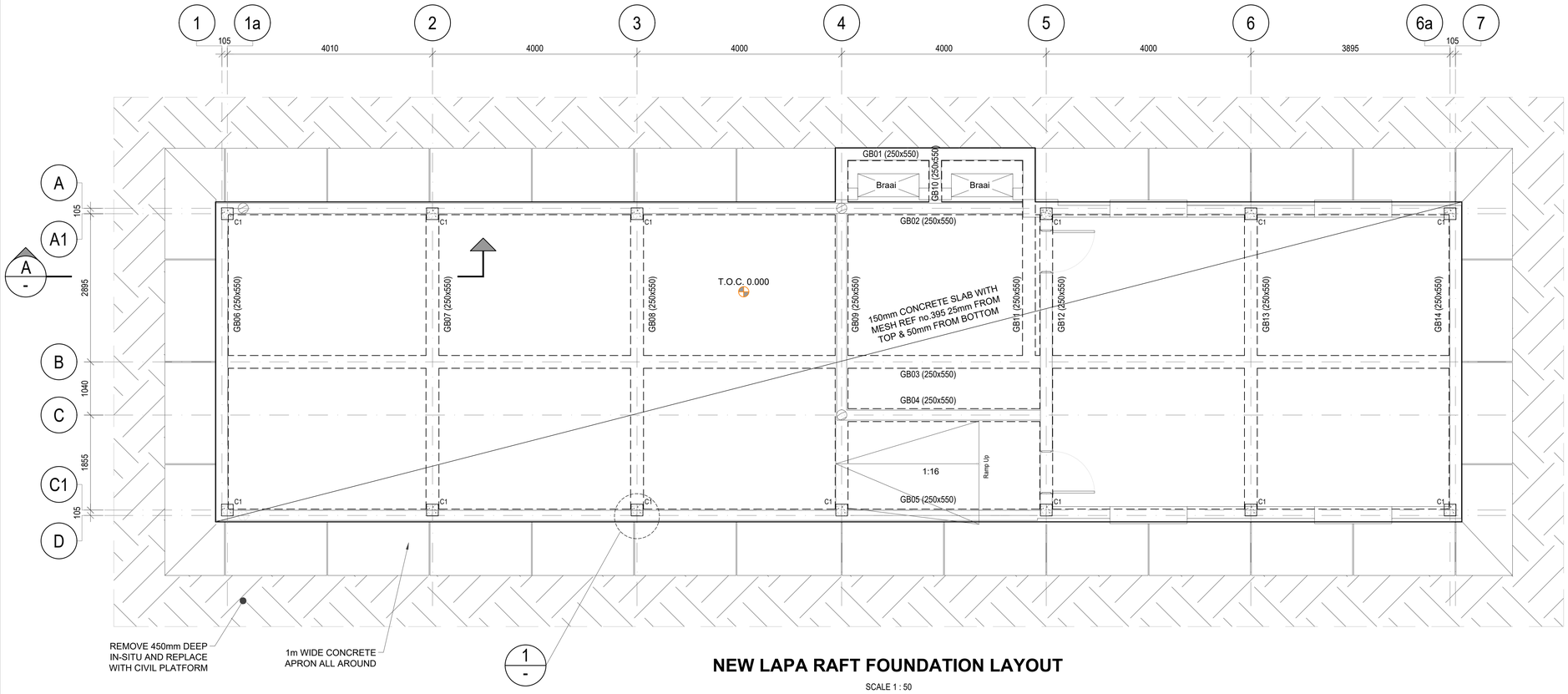
Date:

PROJECT DESCRIPTION: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

TITLE: PUMP HOUSE FOUNDATION, GROUND FLOOR & ROOF SLAB LAYOUT AND DETAILS

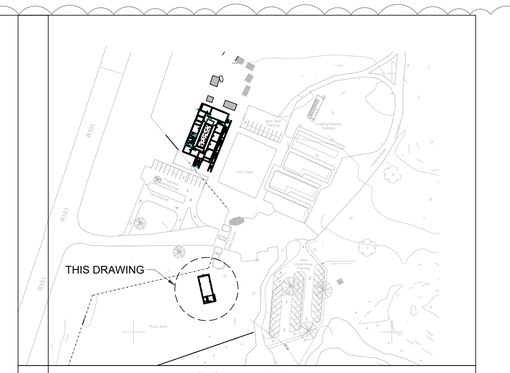
DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG No:	REV:
V.G.M	2025.07.15	M.L.M	2025.07.15	M.L.M	2025.07.15	AS SHOWN	PUMP HOUSE	2516-R-03	A

A1

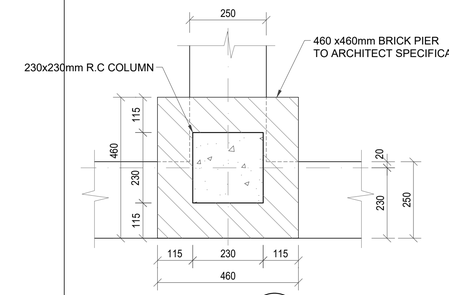


NEW LAPA RAFT FOUNDATION LAYOUT

SCALE 1 : 50



LOCALITY PLAN

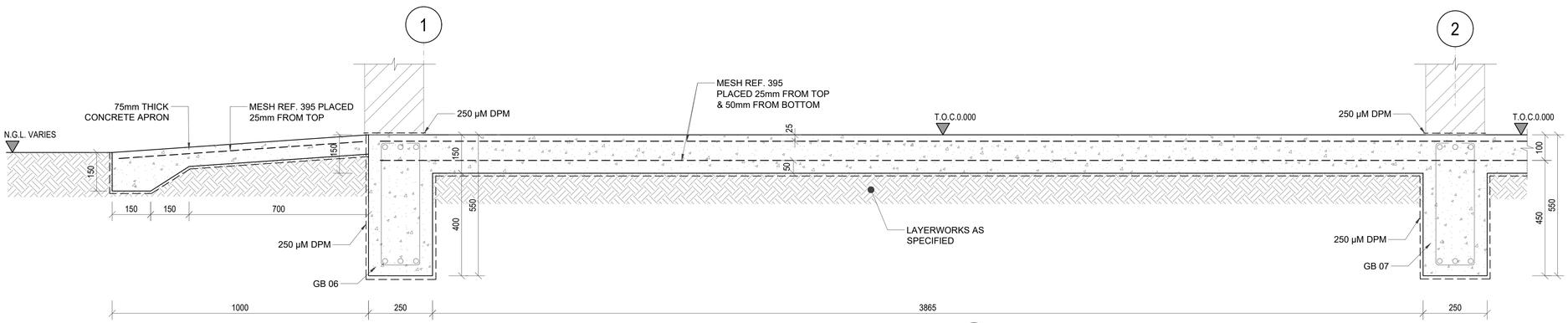


DETAIL 1 / -

SCALE 1 : 5

BRICK COLUMN DETAIL (13 No. OFF)

SCALE 1 : 5



SECTION A / -

SCALE 1 : 10

TYPICAL RAFT SECTION

CONCRETE NOTES :

1. CONCRETE GRADE: 30 MPa/19mm.
2. CONCRETE SURFACE TO BE FINISHED WITH 30MM THICK 1:4 SMOOTH CEMENT SAND SCREED

3. The Contractor shall adhere to the following codes during construction as applicable:
   SANS 2001 Construction Works:
   Part CC1: Concrete Works (Structural)
   Part CC2: Concrete Works (Minor Works)
   Part CG1: Installation of Glazing in Window and Door Frames
   Part CM1: Masonry Walling
   Part CS1: Structural Steelwork
   Part CT1: Structural Timberwork (Flooring)
   Part CT2: Structural Timberwork (Roofing)
   Part EM1: Cement Plaster

   SANS 10155 Accuracy in Buildings
   Grade II permissible deviation / tolerance shall apply unless otherwise noted.
   One copy of each of these codes shall be kept on site and shall be made available to The Engineer on request.

MASONRY NOTES :

1. ALL BRICK WALLS TO BE OF SOLID HARD BURNED CLAY BRICKS WITH A COMPRESSIVE STRENGTH OF NOT LESS THAN 14MPa LAID ON A CLASS II MORTAR WITH A 28 DAYS COMPRESSIVE STRENGTH OF 5MPa AS SPECIFIED IN SABS 0164 PART 1-1987 (CODE OF PRACTICE FOR MASONRY).
2. BRICKFORCE :
   MINIMUM DIAMETER OF BRICKFORCE = 2.8mm.
   YIELD STRENGTH = 485MPa.
   LAP LENGTH = 400mm.
3. BRICKFORCE TO BE PLACED IN THE FIRST FIVE LAYERS OF BRICKWORK ON STRIP FOOTINGS, THEREAFTER TO BE PLACED IN EVERY 4th LAYER. PLACE BRICKFORCE IN THE FIRST 5 LAYERS OF BRICKWORK OVER ALL WINDOW AND DOOR OPENINGS.
4. LAYOUT OF ALL BRICKWORK TO ARCHITECT'S DRAWINGS.
5. DPM TO BE PLACED ON SLAB PRIOR TO LAYING BRICKWORK

FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114 :
E-mail: technical@techi.co.za

Drawing No. 2516-S-01

Pr. Eng. Approved — ECSA PR 20150167 — Date 2025.08.04

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.02							
B	BEAMS AND SLAB REVISED	2025.08.04							

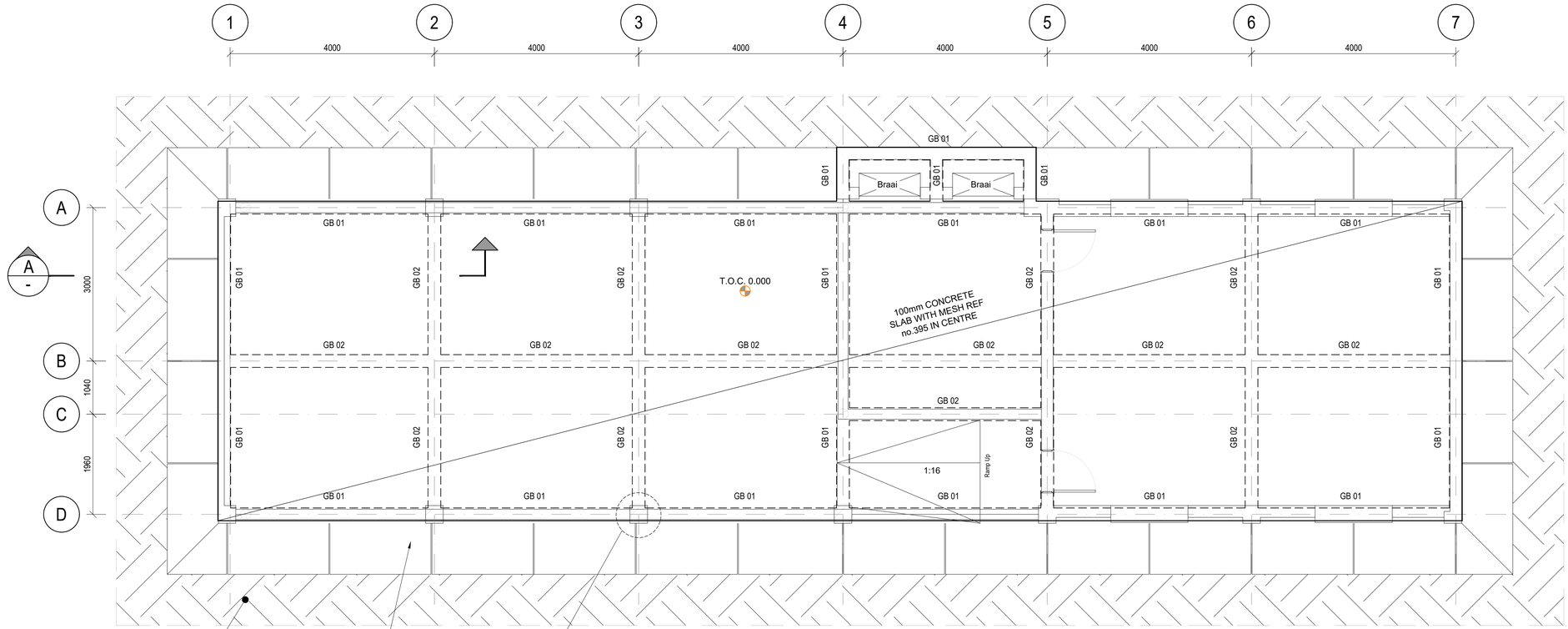
Client: SANBI — South African National Biodiversity Institute
Signature:
Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title: NEW LAPA FOUNDATION LAYOUT AND DETAILS

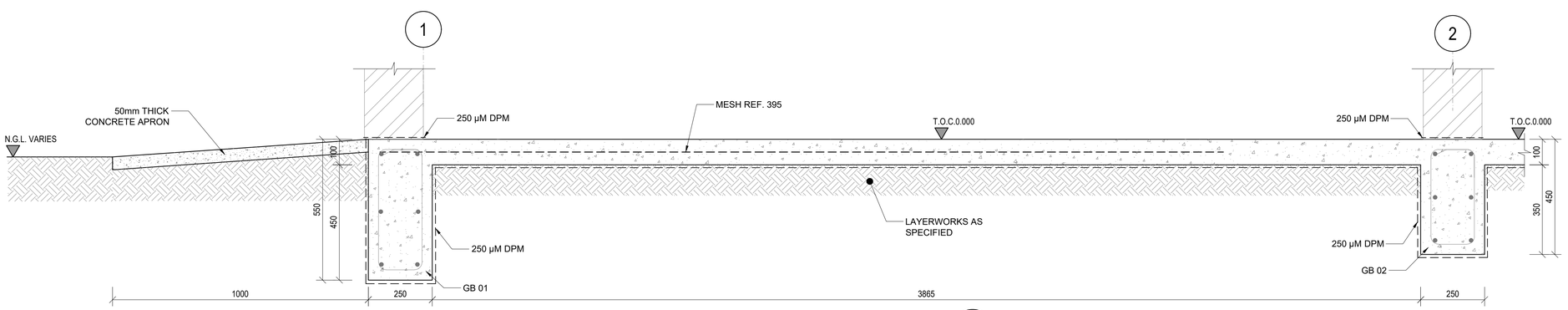
DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
V.G.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	NEW LAPA	2516-S-01	B

A1



NEW LAPA RAFT FOUNDATION LAYOUT

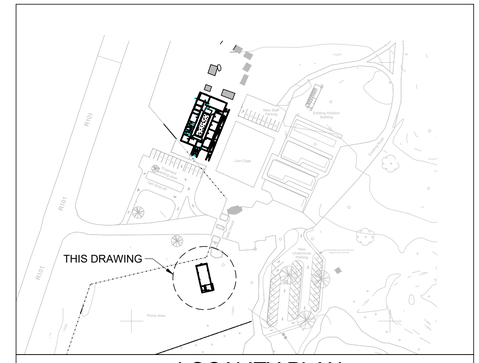
SCALE 1 : 50



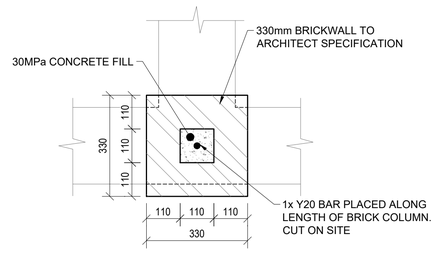
SECTION A

SCALE 1 : 10

TYPICAL RAFT SECTION



LOCALITY PLAN



DETAIL 1

SCALE 1 : 5

BRICK COLUMN DETAIL (6 No. OFF)

SCALE 1 : 5

CONCRETE NOTES :

1. CONCRETE GRADE: 30 MPa/19mm.
2. CONCRETE SURFACE TO BE FINISHED WITH 30MM THICK 1:4 SMOOTH CEMENT SAND SCREED

3. The Contractor shall adhere to the following codes during construction as applicable:
   SANS 2001 Construction Works:
   Part CC1: Concrete Works (Structural)
   Part CC2: Concrete Works (Minor Works)
   Part CG1: Installation of Glazing in Window and Door Frames
   Part CM1: Masonry Walling
   Part CS1: Structural Steelwork
   Part CT1: Structural Timberwork (Flooring)
   Part CT2: Structural Timberwork (Roofing)
   Part EM1: Cement Plaster

   SANS 10155 Accuracy in Buildings
   Grade II permissible deviation / tolerance shall apply unless otherwise noted.
   One copy of each of these codes shall be kept on site and shall be made available to The Engineer on request.

MASONRY NOTES :

1. ALL BRICK WALLS TO BE OF SOLID HARD BURNED CLAY BRICKS WITH A COMPRESSIVE STRENGTH OF NOT LESS THAN 14MPa LAID ON A CLASS II MORTAR WITH A 28 DAYS COMPRESSIVE STRENGTH OF 5MPa AS SPECIFIED IN SABS 0164 PART 1-1987 (CODE OF PRACTICE FOR MASONRY).
2. BRICKFORCE :
   MINIMUM DIAMETER OF BRICKFORCE = 2.8mm.
   YIELD STRENGTH = 485MPa.
   LAP LENGTH = 400mm.
3. BRICKFORCE TO BE PLACED IN THE FIRST FIVE LAYERS OF BRICKWORK ON STRIP FOOTINGS, THEREAFTER TO BE PLACED IN EVERY 4th LAYER. PLACE BRICKFORCE IN THE FIRST 5 LAYERS OF BRICKWORK OVER ALL WINDOW AND DOOR OPENINGS.
4. LAYOUT OF ALL BRICKWORK TO ARCHITECT'S DRAWINGS.
5. DPM TO BE PLACED ON SLAB PRIOR TO LAYING BRICKWORK

LEGEND

GB01 : GROUND BEAM TYPE 1: 250mm X 550mm DEEP
GB02 : GROUND BEAM TYPE 2: 250mm X 450mm DEEP
M.J : 10mm MOVEMENT JOINT IN BRICK WALL

FOR TENDER

TECHT Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114 :
E-mail: technical@techt.co.za

Drawing No. 2516-S-01

Pr. Eng. Approved — ECSA PR 20150167 — Date 2025.07.02

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.02							

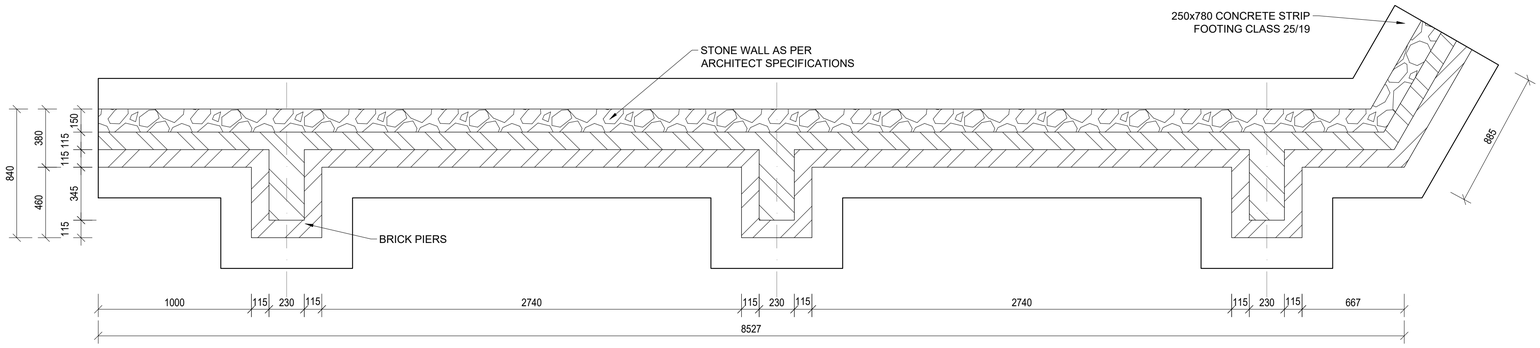
Client: SANBI — Mandated by the South African National Biodiversity Institute
Signature:
Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title: NEW LAPA FOUNDATION LAYOUT AND DETAILS

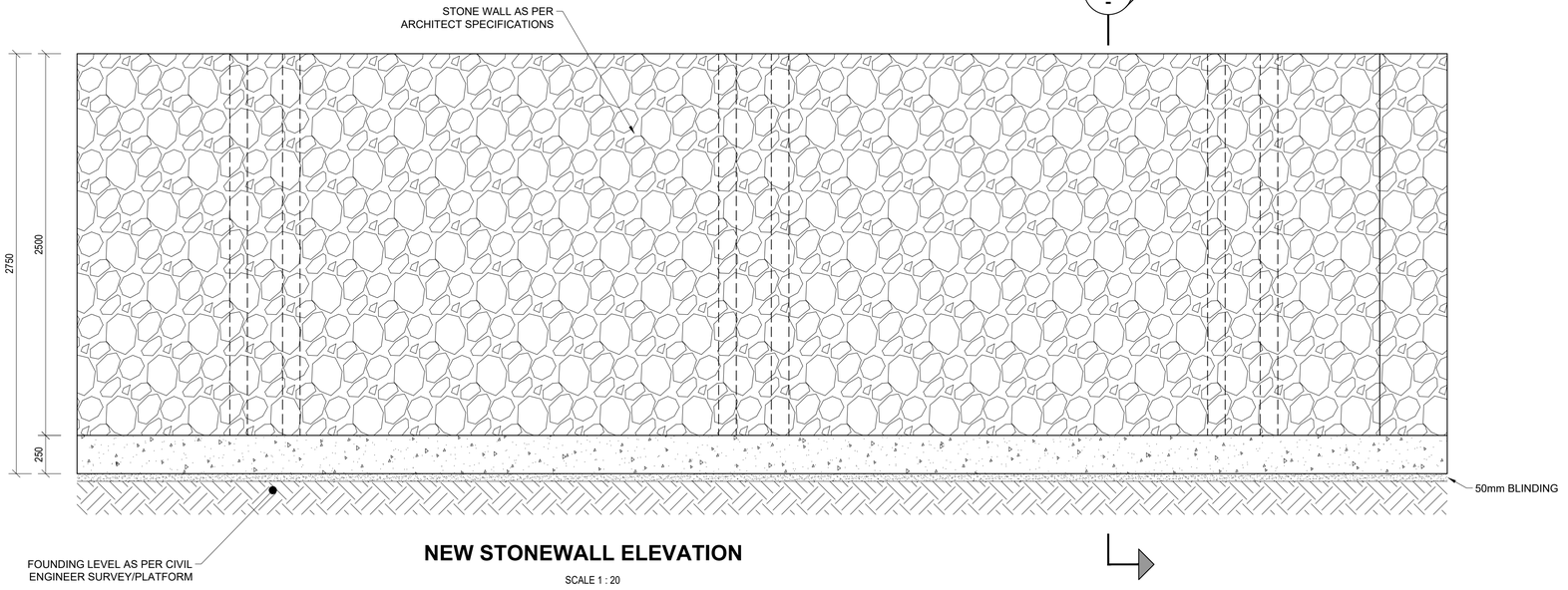
A1

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
V.G.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	NEW LAPA	2516-S-01	A



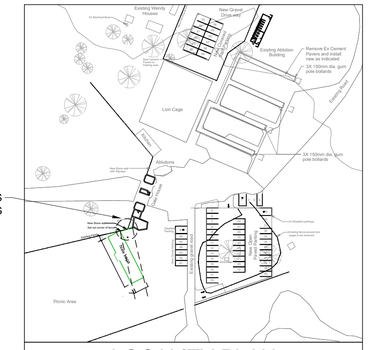
NEW STONEWALL PLAN

SCALE 1 : 50

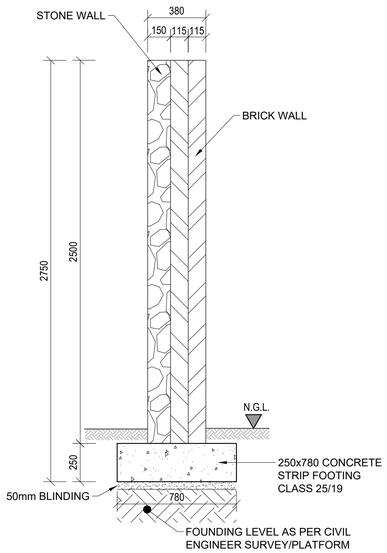


NEW STONEWALL ELEVATION

SCALE 1 : 20



LOCALITY PLAN



SECTION A-

SCALE 1 : 20

CONCRETE NOTES :

1. CONCRETE GRADE: 30 MPa/19mm.
2. CONCRETE SURFACE TO BE FINISHED WITH 30MM THICK 1:4 SMOOTH CEMENT SAND SCREED
3. The Contractor shall adhere to the following codes during construction as applicable:
   SANS 2001 Construction Works:
   Part CC1: Concrete Works (Structural)
   Part CC2: Concrete Works (Minor Works)
   Part CG1: Installation of Glazing in Window and Door Frames
   Part CM1: Masonry Walling
   Part CS1: Structural Steelwork
   Part CT1: Structural Timberwork (Flooring)
   Part CT2: Structural Timberwork (Roofing)
   Part EM1: Cement Plaster

   SANS 10155 Accuracy in Buildings
   Grade II permissible deviation / tolerance shall apply unless otherwise noted.
   One copy of each of these codes shall be kept on site and shall be made available to The Engineer on request.

CONCRETE COVER:
TOP : 40mm
BOTTOM : 50mm
SIDES : 40mm

LAP LENGTH:
MINIMUM 50Ø
12mmØ BARS = 600mm
16mmØ BARS = 800mm

CONCRETE GRADE : 30 MPa

FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114 :
E-mail: technical@techi.co.za

Drawing No. 2516-S-02

Pr. Eng. Approved ECSA PR 20150167

Date 2025.07.02

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.02							

Client: SANBI South African National Biodiversity Institute

Signature:

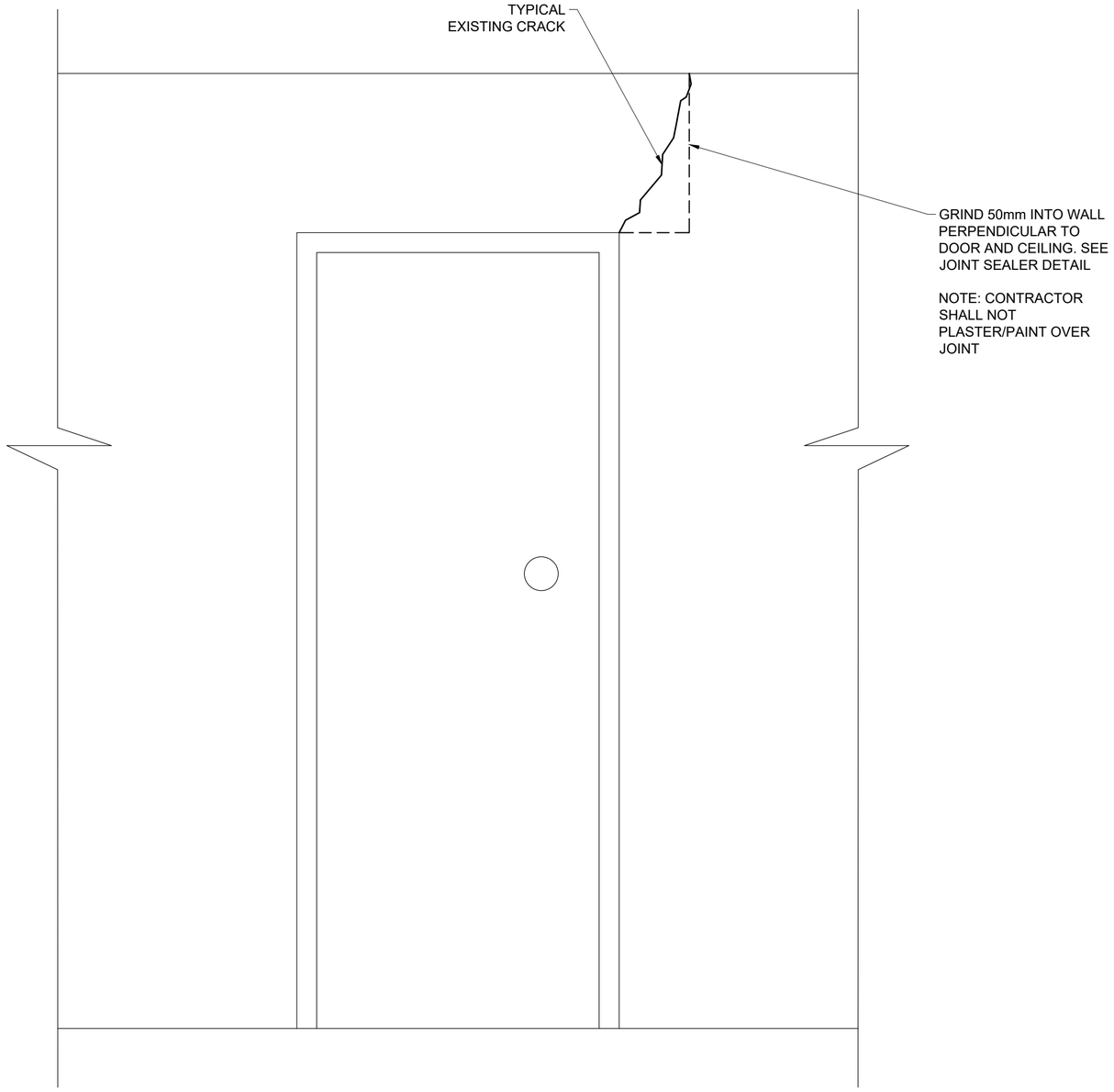
Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title: NEW STONE WALL CONCRETE LAYOUT AND SECTIONS

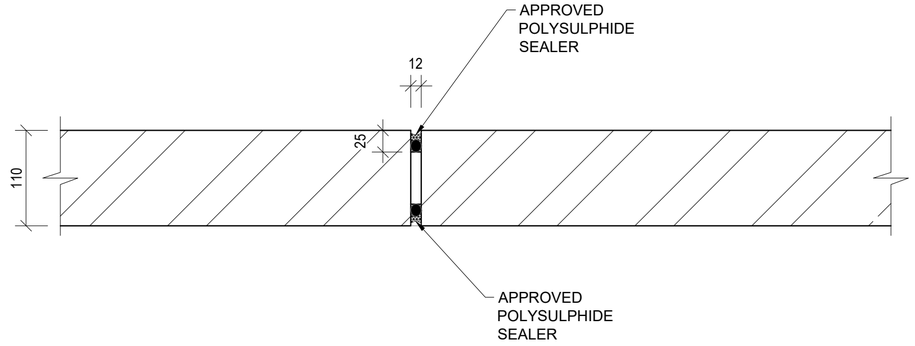
A1

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
V.G.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	NEW STONE WALL	2516-S-02	A



TYPICAL CRACK ELEVATION
2x No. OFF

SCALE 1 : 10



JOINT SEALER DETAIL

SCALE 1 : 10

FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114
E-mail: technical@techi.co.za
Pr. Eng. Approved
ECSA PR 20150167

Drawing No. 2516-S-03

Date 2025.07.02

REVISIONS			
REV No.	DESCRIPTION	DATE	APPROVED
A	ISSUED FOR TENDER	2025.07.02	

REFERENCE DRAWINGS	
DRG No.	DESCRIPTION

CLIENT APPROVAL			
NAME	DESIGNATION	SIGN	DATE

Client: SANBI — South African National Biodiversity Institute

Signature:

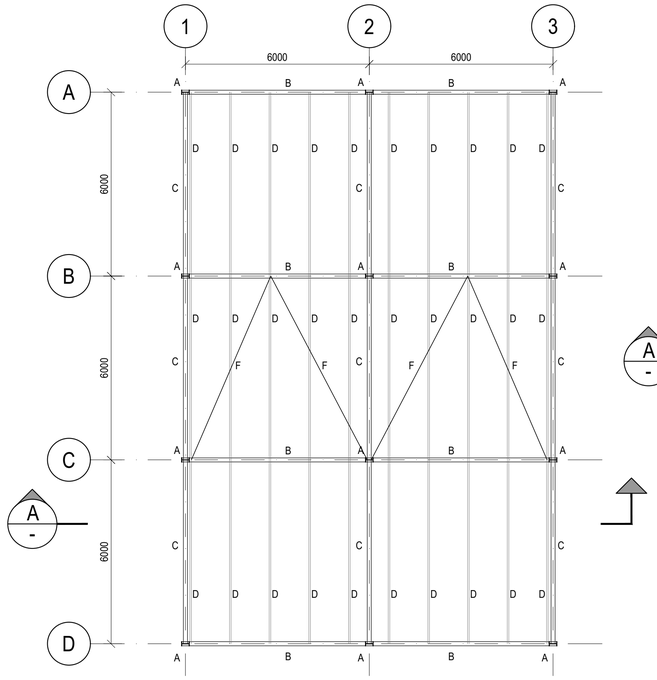
Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title: EXISTING ABLUTION CRACK REPAIR DETAILS

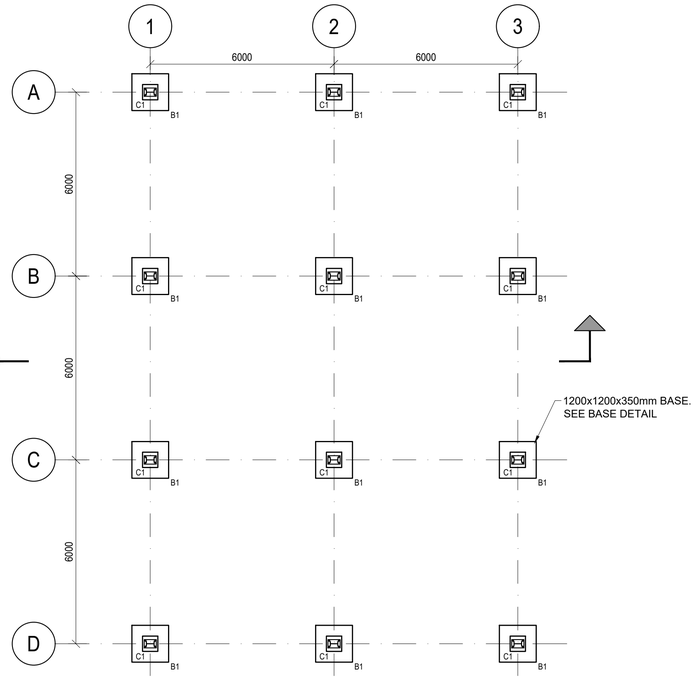
A2

DRAWN:	Date	CHECKED:	Date	APPROVED:	Date	SCALE:	SECTION:	DRG.No:	REV:
V.L.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	ABLUTION	2516-S-03	A



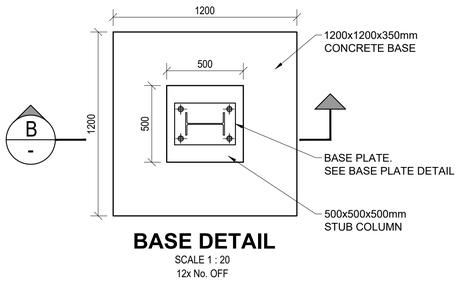
STEEL LAYOUT

SCALE 1 : 100



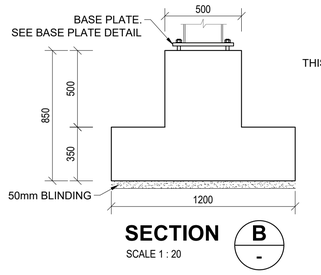
CONCRETE FOUNDATION LAYOUT

SCALE 1 : 100



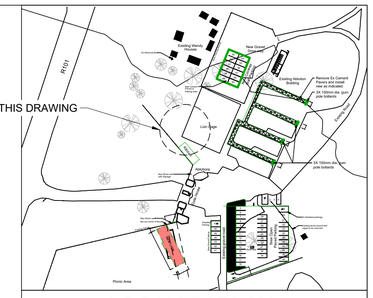
BASE DETAIL

SCALE 1 : 20
12x No. OFF



SECTION

SCALE 1 : 20



LOCALITY PLAN

LEGEND
MEMBERS LEGEND
A – 254x146x31 kg/m I–COLUMN I
B – 203x133x2.5 kg/m RAFTER I
C – 203x133x2.5 kg/m I–BEAM I
D – 150x75x20x2.5 C.F.L.C. ⊏
E – 152x152x23 kg/m H–HAUNCH H
F – 70x70x10 ANGLE BRACING ∟

CONCRETE NOTES :

1. CONCRETE GRADE: 30 MPa/19mm.
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3. The Contractor shall adhere to the following codes during construction as applicable:
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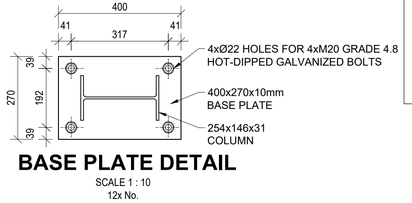


BASE PLATE DETAIL

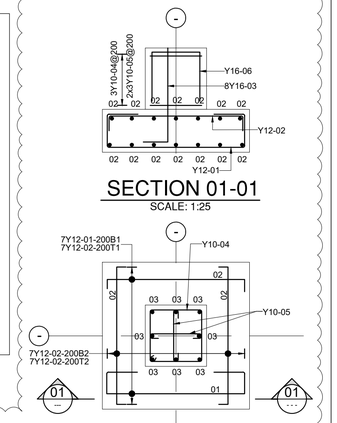
SCALE 1 : 10
12x No.

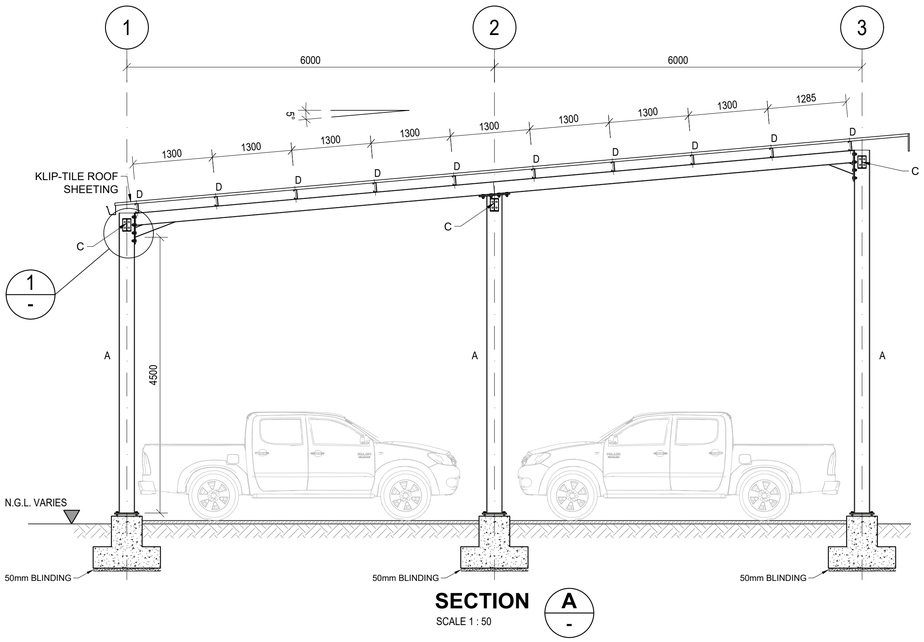
NOTE:

TOTAL BOLT LENGTH = e + t + lb + b + projection

PROJECTION LENGTH = 150mm

ALL HD-BOLTS TO BE HOT DIP GALVANISED

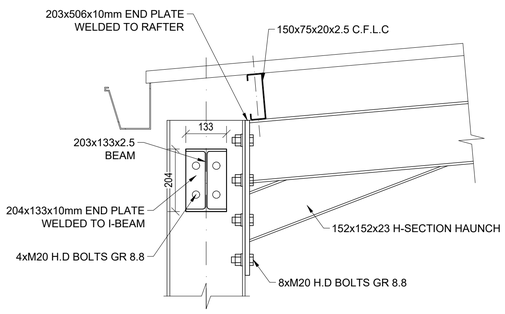




SECTION

SCALE 1 : 50

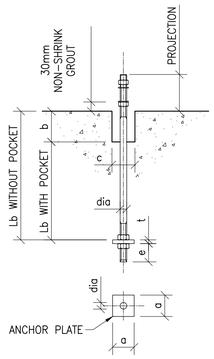
A
-



DETAIL

SCALE 1 : 20

1
-



HOLDING DOWN BOLTS WITH ANCHOR PLATES SCHEDULE

BOLT DIAMETER ON THREAD	GRADE 4.8 BOLTS. fu= 400 MPa								
	BOLT		ANCHOR PLATE			POCKET		THREAD	
	TENSILE STRENGTH Tr	BOND LENGTH lb	SIZE a	THICKNESS t	EXTEND e	DEPTH b	DIA c	TOP	BOT
(mm)	(kN)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
16	40	180	60	10	30	100	75	160	70
20	60	230	70	12	40	150	75	170	90
24	90	275	85	12	50	200	75	185	110
30	142	355	105	14	50	250	100	200	115

NOTE:
VALUES OF THIS TABLE ARE BASED ON GRADE 4.8 BOLTS. IF THESE ARE NOT COMMERCIALLY AVAILABLE THE CONTRACTOR MUST USE MILD STEEL REINFORCING (R) BARS. WITH AN ULTIMATE TENSILE STRENGTH OF 400MPa. DIAMETERS IN THE TABLE ARE TO BE USED TO DETERMINE THE EQUIVALENT BOLT DIAMETER ON THE TREAD.

REINFORCEMENT							BENDING DIMENSIONS FOR SHAPE CODES SABS 82				
Member	No OF Mbrs	No of bars in each	Type and size	Cutting length	TOTAL L NUMBER	Bar mark	Shape Code	A mm	B mm	C mm	D mm	E /r mm
BASE TYPE B1 12		7	Y12	2250	84	01	55	350	270	1120	270	(350)
1200x1200		21	Y12	1550	252	02	38	250	1120	(250)		
x350		8	Y16	950	96	03	37	250	(750)			
500x500 Col.		3	Y10	1800	36	04	60	420	420			
12Nos.		10	Y10	550	120	05	36	50	50	400	50	(50)
		4	Y16	1100	48	06	38	400	390	(400)		

Bar size	8	10	12	16	20	25	32	40	TOTAL L
R kg									
Y kg			81	515	227				823
TOT			81	515	227				823

FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1309
Tell: +27 11 452 5114 :
E-mail: technical@techi.co.za

Drawing No. 2516-S-04

Pr. Eng. Approved: ECSA PR 20150167

Date: 2025.10.23

REVISIONS			
REV No.	DESCRIPTION	DATE	APPROVED
A	ISSUED FOR TENDER	2025.07.02	
B	REINFORCEMENT DETAILS ADDED	2025.10.23	

REFERENCE DRAWINGS	
DRG No.	DESCRIPTION

CLIENT APPROVAL			
NAME	DESIGNATION	SIGN	DATE

Client: SANBI Mandated by the DFFE South African National Biodiversity Institute

Signature:

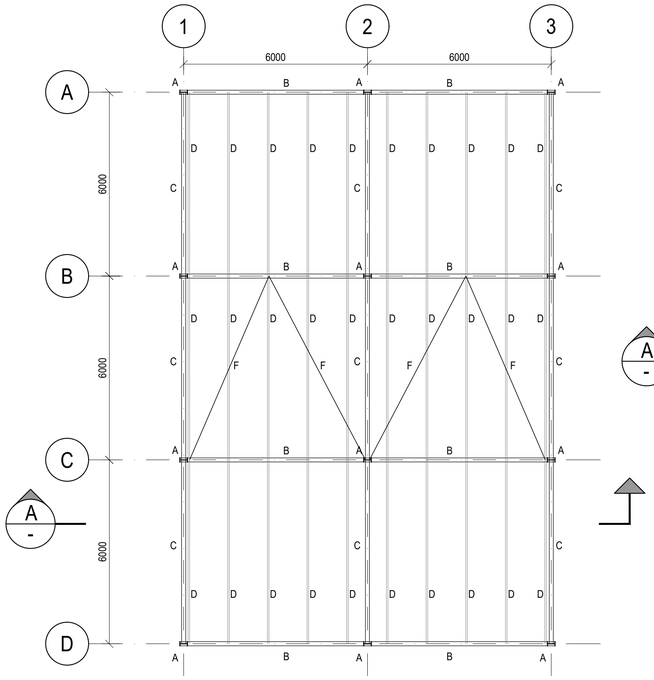
Date:

Project Description
ADDITIONS AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title
STAFF PARKING CONCRETE & STEEL LAYOUT AND REBAR DETAILS

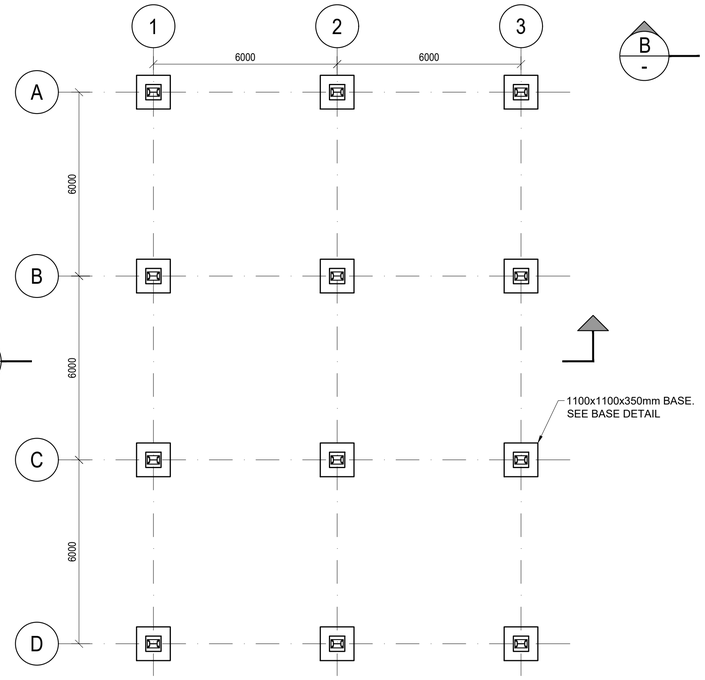
A1

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG No:	REV:
V.G.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	STAFF PARKING	2516-S-04	B



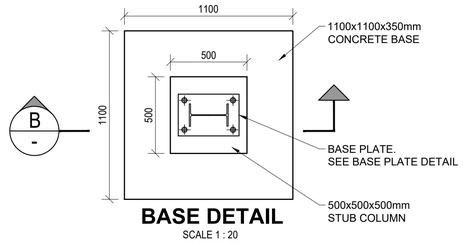
STEEL LAYOUT

SCALE 1 : 100



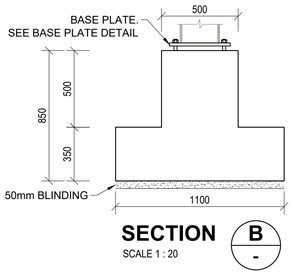
CONCRETE FOUNDATION LAYOUT

SCALE 1 : 100



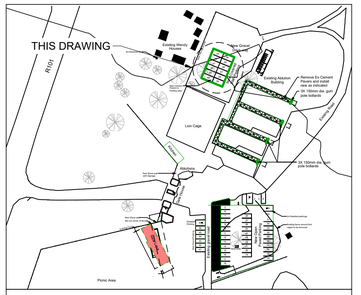
BASE DETAIL

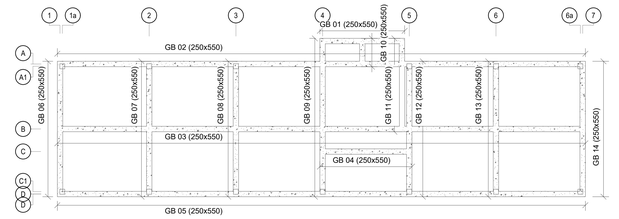
SCALE 1 : 20
12x No. OFF



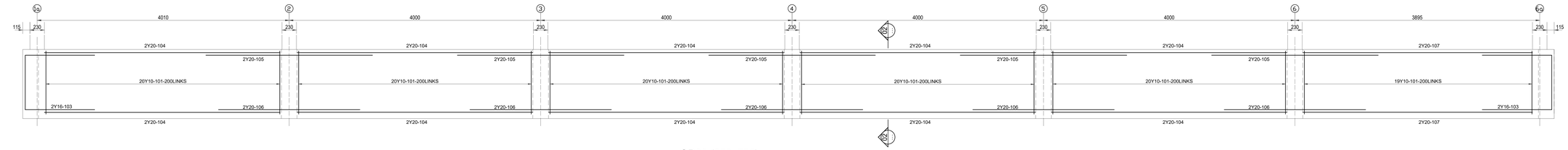
SECTION

SCALE 1 : 20

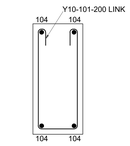

THIS DRAWING
R1101
Existing Water Pipeline
Existing Water Pipeline
Existing Mokolo Dam Wall
Remove Ex Cement Fence and install new as indicated
Ex. 150mm dia. pipe (low pressure)
Lion Cage
Ex. 150mm dia. pipe (low pressure)
Existing Water Pipeline
Existing Water Pipeline
Existing Water Pipeline



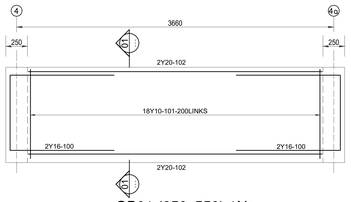
KEY PLAN
SCALE: 1:100



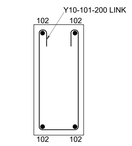
GB02 (250x550)
GB03 & GB05 SIMILAR 3Nos.
SCALE: 1:25



SECTION 02-02
SCALE: 1:10



GB01 (250x550) 1No.
SCALE: 1:25



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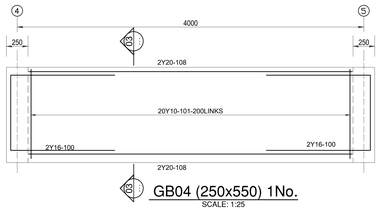

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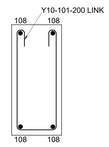

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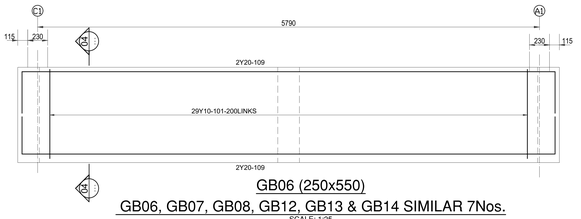
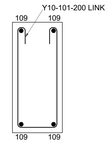


GB06 (250x550)
GB06, GB07, GB08, GB12, GB13 & GB14 SIMILAR 7Nos.
SCALE: 1:25



SECTION 04-04
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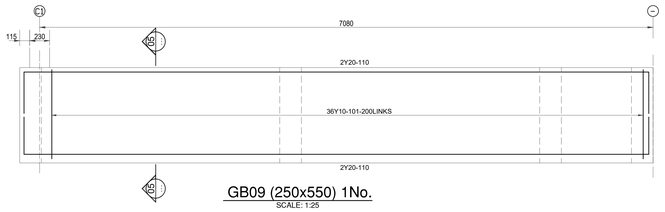

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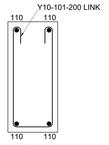

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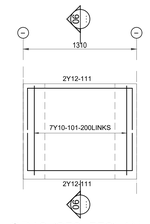

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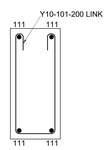

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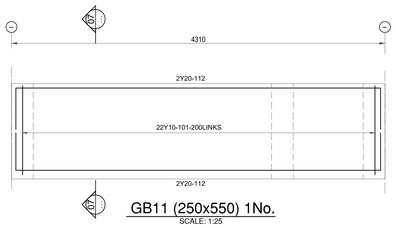

GB11 (250x550) 1No.
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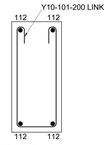
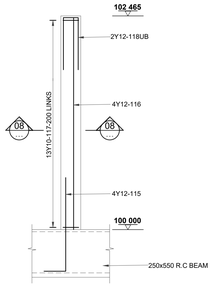
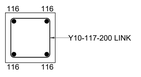


SECTION 07-07
SCALE: 1:10



COLUMN TYPE C1 (230x230) 13Nos.
SCALE: 1:25



SECTION 08-08
SCALE: 1:10

Member	No Off Mbrs	No of bars in each	Type and size	Cutting length	TOTAL NUMBER	Bar mark	Shape Code	A mm	B mm	C mm	D mm	E /r mm
GB01 (250x550) 1No.	1	4	Y16	2750	4	100	38	1200	430	(1200)		
		18	Y10	1300	18	101	72	470	150			
		4	Y20	3400	4	102	20	(3400)				
GB02 (250x550) thus GB03 & GB05 Similar 3Nos.	3	4	Y16	2950	12	103	38	1300	430	(1300)		
		119	Y10	1300	357	101	72	470	150			
		20	Y20	3750	60	104	20	(3750)				
		10	Y20	2650	30	105	20	(2650)				
		40	Y20	2250	120	106	20	(2250)				
		4	Y20	3650	12	107	20	(3650)				
GB04 (250x550) 1No.	1	4	Y16	2750	4	100	38	1200	430	(1200)		
		20	Y10	1300	20	101	72	470	150			
		4	Y20	3400	4	108	20	(3400)				
GB06 (250x550) thus GB07 GB08,GB08 GB12, GB13 & GB14 Similar 7Nos.	7	29	Y10	1300	203	101	72	470	150			
		4	Y20	6550	28	109	38	250	6150	(250)		
GB09 (250x550) 1No.	1	36	Y10	1300	36	101	72	470	150			
		4	Y20	7600	4	110	38	250	7200	(250)		
GB10 (250x550) 1No.	1	7	Y10	1300	7	101	72	470	150			
		4	Y12	1650	4	111	38	250	1200	(250)		
GB11 (250x550) 1No.	1	22	Y10	1300	22	101	72	470	150			
		4	Y20	4600	4	111	38	250	4200	(250)		

Bar size	8	10	12	16	20	25	32	40	TOTAL
R kg									
Y kg		531	6	91	2165				2792
TOT		531	6	91	2165				2792

Member	No Off Mbrs	No of bars in each	Type and size	Cutting length	TOTAL NUMBER	Bar mark	Shape Code	A mm	B mm	C mm	D mm	E /r mm
COLUMN TYPE C1 230x230 13Nos.	13	4	Y12	1350	52	115	37	250	(1100)			
		4	Y12	2450	52	116	20	(2450)				
		13	Y10	850	169	117	60	180	180			
		2	Y12	1350	26	118	38	600	180	(600)		

Bar size	8	10	12	16	20	25	32	40	TOTAL
R kg									
Y kg		89	207						295
TOT		89	207						295

CONCRETE COVER:
GROUND BEAMS
TOP : 25mm
BOTTOM : 50mm
SIDES : 50mm
COLUMNS
TOP : 25mm
SIDES : 25mm

LAP LENGTH:
MINIMUM 50Ø
12mmØ BARS = 600mm
16mmØ BARS = 800mm
20mmØ BARS = 1000mm

FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114
E-mail: technical@techi.co.za
Pr. Eng. Approved
ECSA PR 20150167

Drawing No. 2516-R-01
Date 2025.07.02

REV No.	DESCRIPTION	DATE	APPROVED
A	ISSUED FOR TENDER	2025.07.02	
B	REMAR REVISED	2025.08.04	

REVISIONS

DRG No.	DESCRIPTION

REFERENCE DRAWINGS

NAME	DESIGNATION	SIGN	DATE

CLIENT APPROVAL

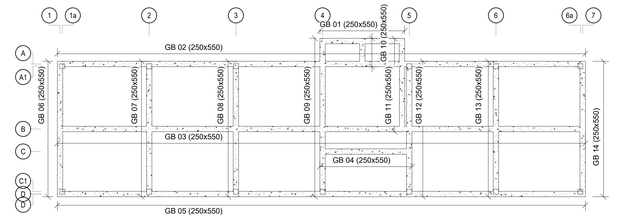
Client: SANBI (National Botanical Institute) South African National Biodiversity Institute
Signature:
Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title: NEW LAPA BUILDING REINFORCEMENT SECTIONS AND DETAILS

A0

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG No:	REV:
V.G.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	NEW LAPA BUILDING	2516-R-01	B



KEY PLAN
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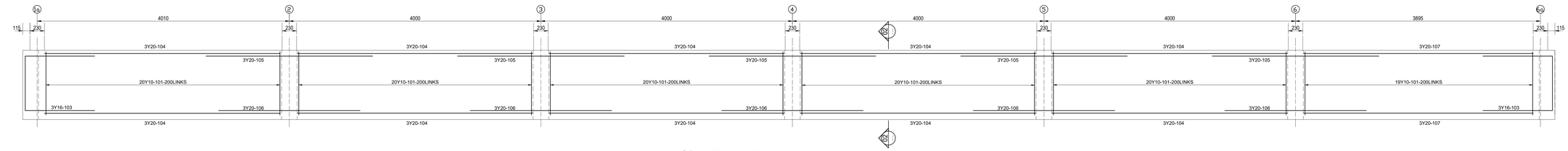
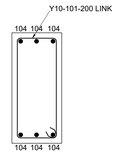
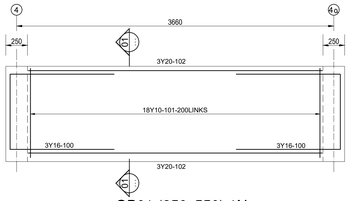


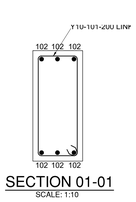
GB02 (250x550)
GB03 & GB05 SIMILAR 3Nos.
SCALE: 1:25



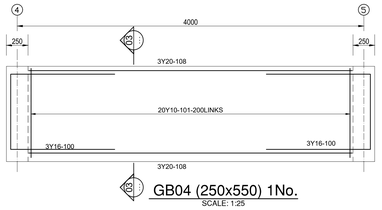
SECTION 02-02
SCALE: 1:10



GB01 (250x550) 1No.
SCALE: 1:25



SECTION 01-01
SCALE: 1:10



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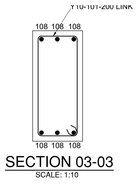
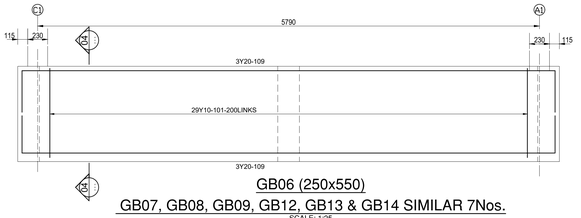
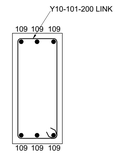


SECTION 03-03
SCALE: 1:10



GB06 (250x550)
GB07, GB08, GB09, GB12, GB13 & GB14 SIMILAR 7Nos.
SCALE: 1:25



SECTION 04-04
SCALE: 1:10

A. GENERAL :

1. THE CONTRACTOR SHALL ENSURE THAT WATER-PROOFING MATERIALS ARE NOT DAMAGED DURING BACKFILLING OPERATIONS AND FIXING OF STEEL.
2. SHOP FRONTS, PARTITIONS AND WINDOW FRAMES ARE TO ALLOW FOR LONG TERM DEFLECTION OF 12mm.

B. CONCRETE :

1. CONCRETE STRENGTH SHALL BE AT 28 DAYS AS FOLLOWS :

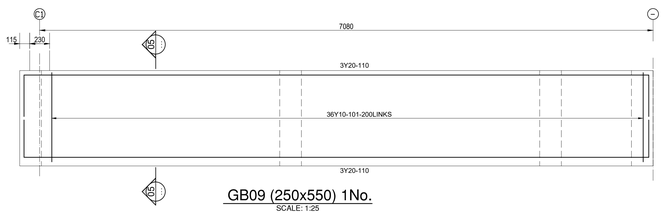
BLINDING	15 MPa / 19 mm
FOUNDATIONS	
STRIP FOOTING	25 MPa / 19mm
PAD FOOTING	30 MPa / 19mm
SURFACE BED	25 MPa / 19 mm
BEAMS	30 MPa / 19 mm
COLUMNS	30 MPa / 19 mm
RETAINING WALL	30 MPa / 19 mm
CAVITY WALLS	20 MPa / 19 mm.
SUSPENDED SLAB	30 Mpa / 19mm
STAIRCASE	30 Mpa / 19mm

2. STRUCTURAL DRAWINGS MUST BE READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS AND ANY DISCREPANCIES MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
3. CURING OF CONCRETE SHALL BE CARRIED OUT STRICTLY IN ACCORDANCE WITH SABS 1200 G.
4. NO BRICK WALLS SHALL BE BUILT ON SUSPENDED FLOOR SLABS UNTIL THE SLABS HAVE REACHED THEIR 14 DAY STRENGTH. AND PROPPING SHOULD BE LEFT IN PLACE FOR 28 DAYS
5. ALL CONCRETE WORK SHALL COMPLY WITH THE REQUIREMENTS OF SABS 1200 G.
6. STRIPPING TIMES OF SHUTTERING AND PROPPING SHALL BE IN ACCORDANCE WITH SABS 1200 G.

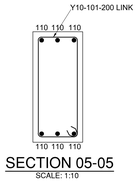
C. REINFORCEMENT :

1. THE CONTRACTOR SHALL INSPECT AND APPROVE THE FIXED REINFORCEMENT BEFORE THE ENGINEER IS NOTIFIED ALL REINFORCEMENT SHALL BE INSPECTED AND APPROVED IN WRITING BY THE ENGINEER BEFORE CASTING OF CONCRETE MAY COMMENCE.
2. BENDING OF REINFORCEMENT SHALL BE IN ACCORDANCE WITH SABS 82.
3. REINFORCEMENT SHALL BE FIXED TO COMPLY WITH THE TOLERANCES AS SPECIFIED IN SABS 1200 G AND/OR THE PROJECT SPECIFICATION.
4. MINIMUM CONCRETE COVER TO REINFORCING, EXCEPT WHERE NOTED OTHERWISE ON BENDING SCHEDULES, IS AS FOLLOWS:

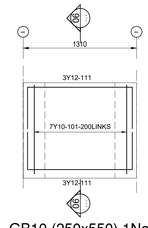
FOUNDATIONS:	40mm
GROUND BEAMS	40mm
COLUMNS	
BELOW GROUND	40mm
ABOVE GROUND	25mm
SUSPENDED BEAMS	25mm
SLABS	25mm



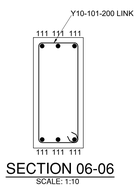
GB09 (250x550) 1No.
SCALE: 1:25



SECTION 05-05
SCALE: 1:10



GB10 (250x550) 1No.
SCALE: 1:25



SECTION 06-06
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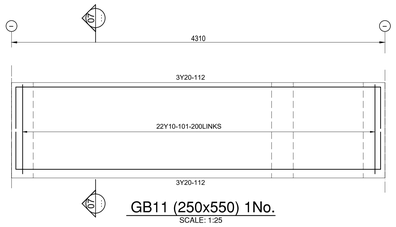

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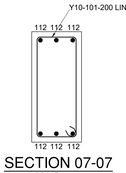

SECTION 07-07
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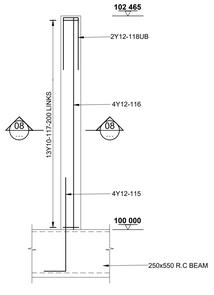
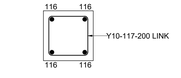


COLUMN TYPE C1 (230x230) 13Nos.
SCALE: 1:25



SECTION 08-08
SCALE: 1:10

Member	No. of Mbrs	No of bars in each	Type and size	Cutting length	TOTAL NUMBER	Bar mark	Shape Code	A mm	B mm	C mm	D mm	E /r mm
REINFORCEMENT							**BENDING DIMENSIONS FOR SHAPE CODES SABS 82**					
GB01 (250x550) 1No.	1	6	Y16	2750	6	100	38	1200	430	(1200)		
		18	Y10	1400	18	101	60	170	470			
		6	Y20	3400	6	102	20	(3400)				
GB02 (250x550) thus GB03 & GB05 Similar 3Nos.	3	4	Y16	2950	12	103	38	1300	430	(1300)		
		119	Y10	1400	357	101	60	170	470			
		30	Y20	3750	90	104	20	(3750)				
		15	Y20	2650	45	105	20	(2650)				
		15	Y20	2250	45	106	20	(2250)				
		6	Y20	3650	18	107	20	(3650)				
GB04 (250x550) 1No.	1	6	Y16	2750	6	100	38	1200	430	(1200)		
		20	Y10	1400	20	101	60	170	470			
		6	Y20	3400	6	108	20	(3400)				
GB06 (250x550) thus GB07 GB08,GB09 GB12, GB13 & GB14 Similar 7Nos.	7	29	Y10	1400	203	101	60	170	470			
		6	Y20	6550	42	109	38	250	6150	(250)		
GB09 (250x550) 1No.	1	36	Y10	1400	36	101	60	170	470			
		6	Y20	7600	6	110	38	250	7200	(250)		
GB10 (250x550) 1No.	1	7	Y10	1400	7	101	60	170	470			
		6	Y12	1650	6	111	38	250	1200	(250)		
GB11 (250x550) 1No.	1	22	Y10	1400	22	101	60	170	470			
		6	Y20	4600	6	111	38	250	4200	(250)		
Bar size	8	10	12	16	20	25	32	40	TOTAL			
R kg												
Y kg		572	9	108	2498				3187			
TOT		572	9	108	2498				3187			

Member	No. of Mbrs	No of bars in each	Type and size	Cutting length	TOTAL NUMBER	Bar mark	Shape Code	A mm	B mm	C mm	D mm	E /r mm
REINFORCEMENT							**BENDING DIMENSIONS FOR SHAPE CODES SABS 82**					
COLUMN TYPE 13	4		Y12	1350	52	115	37	250	(1100)			
C1	4		Y12	2450	52	116	20	(2450)				
230x230	13		Y10	850	169	117	60	180	180			
13Nos.	2		Y12	1350	26	118	38	600	180	(600)		
Bar size	8	10	12	16	20	25	32	40	TOTAL			
R kg												
Y kg		89	207						295			
TOT		89	207						295			

FOR TENDER

TECHI Engineers

PLOT 8
OANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114
E-mail: technical@techi.co.za

Drawing No.
2516-R-01

Pr. Eng. Approved — ECSA PR 20150167

Date 2025.10.23

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUE FOR TRADE	2025.07.02							
B	REMI REVISED	2025.08.04							
C	REMI REVISED	2025.10.23							

Client: **SANBI** South African National Biodiversity Institute

Signature:

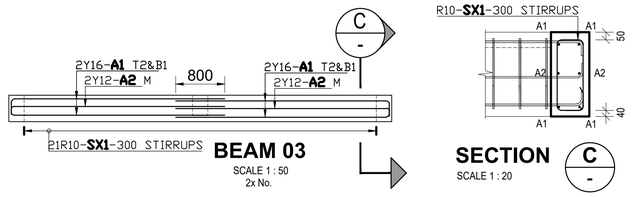
Date:

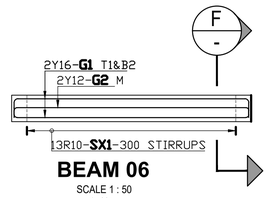
Project Description
ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

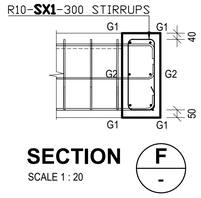
Title
NEW LAPA BUILDING REINFORCEMENT SECTIONS AND DETAILS

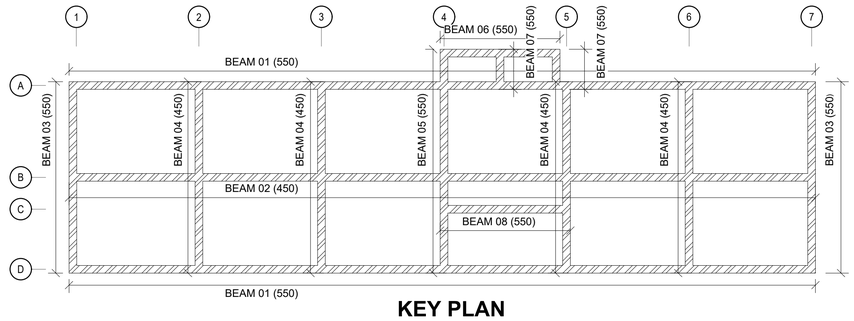
A0

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG No:	REV:
V.G.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	NEW LAPA BUILDING	2516-R-01	B

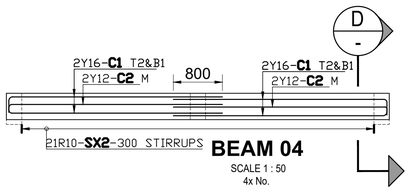


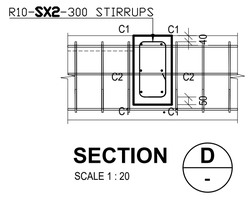


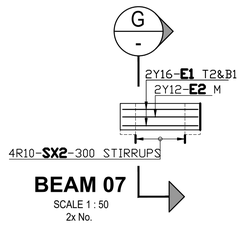


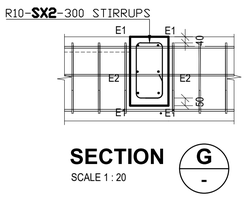


KEY PLAN



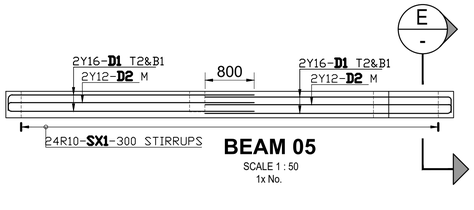


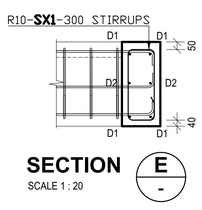


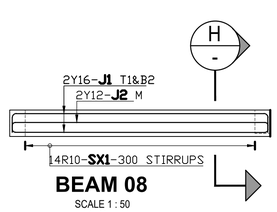


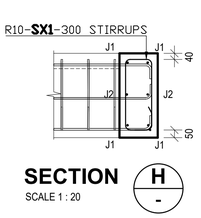
MEMBER	NO OF	NO BARS	DIA	CUT LENGTH	TOTAL	BAR MARK	SC	A	B	C	D	E/R	kg
BEAM 01	2	8	Y16	5900	16	F1	37	5800	[120]				149
	2	4	Y12	5900	8	F2	37	5800	[120]				42
	2	8	Y16	5950	16	F3	20	[5940]					150
	2	4	Y12	5950	8	F4	20	[5940]					42
	2	4	Y16	4000	8	F5	20	[4000]					51
	2	2	Y12	4000	4	F6	20	[4000]					14
	2	81	R10	1400	162	SX1	60	170	460				140
BEAM 02	1	8	Y16	5900	8	H1	37	5800	[120]				74
	1	4	Y12	5900	4	H2	37	5800	[120]				21
	1	8	Y16	5950	8	H3	20	[5940]					75
	1	4	Y12	5950	4	H4	20	[5940]					21
	1	4	Y16	4000	4	H5	20	[4000]					25
	1	2	Y12	4000	2	H6	20	[4000]					7
	1	81	R10	1200	81	SX2	60	170	360				60
BEAM 03	2	8	Y16	3550	16	A1	37	3480	[120]				90
	2	4	Y12	3600	8	A2	37	3480	[120]				26
	2	21	R10	1400	42	SX1	60	170	460				36
BEAM 04	4	8	Y16	3550	32	C1	37	3480	[120]				179
	4	4	Y12	3600	16	C2	37	3480	[120]				51
	4	21	R10	1200	84	SX2	60	170	360				62
BEAM 05	1	8	Y16	4100	8	D1	37	4010	[120]				52
	1	4	Y12	4100	4	D2	37	4010	[120]				15
	1	24	R10	1400	24	SX1	60	170	460				21
BEAM 06	1	4	Y16	4100	4	G1	38	160	3830	[160]			26
	1	2	Y12	4100	2	G2	38	160	3830	[160]			7
	1	13	R10	1400	13	SX1	60	170	460				11
BEAM 07	2	4	Y16	1250	8	E1	20	[1220]					16
	2	2	Y12	1250	4	E2	20	[1220]					4
	2	4	R10	1200	8	SX2	60	170	360				6
BEAM 08	1	4	Y16	4400	4	J1	38	160	4170	[160]			28
	1	2	Y12	4450	2	J2	38	160	4160	[160]			8
	1	14	R10	1400	14	SX1	60	170	460				12
MESH REF 395 = 160m²													

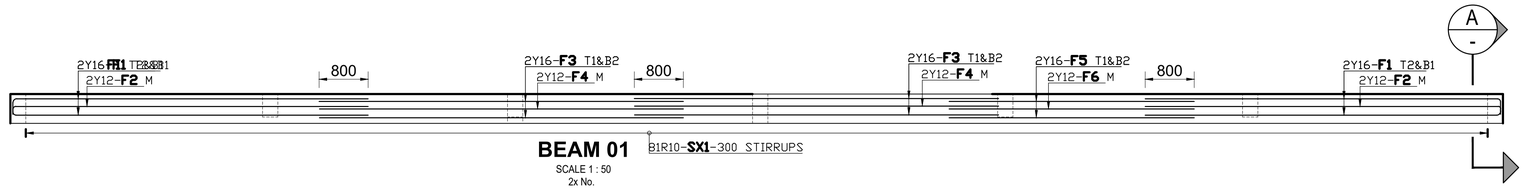
	6	8	10	12	16	20	25	32	40	TOTAL
R			348							348
Y				258	915					1173
TOTAL			348	258	915					1521

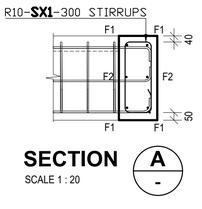


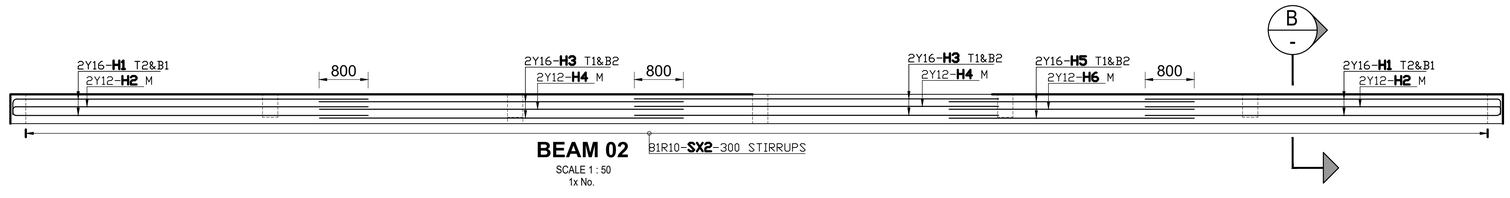


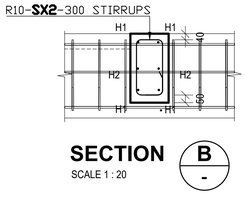












CONCRETE COVER:
TOP : AS SHOWN
BOTTOM : AS SHOWN
SIDES : 40mm

LAP LENGTH:
MINIMUM 50Ø
12mmØ BARS = 600mm
16mmØ BARS = 800mm

CONCRETE GRADE : 30 MPa

FOR TENDER

TECHT Engineers
PLOT 8
DAMN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114 :
E-mail: technical@techt.co.za

Drawing No. 2516-R-01

Pr. Eng. Approved — ECSA PR 20150167 — Date 2025.07.02

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.02							

Client: SANBI — South African National Biodiversity Institute

Signature:

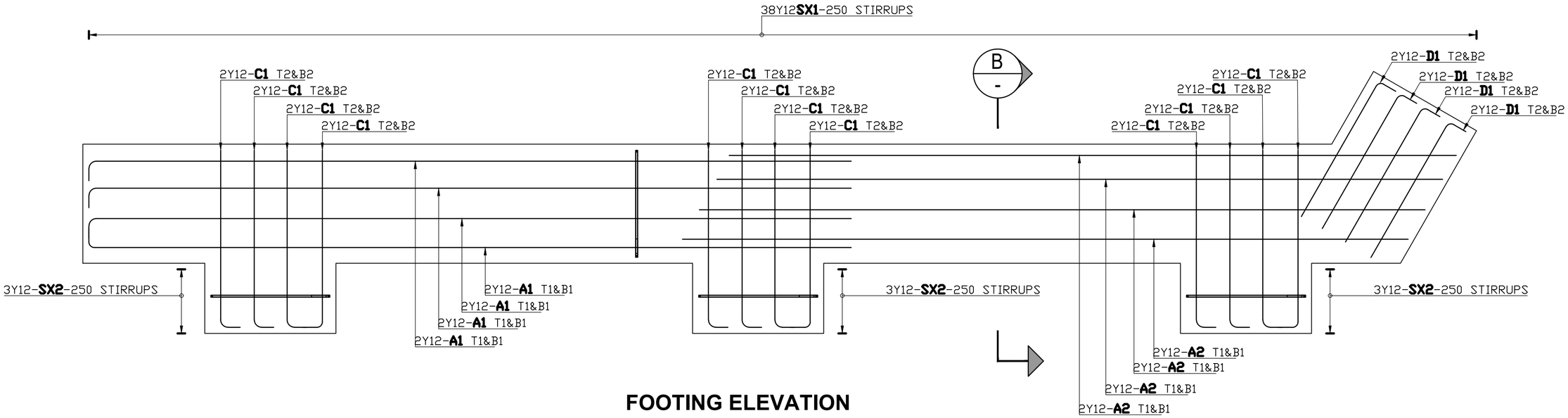
Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title: NEW OFFICE BUILDING REINFORCEMENT SECTIONS AND DETAILS

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
V.G.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	NEW OFFICE BUILDING	2516-R-01	A

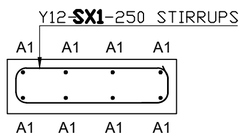
A1



FOOTING ELEVATION

REINFORCEMENT								BENDING DIMENSIONS FOR SHAPE CODES SABS 82				
Member	No OF Mbrs	No of bars in each	Type and size	Cutting length	TOTAL NUMBER	Bar mark	Shape Code	A mm	B mm	C mm	D mm	E /r mm
LAPA	1	8	Y12	5100	8	A1	37	5000	(120)			
STONE WALL		8	Y12	4750	8	A2	20	(4760)				
FOOTING		24	Y12	1250	24	C1	37	1160	(120)			
780x250		8	Y12	1100	8	D1	37	1020	(120)			
1 No.		38	Y12	1850	38	SX1	60	700	160			
		9	Y12	2000	9	SX2	60	780	160			

Bar size	8	10	12	16	20	25	32	40	TOTAL
R kg									
Y kg			183						183
TOT			183						183



SECTION B-

SCALE 1 : 20

CONCRETE NOTES :

1. CONCRETE GRADE: 30 MPa/19mm.
2. CONCRETE SURFACE TO BE FINISHED WITH 30MM THICK 1:4 SMOOTH CEMENT SAND SCREED

3. The Contractor shall adhere to the following codes during construction as applicable:
   SANS 2001 Construction Works:
   Part CC1: Concrete Works (Structural)
   Part CC2: Concrete Works (Minor Works)
   Part CG1: Installation of Glazing in Window and Door Frames
   Part CM1: Masonry Walling
   Part CS1: Structural Steelwork
   Part CT1: Structural Timberwork (Flooring)
   Part CT2: Structural Timberwork (Roofing)
   Part EM1: Cement Plaster

   SANS 10155 Accuracy in Buildings
   Grade II permissible deviation / tolerance shall apply unless otherwise noted.
   One copy of each of these codes shall be kept on site and shall be made available to The Engineer on request.

CONCRETE COVER:
TOP : 40mm
BOTTOM : 50mm
SIDES : 40mm

LAP LENGTH:
MINIMUM 50Ø
12mmØ BARS = 600mm
16mmØ BARS = 800mm

CONCRETE GRADE : 30 MPa

LOCALITY PLAN

FOR TENDER

TECHI engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114 :
E-mail: technical@techi.co.za

Drawing No. 2516-R-02

Pr. Eng. Approved: ECSA PR 20150167

Date: 2025.07.02

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.02							
B	SCHEDULE REVISED	2025.10.23							

Client: SANBI South African National Biodiversity Institute

Signature:

Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

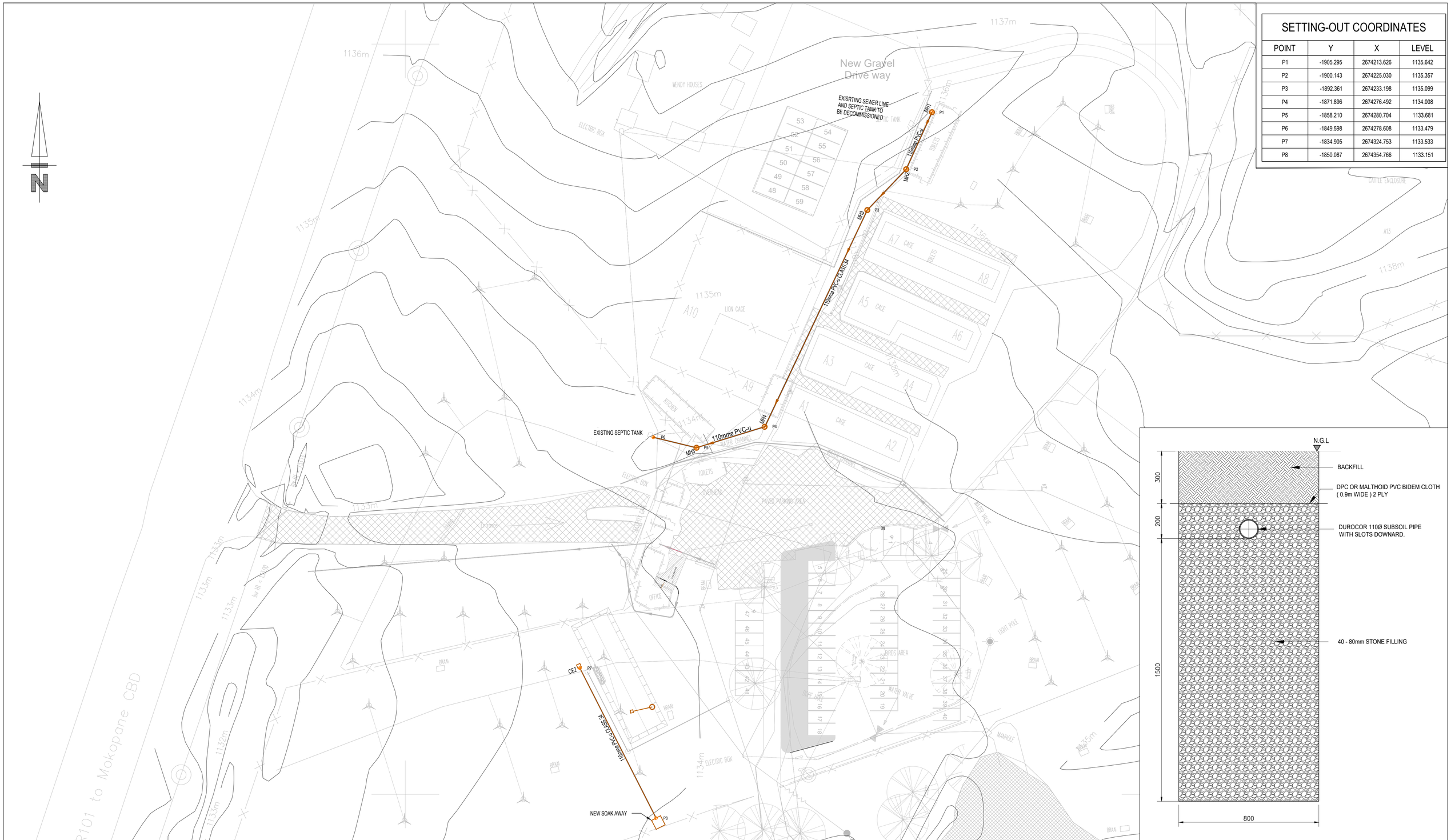
Title: NEW STONE WALL REINFORCEMENT LAYOUT AND SECTIONS

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	Dwg.No:	REV:
V.C.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	NEW STONE WALL	2516-R-02	B

A2

SETTING-OUT COORDINATES

POINT	Y	X	LEVEL
P1	-1905.295	2674213.626	1135.642
P2	-1900.143	2674225.030	1135.357
P3	-1892.361	2674233.198	1135.099
P4	-1871.896	2674276.492	1134.008
P5	-1858.210	2674280.704	1133.681
P6	-1849.598	2674278.608	1133.479
P7	-1834.905	2674324.753	1133.533
P8	-1850.087	2674354.766	1133.151



FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 462 5114 :
E-mail: technical@techi.co.za

Drawing No. **2516-C-11**

Pr. Eng. Approved — ECSA PR 20150167 — Date 2025.07.02

REVISIONS			
REV No.	DESCRIPTION	DATE	APPROVED
A	ISSUED FOR TENDER	2025.07.02	

REFERENCE DRAWINGS	
DRG No.	DESCRIPTION

CLIENT APPROVAL			
NAME	DESIGNATION	SIGN	DATE

Client: SANBI — South African National Biodiversity Institute

Signature:

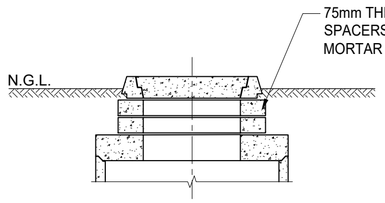
Date:

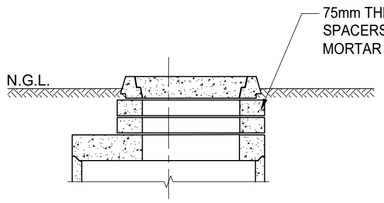
Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

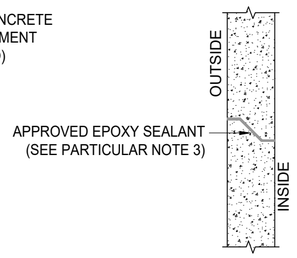
Title: SEWER LAYOUT

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG No:	REV:
V.G.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	SEWER	2516-C-11	A

A1

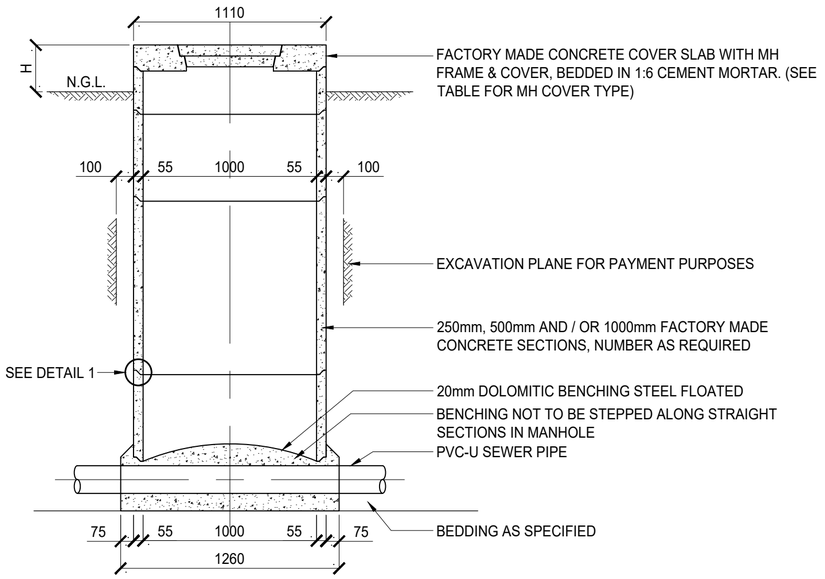




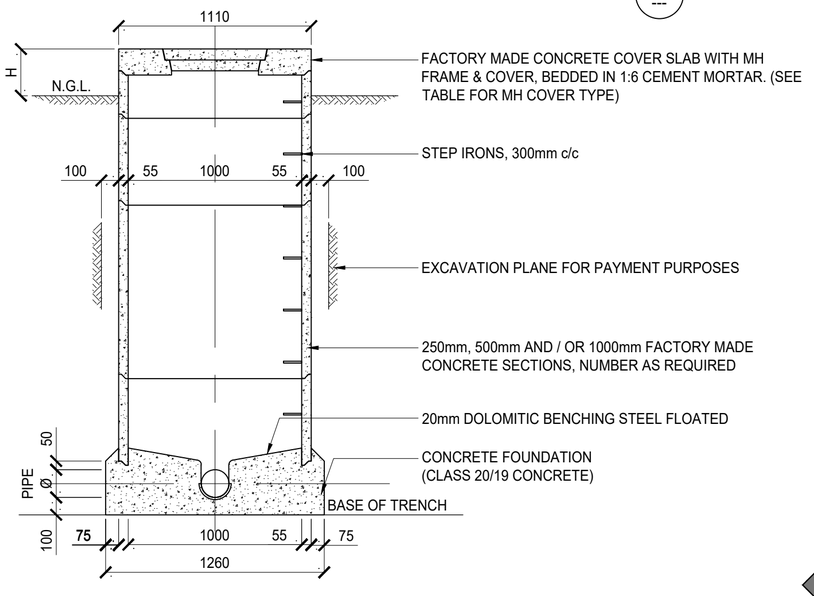


ALTERNATIVE LAYOUT WITH SPACERS

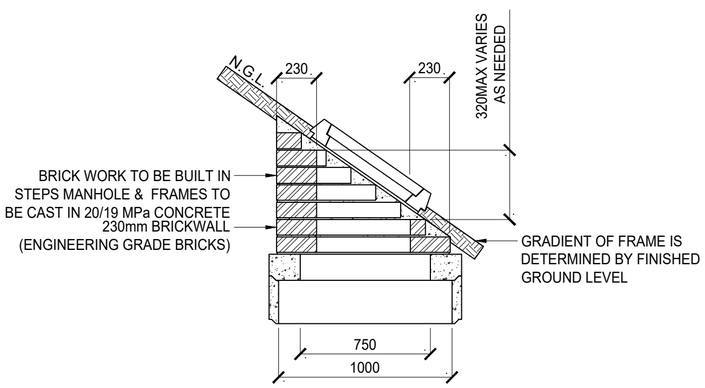
DETAIL A



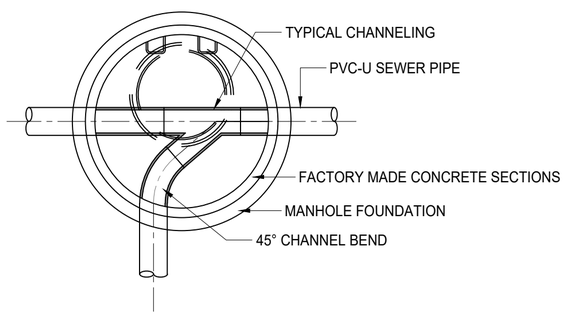
SECTION A
SCALE 1:25



SECTION B
SCALE 1:25



TYPICAL SECTION
SCALE 1 : 25
BUILT IN MANHOLE FRAME AT FINISHED SLOPED SIDEWALKS (WITH WRITTEN PERMISSION FROM THE ENGINEER ONLY)



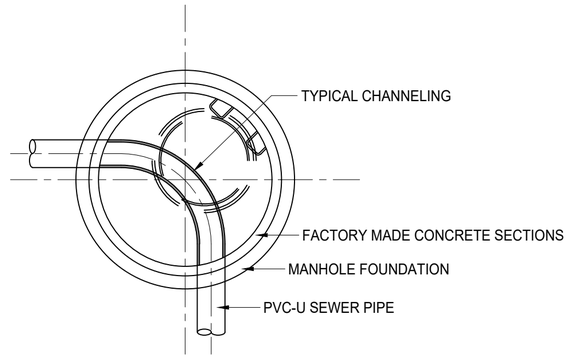
PLAN
SCALE 1 : 25
(TYPICAL EXAMPLE OF THROUGH CONNECTION IN MANHOLE)

MANHOLE COVERS AND FRAMES
SANS 50124 (SABS EN 124)

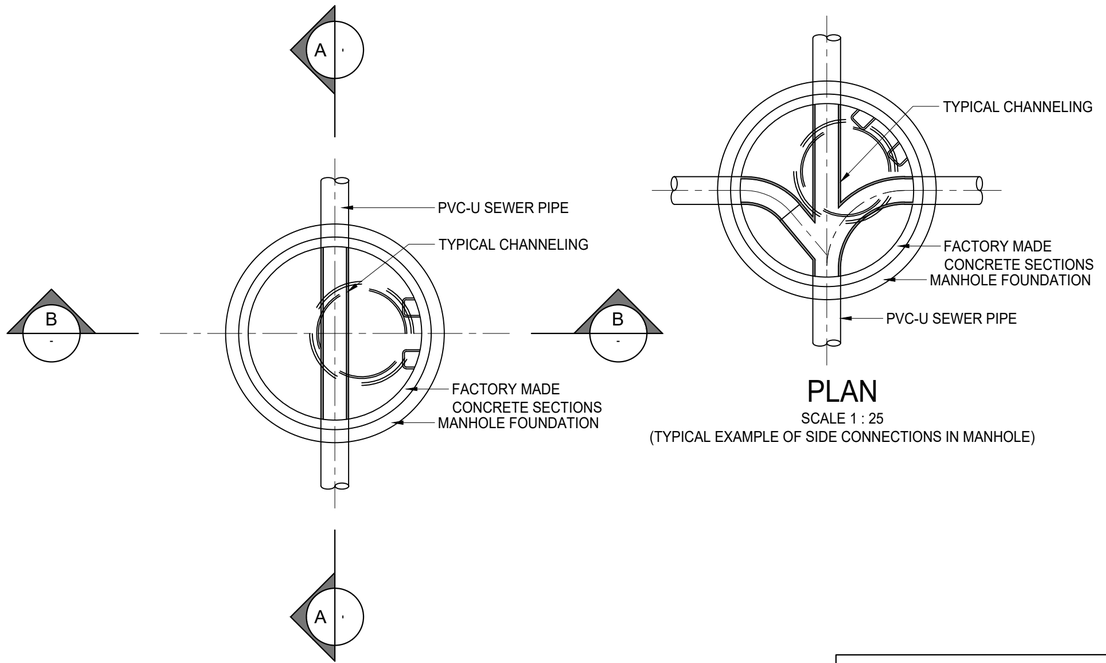
POSITION OF MANHOLE	FRAME AND COVER TYPE
ERVEN	560mm Ø CLASS B125 POLYESTER RESIN OR TYPE 4 CONCRETE REPLACEMENT

MANHOLE CHAMBER SIZES

NOMINAL Ø (mm)	USAGE
1000	150 ND PIPES WITH STRAIGHT THROUGH MANHOLES UP TO 1.25m DEEP
1250	BENDS IN MANHOLES, LARGER PIPES & MANHOLES BETWEEN 1.25m & 3.0m DEEP
1500	LARGER PIPES & MANHOLES DEEPER THAN 3.0 m



PLAN
SCALE 1 : 25
(TYPICAL EXAMPLE OF 90° BEND IN MANHOLE)



PLAN
SCALE 1 : 25
(TYPICAL EXAMPLE OF SIDE CONNECTIONS IN MANHOLE)

PLAN
SCALE 1 : 25
(TYPICAL EXAMPLE OF 90° CONNECTION IN MANHOLE)

FOR TENDER

TECHI engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tel: +27 11 452 5114 :
E-mail: technical@techi.co.za
Pr. Eng. Approved
ECSA PR 20150167

Drawing No. 2516-C-12
Date 2025.07.02

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.02							

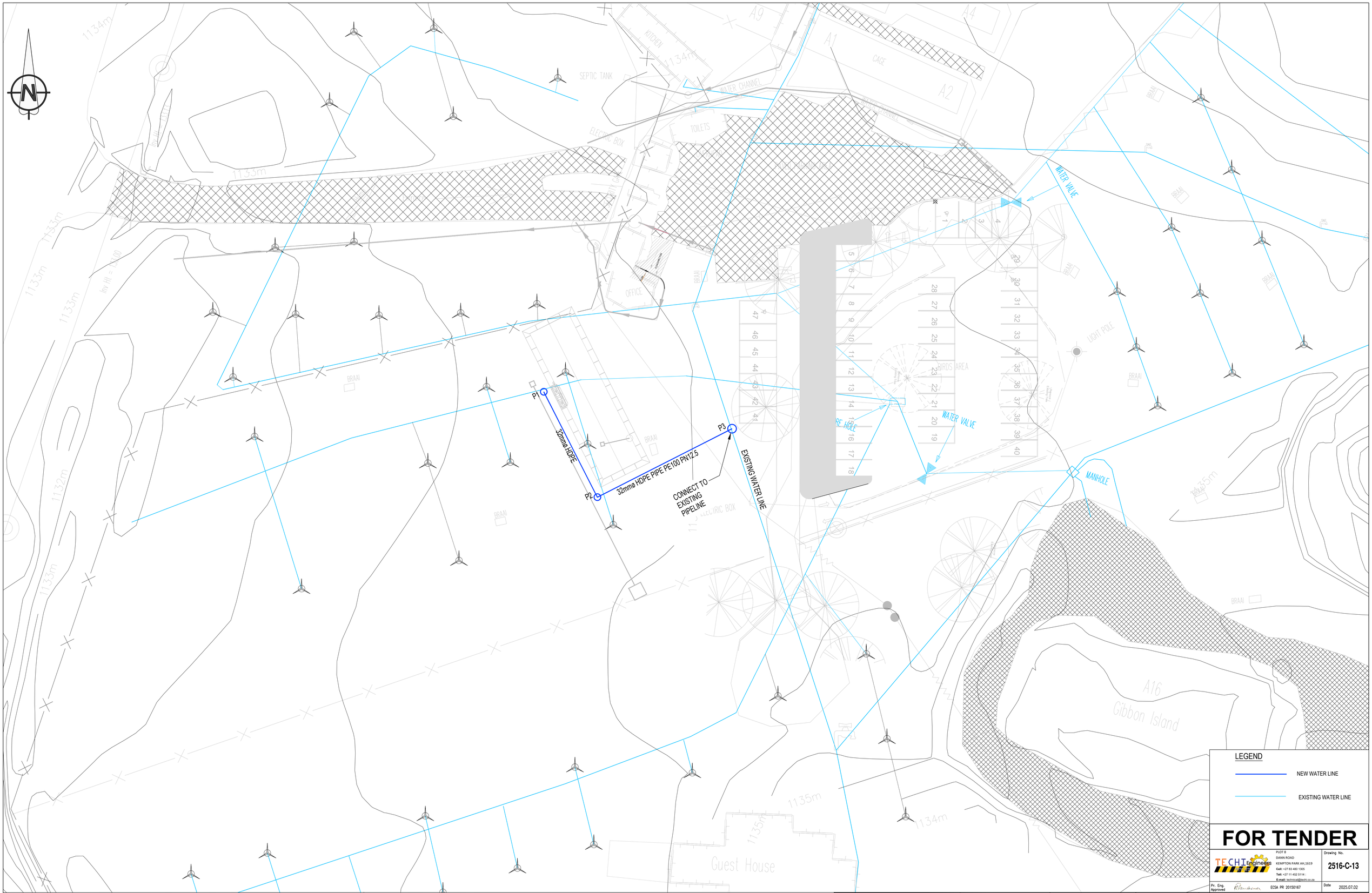
Client: SANBI South African National Biodiversity Institute
Signature:
Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title: SEWER TYPICAL DETAILS

DRAWN	DATE	CHECKED	DATE	APPROVED	DATE	SCALE	SECTION	Dwg.No	REV
V.G.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	SEWER	2516-C-12	A

A2



WATER LAYOUT

SCALE 1:250

LEGEND

NEW WATER LINE

EXISTING WATER LINE

FOR TENDER

REVISIONS			
REV No.	DESCRIPTION	DATE	APPROVED
A	ISSUED FOR TENDER	2025.07.02	

REFERENCE DRAWINGS	
DRG No.	DESCRIPTION

CLIENT APPROVAL			
NAME	DESIGNATION	SIGN	DATE

PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114 :
E-mail: technical@techi.co.za

Pr. Eng. Approved: ECSA PR 20150167

Drawing No. 2516-C-13

Date 2025.07.02

Client: SANBI South African National Biodiversity Institute

Signature:

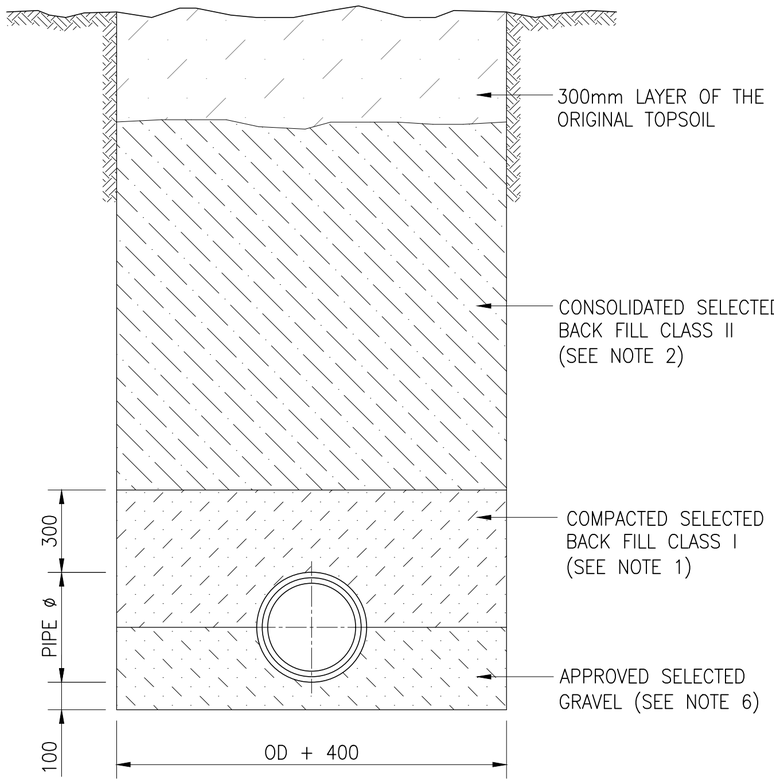
Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title: WATER LAYOUT

A1

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
V.G.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	WATER	2516-C-13	A



CLASS "B" BEDDING

SELECTED BACK FILL BEDDING FOR uPVC AND HDPE PIPES

NOTES :

BACK FILLING OF TRENCH EXCAVATIONS

1. SELECTED BACK FILL CLASS I – IMPLIES APPROVED SELECTED MATERIAL FROM TRENCH EXCAVATION, FREE FROM STONES AND WITH A OPTIMUM MOISTURE CONTENT.
2. SELECTED BACK FILL CLASS II – IMPLIES SELECTED BACK FILL FROM THE TRENCH EXCAVATION, WHICH SHALL NOT CONTAIN ANY STONES LARGER THAN 150mm ø.
3. CLASS "A" BEDDING/ ENCASING CONCRETE BETWEEN JOINTS SHALL BE CARRIED OUT IN ONE CONTINUOUS OPERATION USING CLASS 20/19 CONCRETE.
4. FLEXIBLE JOINTS MUST BE PROVIDED, AT EACH PIPE JOINT IN A CLASS "A" CONCRETE BEDDING/ENCASING, WITH A 12mm THICK SOFT BOARD PLACED VERTICALLY FOR THE ENTIRE CONCRETE AREA. PIPE JOINTS MUST BE SEALED WITH WET CLAY TO PREVENT SLUSH FROM PENETRATING THE JOINT.
5. EXCEPT FOR THE 300mm BACK FILL ON TOP OF THE PIPE THE BALANCE OF THE TRENCH MAY BE BACK FILLED WHEN THE CLASS "A" BEDDING/ENCASING HAS OBTAINED A COMPRESSIVE STRENGTH OF 15 MPa.
6. APPROVED SELECTED GRAVEL MATERIAL WITH A PI NOT EXCEEDING 6, FREE FROM STONES EXCEEDING 20mm, ORGANIC MATTER AND LUMPS OF CLAY.

FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 450 1305
Tell: +27 11 452 5114 .
E-mail: technical@techi.co.za
Pr. Eng. Approved
ECSA PR 20150167

Drawing No. 2516-C-14

Date 2025.07.02

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.02							

Client: SANBI South African National Biodiversity Institute

Signature:

Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title: WATER DETAILS

A2

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
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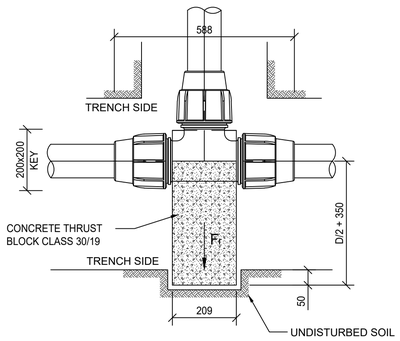
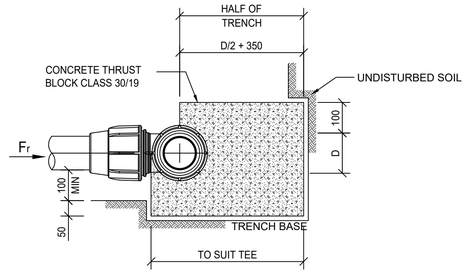


PLAN OF TEE

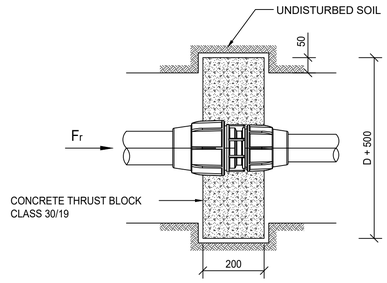
EXAMPLE SHOWS A 110
EQUAL TEE

SCALE 1 : 10



ELEVATION OF TEE

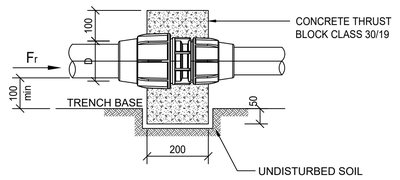
EXAMPLE SHOWS A 110
EQUAL TEE
SCALE 1 : 10



PLAN OF REDUCER

EXAMPLE SHOWS A 110
TO 90 REDUCER

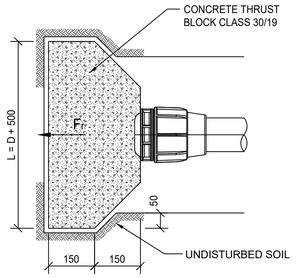
SCALE 1 : 10



SIDE ELEVATION OF REDUCER

EXAMPLE SHOWS A 110
TO 90 REDUCER

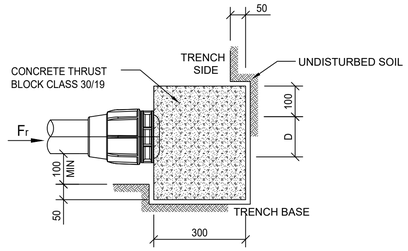
SCALE 1 : 10



PLAN OF END CAP

EXAMPLE SHOWS A
110 END CAP

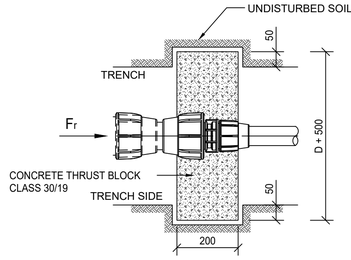
SCALE 1 : 10



ELEVATION OF END CAP

EXAMPLE SHOWS A
110 END CAP

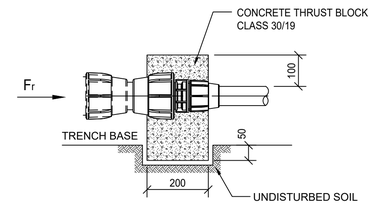
SCALE 1 : 10



PLAN OF REDUCER BUSH

EXAMPLE SHOWS A 110
TO 50 REDUCER BUSH

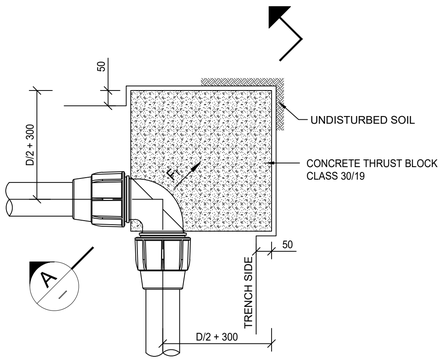
SCALE 1 : 10



SIDE ELEVATION OF REDUCER BUSH

EXAMPLE SHOWS A 110
TO 50 REDUCER BUSH

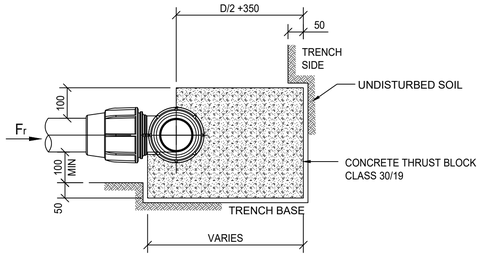
SCALE 1 : 10



PLAN OF 90° BEND

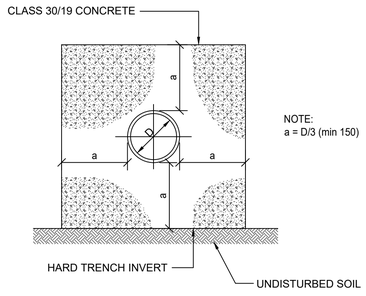
EXAMPLE SHOWS A
110 90° BEND

SCALE 1 : 10



SECTION A
SCALE 1 : 10

EXAMPLE SHOWS A
110 90° BEND



CONCRETE ENCASING DETAILS

NOT TO SCALE

FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tel: +27 11 452 5114
E-mail: technical@techi.co.za

Drawing No. 2516-C-15

Pr. Eng. Approved: ECSA PR 20150167

Date: 2025.07.02

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.02							

Client: SANBI — South African National Biodiversity Institute

Signature:

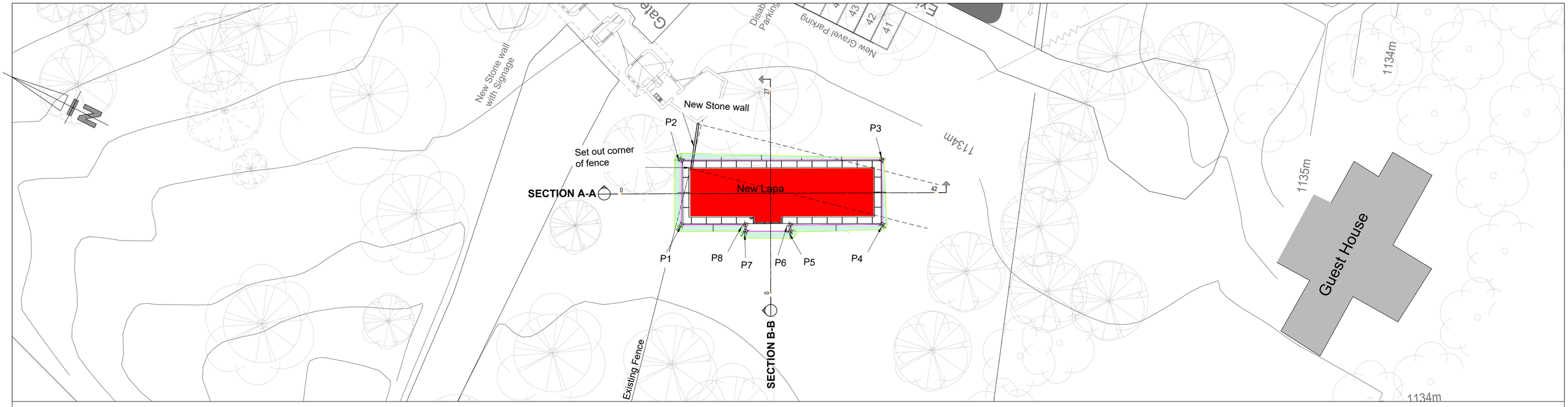
Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

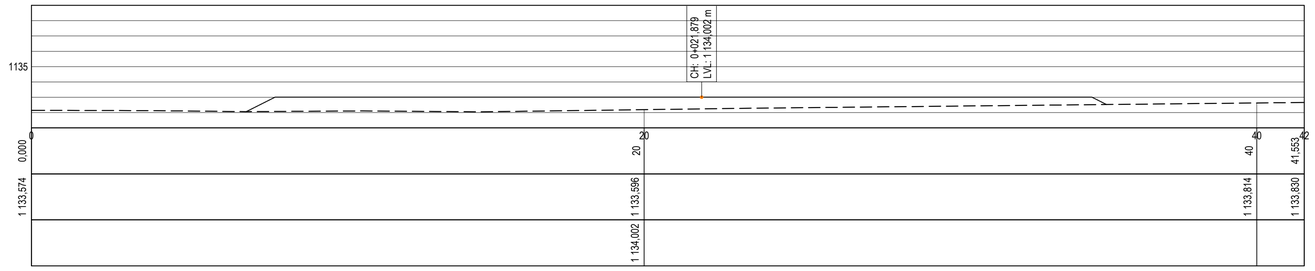
Title: POTABLE WATER HDPE PIPING THRUST BLOCK DETAILS

A1

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
V.G.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	WATER	2516-C-15	A



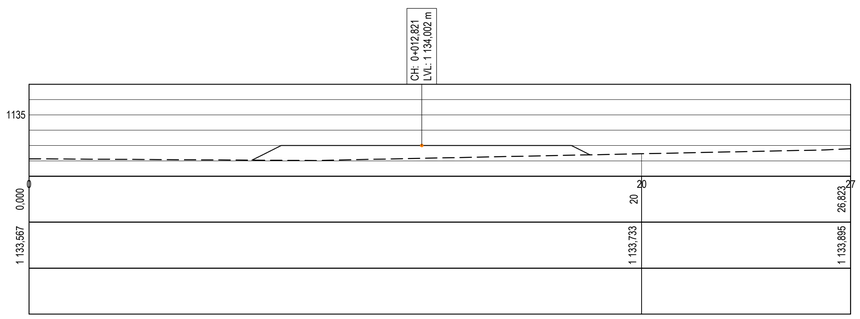
LEGEND
- NATURAL GROUND LEVELS
- FINAL PLATFORM LEVELS



DISTANCE (m)
NATURAL GROUND LEVELS (m)
TOP OF LAYERWORKS LEVELS (m)

SECTION A-A
SCALE 1:100

LEGEND
- NATURAL GROUND LEVELS
- FINAL PLATFORM LEVELS

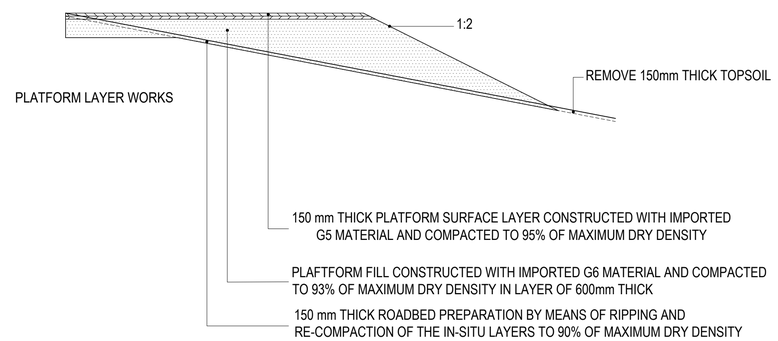


DISTANCE (m)
NATURAL GROUND LEVELS (m)
TOP OF LAYERWORKS LEVELS (m)

SECTION B-B
SCALE 1:100

SETTING-OUT COORDINATES

POINT	Y	X	LEVEL
P1	-1 832,939	2 674 316,272	1 134,002
P2	-1 840,620	2 674 312,404	1 134,002
P3	-1 852,607	2 674 336,204	1 134,002
P4	-1 844,945	2 674 340,099	1 134,002
P5	-1 839,396	2 674 329,191	1 134,002
P6	-1 838,656	2 674 329,562	1 134,002
P7	-1 836,003	2 674 324,295	1 134,002
P8	-1 836,783	2 674 323,903	1 134,002



FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114
E-mail: technical@techi.co.za

Drawing No. 2516-C-16

Pr. Eng. Approved: ECSA PR 20150167

Date: 2025.07.02

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.02							

Client: SANBI (South African National Biodiversity Institute)

Signature:

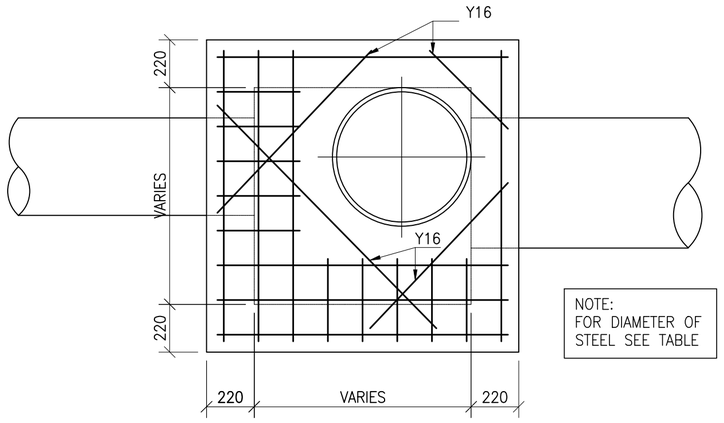
Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title: NEW LAPA PLATFORM LAYOUT AND SECTIONS

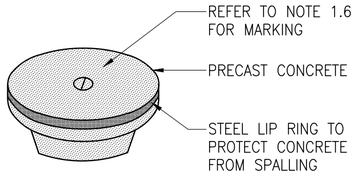
A1

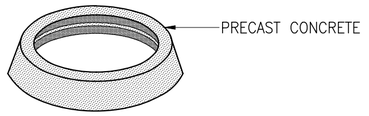
DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
V.G.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	NEW LAPA PLATFORM	2516-C-16	A



NOTE:
FOR DIAMETER OF STEEL SEE TABLE

PLAN



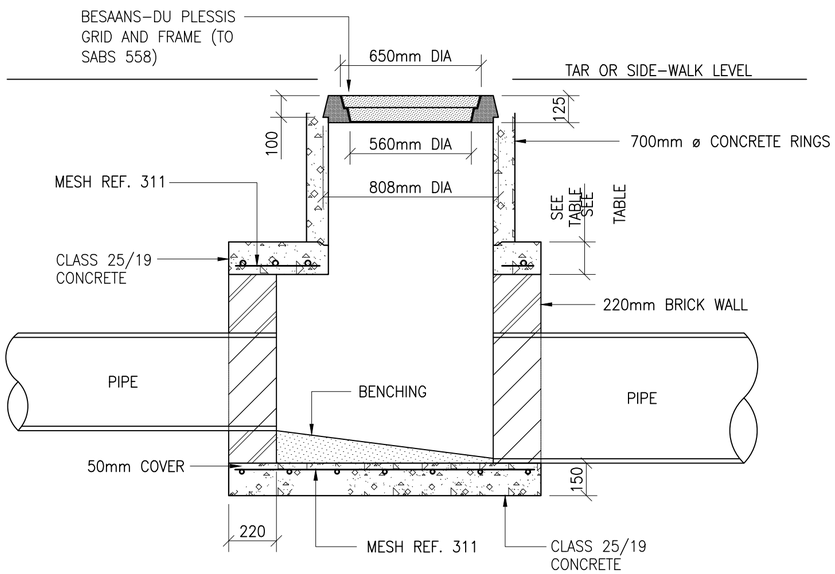


UPPER CONCRETE SLAB

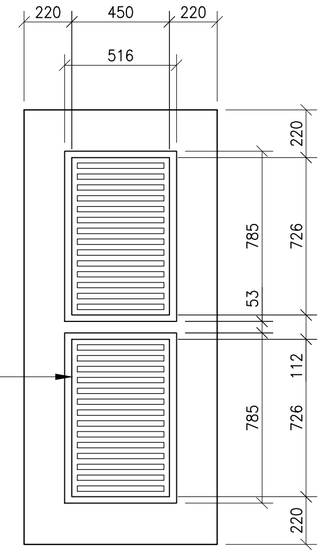
TYPE	INTERNAL SIZE	SLAB THICKNESS	STEEL DIA.	PIPE SIZE	STEEL SPACING
A	1000x1000	150	Y16	450–900	170
B	1500x1500	180	Y16	900–1500	140
C	1800x1800	200	Y16	1500–1800	120

STORMWATER MANHOLE

SCALE 1 : 20

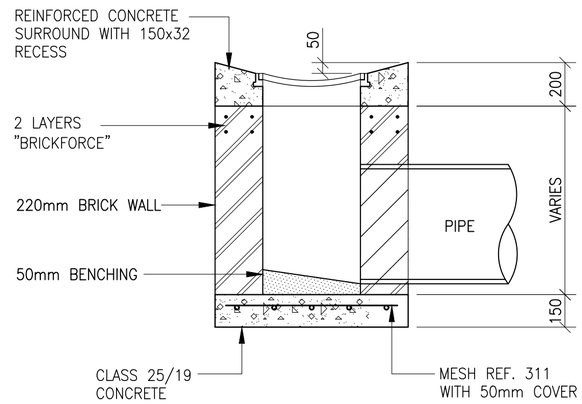


SECTION



BESAANS–DU PLESSIS GRID AND FRAME NO.G0753 (HEAVY DUTY –130kg– BOLT GRID TO FRAME)

PLAN



SECTION

DETAIL OF HEAVY DUTY GRID INLET

SCALE 1 : 20

FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114
E-mail: technical@techi.co.za

Drawing No. 2516-C-17

Pr. Eng. Approved ECSA PR 20150167 Date 2025.07.02

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.02							

Client: SANBI South African National Biodiversity Institute

Signature:

Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

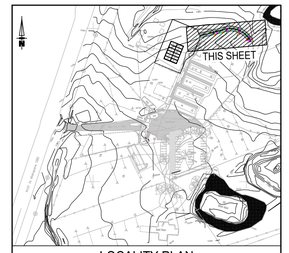
Title: TYPICAL STORMWATER DETAILS

A2

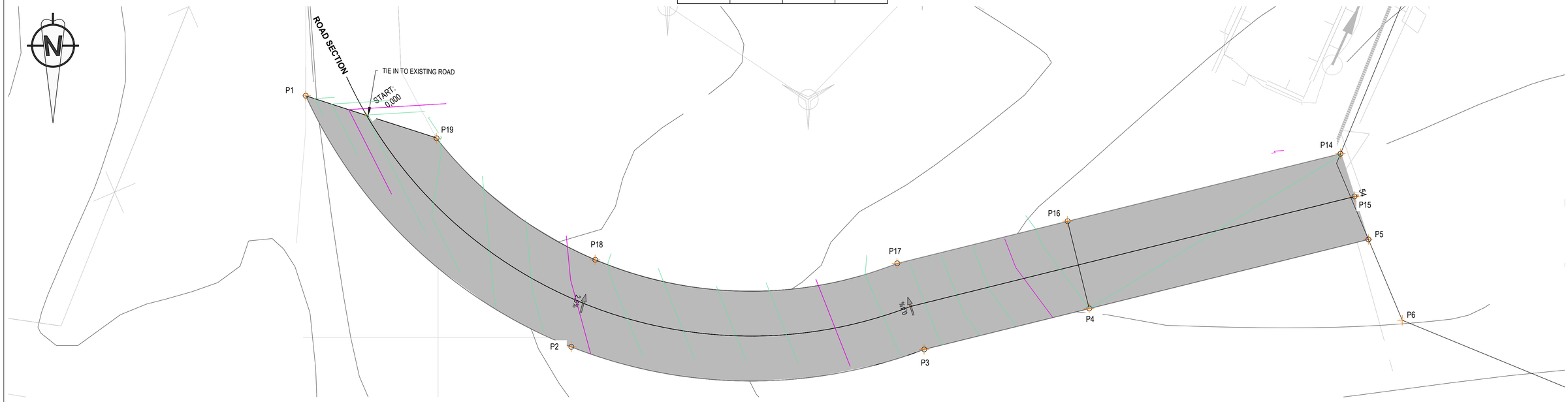
DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
V.G.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	STORMWATER	2516–C–17	A

GRAVEL ROAD
SETTING-OUT COORDINATES

POINT	Y	X	LEVEL
P1	-1 956,617	2 674 212,087	1 138,251
P2	-1 943,339	2 674 199,525	1 137,538
P3	-1 925,697	2 674 199,401	1 136,854
P4	-1 917,448	2 674 201,443	1 136,400
P5	-1 903,492	2 674 204,897	1 136,501
P14	-1 904,890	2 674 209,187	1 136,398
P15	-1 904,192	2 674 207,041	1 136,450
P16	-1 918,529	2 674 205,810	1 136,300
P17	-1 927,050	2 674 203,696	1 136,822
P18	-1 942,145	2 674 203,883	1 137,428
P19	-1 950,081	2 674 209,961	1 137,808

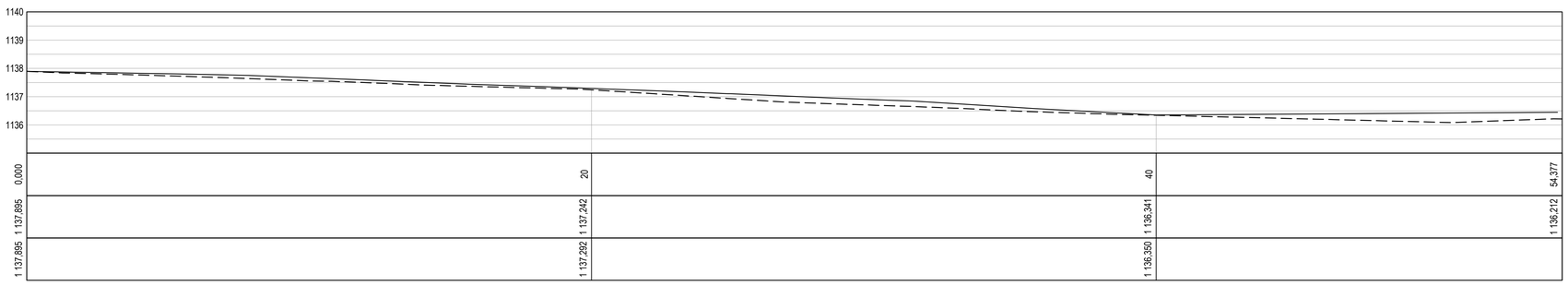


LOCALITY PLAN
SCALE 1 : 3 000



ROAD LAYOUT
SCALE 1:100

LEGEND
NATURAL GROUND LEVELS
FINAL ROAD LEVELS



DISTANCE (m)	0,000	20	40	54,377
NATURAL GROUND LEVELS (m)	1 137,895	1 137,242	1 136,341	1 136,212
TOP OF ROAD LEVELS (m)	1 137,895	1 137,292	1 136,350	

SECTION ROAD
SCALE 1:100

FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114 :
E-mail: technical@techi.co.za

Drawing No. 2516-R-01

Pr. Eng. Approved ECSA PR 20150167

Date 2025.07.02

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.02							

Client: SANBI Biodiversity for Life — South African National Biodiversity Institute

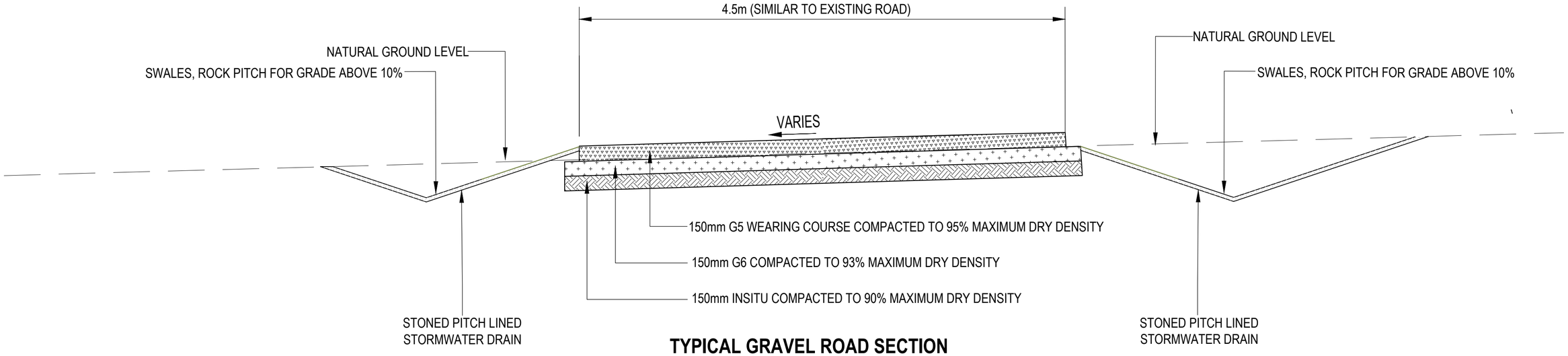
Signature:
Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title: ROAD LAYOUT & SECTION

A1

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
V.G.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	ROAD	2516-R-01	A



TYPICAL GRAVEL ROAD SECTION

FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114 :
E-mail: technical@techi.co.za

Drawing No. 2516-R-02

Pr. Eng. Approved — ECSA PR 20150167 — Date 2025.07.02

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.02							

Client: SANBI South African National Biodiversity Institute

Signature:

Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title: TYPICAL GRAVEL ROAD SECTION

A2

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
V.d.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	ROAD SECTION	2516-R-02	A

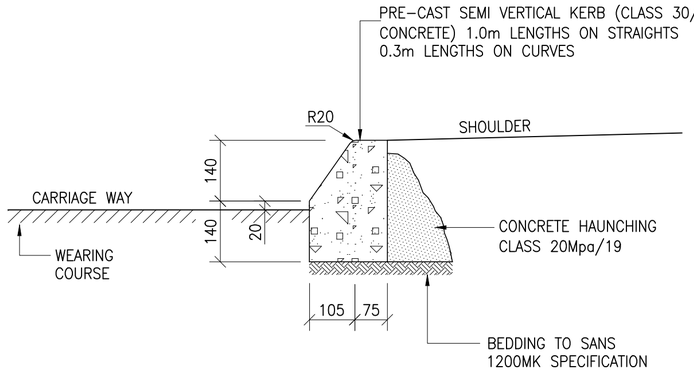
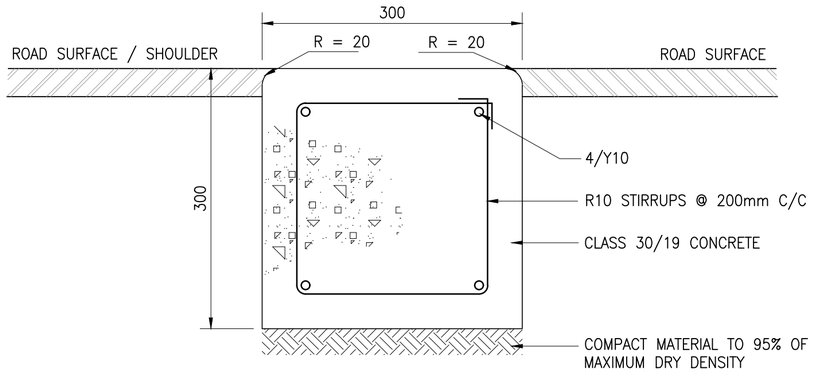


FIG. 7 KERB – SANS 927:1969

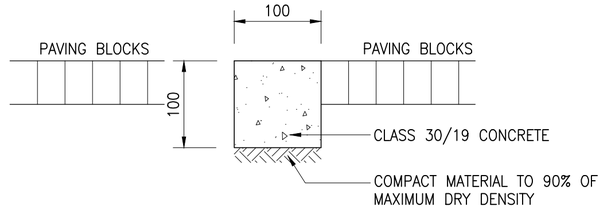
TYPICAL DETAIL OF SEMI VERTICAL KERBING

SCALE 1 : 10



TYPICAL SECTION OF 300mm EDGE BEAM

SCALE 1 : 5



TYPICAL SECTION OF 100mm EDGE BEAM

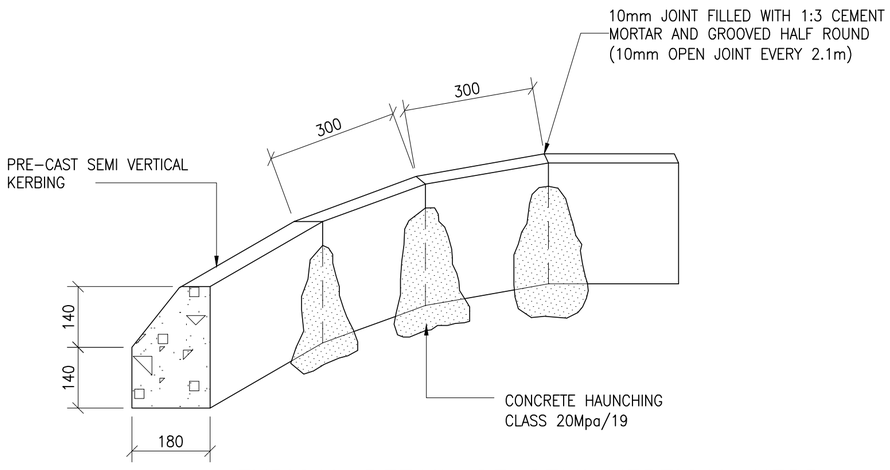
SCALE 1 : 5

JOINT NOTES:

1. EXPANSION JOINTS FOR EDGE BEAMS:
   6mm OPEN JOINTS FOR EVERY 2 METERS (WITH 6mm APPROVED JOINT FORMING MATERIAL EVERY 6 METERS).
2. EXPANSION JOINTS FOR PRECAST CONCRETE KERBS:

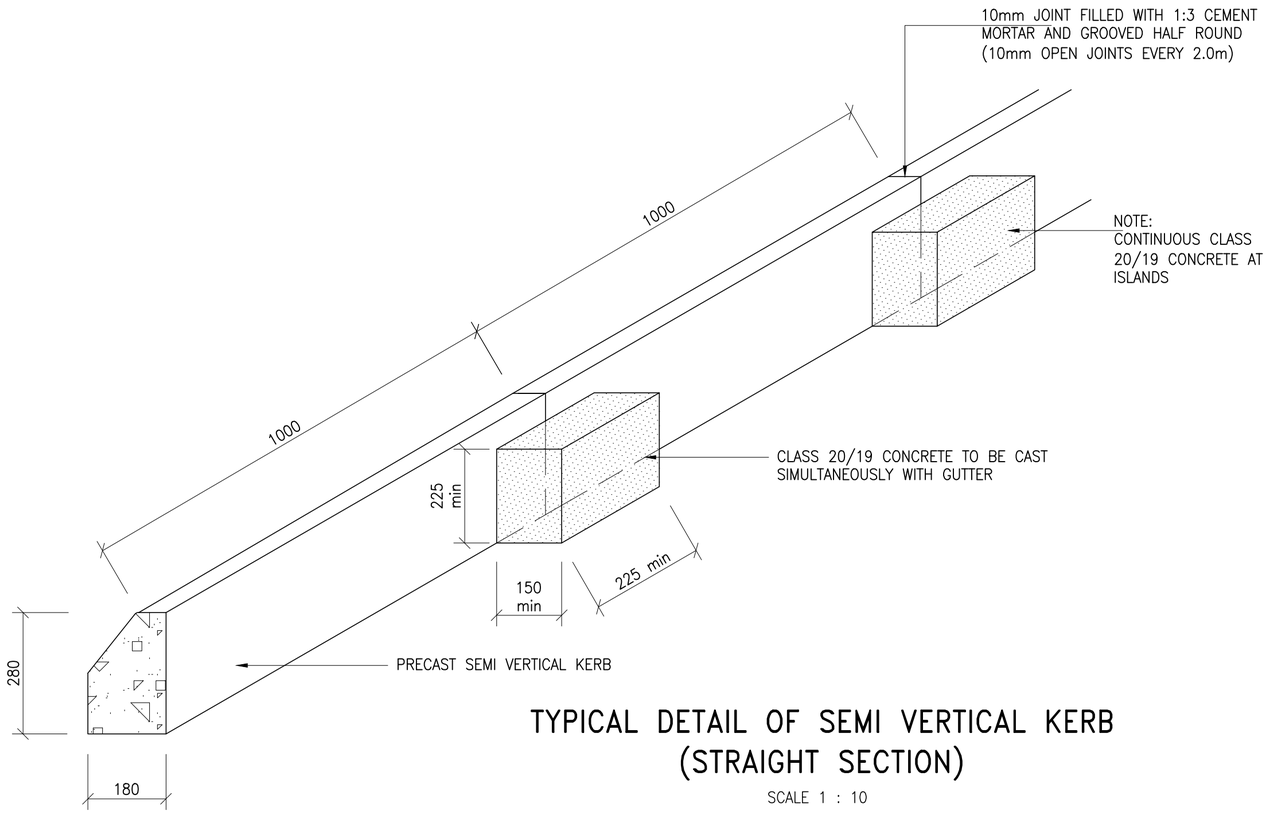
RADIUS (m)	NOMINAL UNIT LENGTHS (m)	SPACING OF 12mm OPEN EXPANSION JOINTS (m)
<4	0,3	3
4 TO 20	0,5	5
>20 & STRAIGHTS	1,0	8

3. ALL JOINTS, OTHER THAN PRESCRIBED OPEN EXPANSION JOINTS, FOR PRECAST KERBS MUST BE FILLED WITH 1:3 CEMENT MORTAR AND GROOVED HALF ROUND.
4. PRECAST CONCRETE KERBS AND CHANNELS MUST BE LAID AND BEDDED ON A 50mm THICK LAYER OF BEDDING MATERIAL AS SPECIFIED IN SABS 1200MK.
5. GRADE 30/19 CONCRETE FOR EDGE BEAMS AND TRANSITIONS
6. ALL MATERIALS AND CONSTRUCTION METHODS MUST COMPLY WITH SABS 1200MK.
7. WHERE KERBS CAN NOT BE LAID DIRECTLY ON THE SUBBASE, FILLING BETWEEN THE SUBBASE AND THE KERB MUST BE DONE IN AN APPROVED MANNER
8. ALL CAST IN-SITU CONCRETE TO BE CURED AS SPECIFIED IN SABS 1200G



TYPICAL DETAIL OF SEMI VERTICAL KERB ON CURVED SECTIONS

SCALE 1 : 10



TYPICAL DETAIL OF SEMI VERTICAL KERB (STRAIGHT SECTION)

SCALE 1 : 10

FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114
E-mail: technical@techi.co.za

Drawing No. 2516-R-03

Pr. Eng. Approved: ECSA PR 20150167

Date: 2025.07.02

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.02							

Client: SANBI — South African National Biodiversity Institute

Signature:

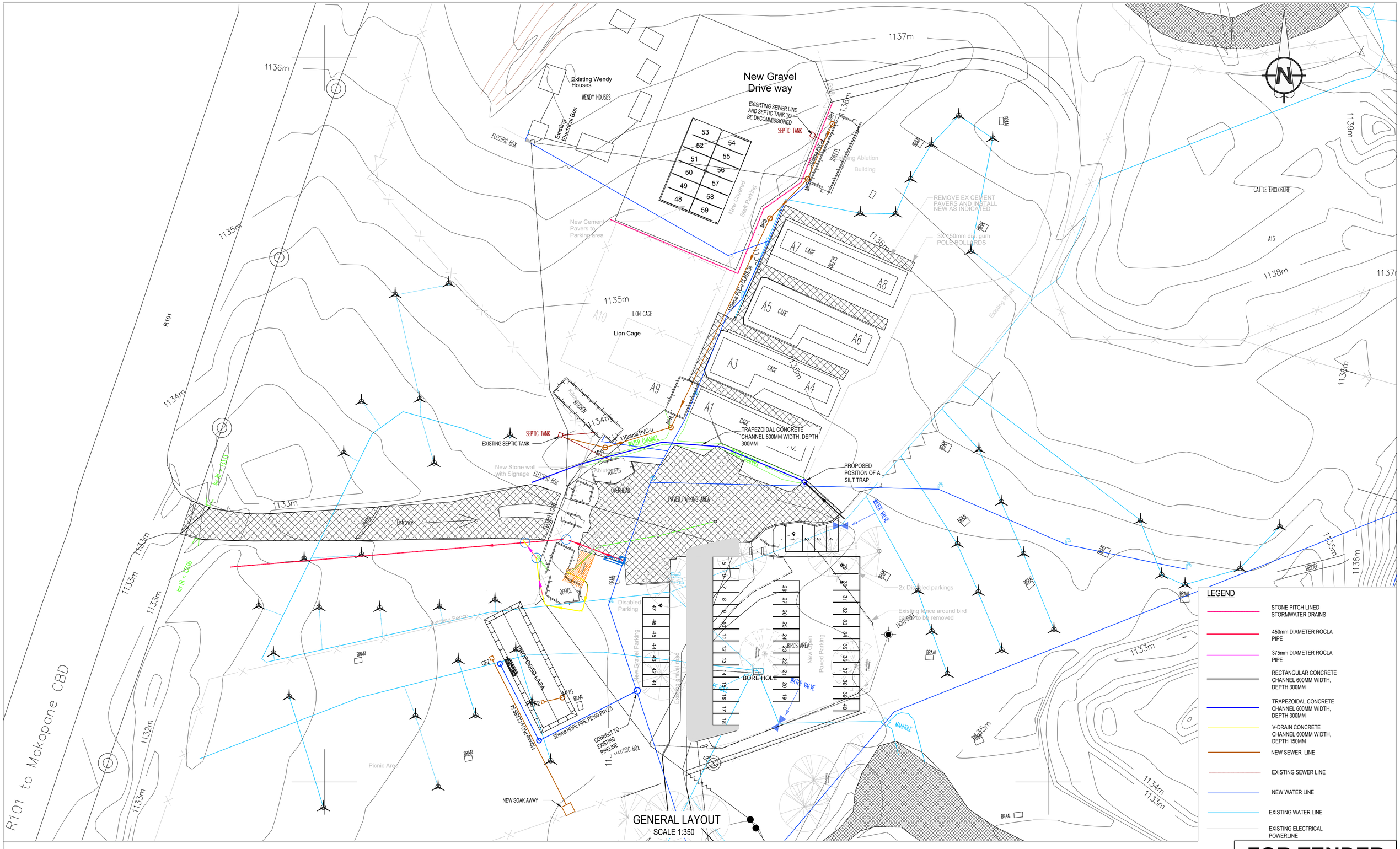
Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title: TYPICAL ROAD KERB DETAILS

A2

DRAWN	DATE	CHECKED	DATE	APPROVED	DATE	SCALE	SECTION	DRG.No	REV.
V.G.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	ROAD	2516-R-03	A



LEGEND

- STONE PITCH LINED STORMWATER DRAINS
- 450mm DIAMETER ROCLA PIPE
- 375mm DIAMETER ROCLA PIPE
- RECTANGULAR CONCRETE CHANNEL 600MM WIDTH, DEPTH 300MM
- TRAPEZOIDAL CONCRETE CHANNEL 600MM WIDTH, DEPTH 300MM
- V-DRAIN CONCRETE CHANNEL 600MM WIDTH, DEPTH 150MM
- NEW SEWER LINE
- EXISTING SEWER LINE
- NEW WATER LINE
- EXISTING WATER LINE
- EXISTING ELECTRICAL POWERLINE

GENERAL LAYOUT
SCALE 1:350

FOR TENDER

TECHI Engineers
PLOT 8
DAWN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114 :
E-mail: technical@techi.co.za

Drawing No. 2516-C-01

Pr. Eng. Approved: ECSA PR 20150167

Date: 2025.07.02

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.02							

Client: SANBI — South African National Biodiversity Institute

Signature:

Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title: GENERAL SITE SERVICES LAYOUT

A1

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG No:	REV:
V.G.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	GENERAL SITE	2516-C-01	A

SETTING-OUT COORDINATES

POINT	Y	X	LEVEL
P1	-1 880,491	2 674 303,267	1 134,373
P2	-1 885,991	2 674 303,265	1 134,279
P3	-1 885,991	2 674 296,766	1 134,390
P4	-1 889,733	2 674 296,766	1 134,439
P5	-1 892,991	2 674 296,766	1 134,464
P6	-1 892,991	2 674 303,267	1 134,353
P7	-1 894,491	2 674 303,267	1 134,378
P8	-1 910,991	2 674 303,267	1 134,659
P9	-1 910,991	2 674 335,267	1 134,115
P10	-1 904,428	2 674 338,251	1 133,992
P11	-1 889,733	2 674 343,444	1 133,532
P12	-1 875,086	2 674 348,619	1 134,374
P13	-1 875,086	2 674 342,172	1 134,399
P14	-1 889,730	2 674 338,249	1 133,620
P15	-1 880,541	2 674 338,247	1 133,777
P16	-1 895,533	2 674 296,766	1 134,443
P17	-1 906,633	2 674 296,767	1 134,498
P18	-1 906,633	2 674 302,317	1 134,404
P19	-1 895,533	2 674 302,316	1 134,349

SECTION C-C

SECTION D-D

LEGEND

FIGURE 7 MOUNTABLE KERB

EDGE BEAM

NOTE:

EXISTING BOREHOLE TO BE ADJUSTED. SO THAT VEHICLES CAN DRIVE OVER IT. A NEW MANHOLE WITH COVER SLAB TO BE BUILT

FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1309
Tell: +27 11 452 5114 :
E-mail: technical@techi.co.za
Pr. Eng. Approved
ECSA PR 20150167

Drawing No. 2516-C-02

Date 2025.07.02

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.02							

Client: SANBI South African National Biodiversity Institute

Signature:

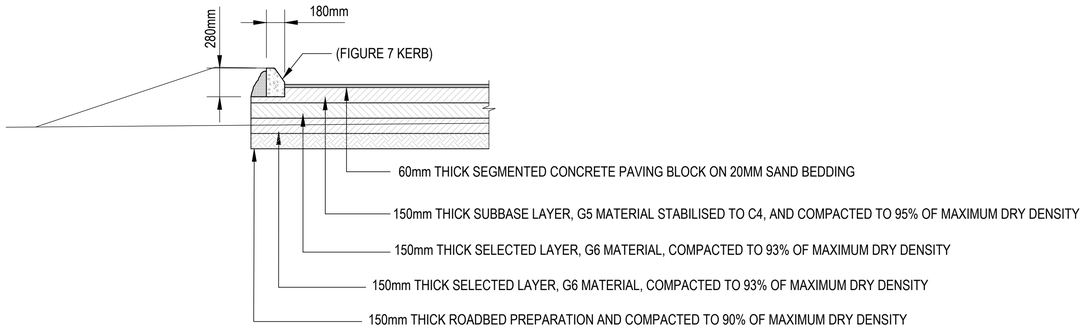
Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

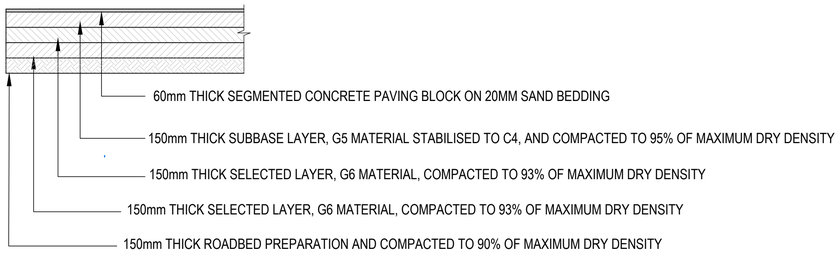
Title: NEW VISITORS PARKING LOT LAYOUT

A1

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG No:	REV:
V.G.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	NEW VISITORS PARKING LOT	2516-C-02	A

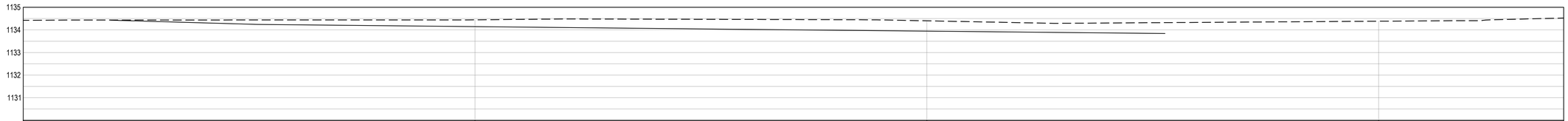


PAVEMENT DESIGN - PARKING AREAS



PAVEMENT DESIGN - WALK WAY

LEGEND
- NATURAL GROUND LEVELS
- FINAL ROAD LEVELS

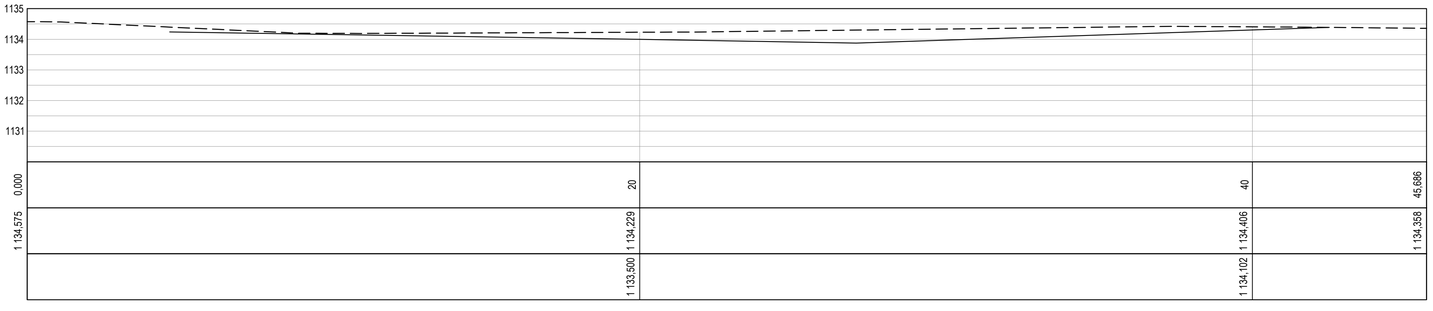


DISTANCE (m)	0,000	20	40	60	68,191
NATURAL GROUND LEVELS (m)	1 134,424	1 134,445	1 134,403	1 134,385	1 134,525
TOP OF ROAD LEVELS (m)		1 134,145	1 133,446		

SECTION C-C

SCALE 1:100

LEGEND
- NATURAL GROUND LEVELS
- FINAL ROAD LEVELS



DISTANCE (m)	0,000	20	40	45,686
NATURAL GROUND LEVELS (m)	1 134,575	1 134,229	1 134,406	1 134,358
TOP OF ROAD LEVELS (m)		1 133,500	1 134,102	

SECTION D-D

SCALE 1:100

FOR TENDER

TECHI Engineers
PLOT 8
DAWN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114 :
E-mail: technical@techi.co.za
Pr. Eng. Approved
ECSA PR 20150167

Drawing No. 2516-C-03

Date 2025.07.02

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.02							

Client: SANBI South African National Biodiversity Institute

Signature:

Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title: NEW VISITORS PARKING LOT SECTIONS

A1

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG No:	REV:
V.G.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	NEW VISITORS PARKING LOT	2516-C-03	A

LOCALITY PLAN
SCALE 1 : 3 000

SETTING-OUT COORDINATES

POINT	Y	X	LEVEL
P5	-1 903,492	2 674 204,897	1 136,501
P6	-1 901,801	2 674 200,860	1 136,726
P7	-1 888,728	2 674 195,490	1 137,147
P8	-1 877,770	2 674 190,989	1 137,500
P9	-1 860,288	2 674 233,538	1 135,619
P10	-1 871,138	2 674 237,994	1 135,780
P11	-1 885,272	2 674 243,788	1 135,989
P12	-1 890,577	2 674 230,848	1 136,129
P13	-1 898,232	2 674 225,369	1 136,223
P14	-1 904,890	2 674 209,187	1 136,398
P15	-1 904,192	2 674 207,041	1 136,450

FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1309
Tell: +27 11 452 5114 :
E-mail: technical@techi.co.za

Drawing No. 2516-C-04

Pr. Eng. Approved ECSA PR 20150167

Date 2025.07.02

REVISIONS			
REV No.	DESCRIPTION	DATE	APPROVED
A	ISSUED FOR TENDER	2025.07.02	

REFERENCE DRAWINGS	
DRG No.	DESCRIPTION

CLIENT APPROVAL			
NAME	DESIGNATION	SIGN	DATE

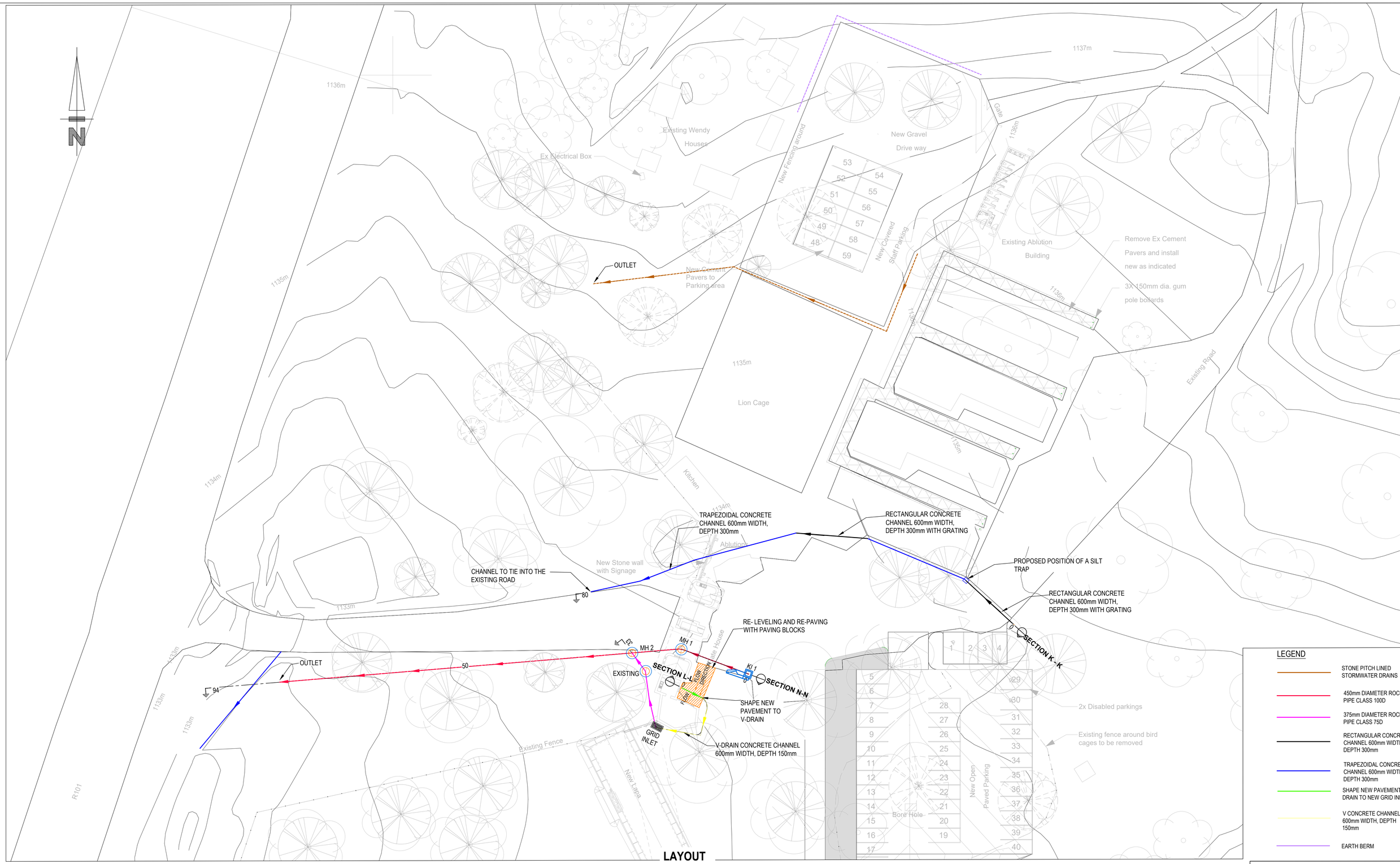
Client: SANBI
Biodiversity for a Better South African National Biodiversity Institute
Signature:
Date:

Project Description
ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title
NEW STAFF PARKING LOT LAYOUT

A1

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG No:	REV:
V.C.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	NEW STAFF PARKING LOT	2516-C-04	A



LAYOUT

LEGEND

- STONE PITCH LINED STORMWATER DRAINS
- 450mm DIAMETER ROCLA PIPE CLASS 100D
- 375mm DIAMETER ROCLA PIPE CLASS 75D
- RECTANGULAR CONCRETE CHANNEL 600mm WIDTH, DEPTH 300mm
- TRAPEZOIDAL CONCRETE CHANNEL 600mm WIDTH, DEPTH 300mm
- SHAPE NEW PAVEMENT TO DRAIN TO NEW GRID INLET
- V CONCRETE CHANNEL 600mm WIDTH, DEPTH 150mm
- EARTH BERM

FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114 :
E-mail: technical@techi.co.za

Drawing No. 2516-C-05

Pr. Eng. Approved — ECSA PR 20150167 — Date 2025.07.02

REVISIONS			
REV No.	DESCRIPTION	DATE	APPROVED
A	ISSUED FOR TENDER	2025.07.02	

REFERENCE DRAWINGS	
DRG No.	DESCRIPTION

CLIENT APPROVAL			
NAME	DESIGNATION	SIGN	DATE

Client: SANBI — South African National Biodiversity Institute

Signature:

Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title: STORMWATER LAYOUT

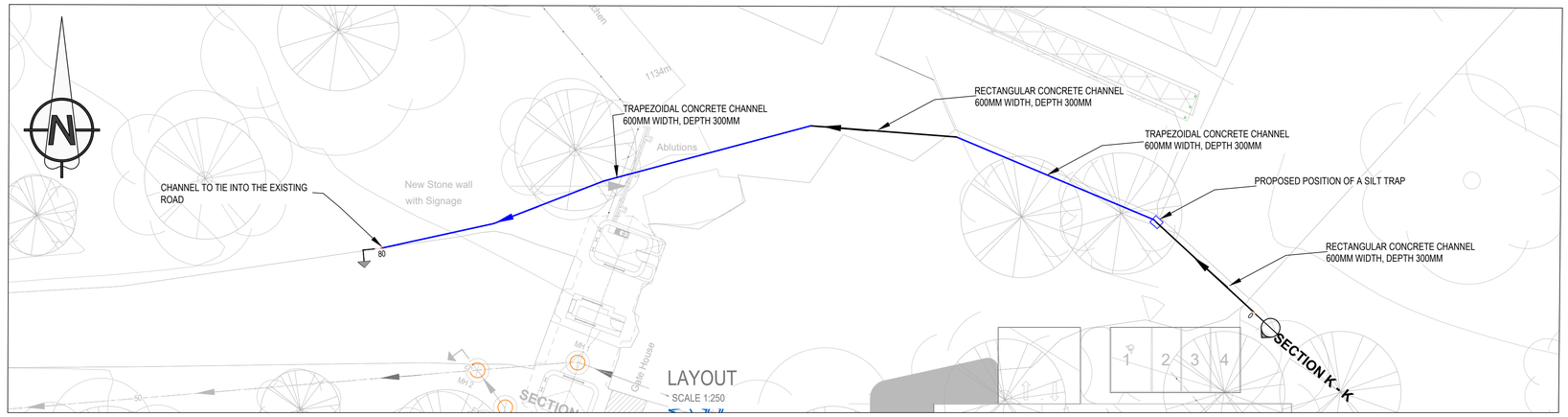
DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG No:	REV:
V.G.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	STORMWATER	2516-C-05	A

A1

LEGEND

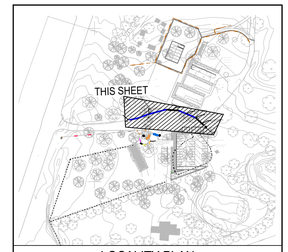
RECTANGULAR CONCRETE CHANNEL 600MM WIDTH, DEPTH 300MM

TRAPEZOIDAL CONCRETE CHANNEL 600MM WIDTH, DEPTH 300MM



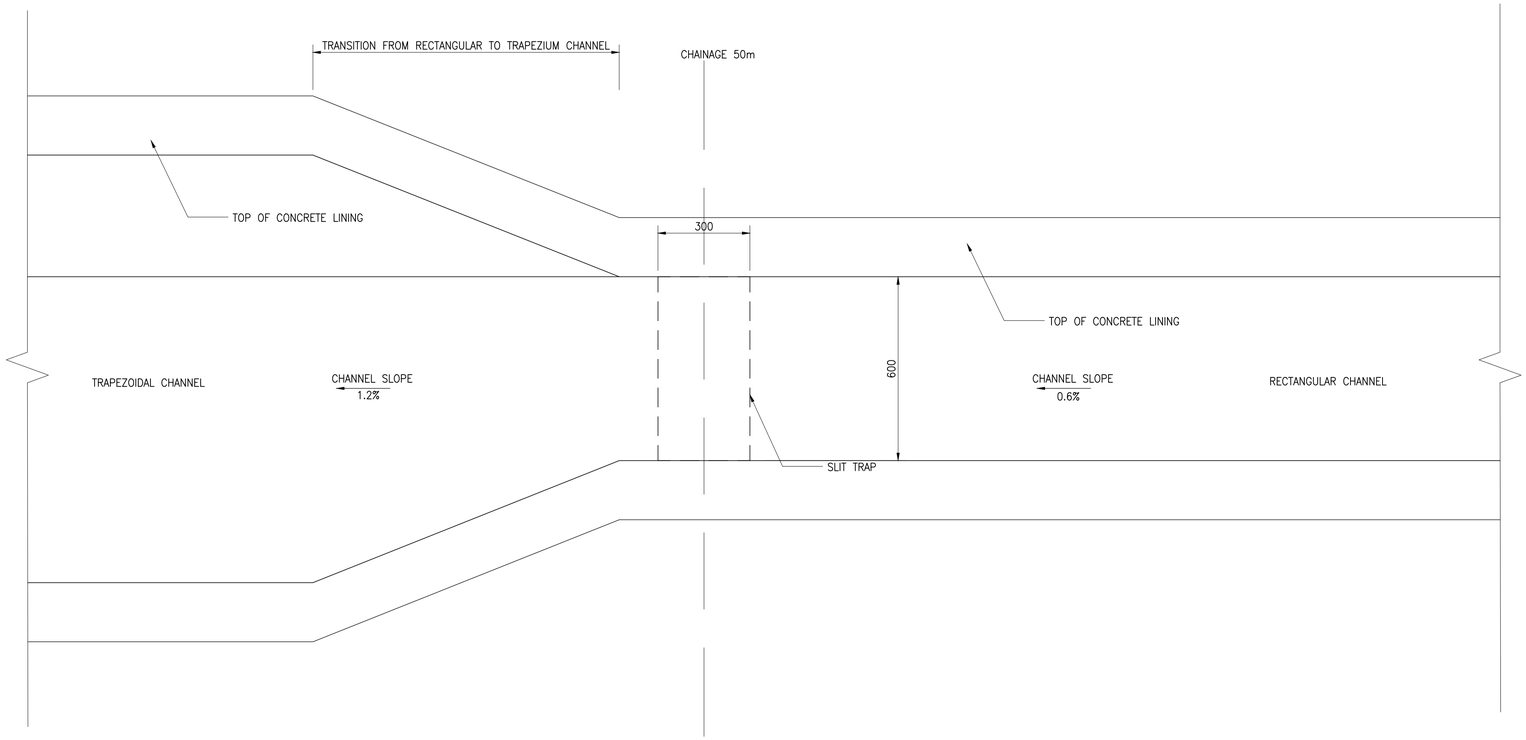
LAYOUT

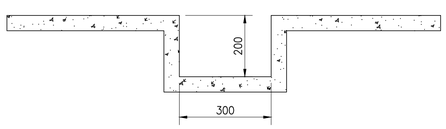
SCALE 1:250



LOCALITY PLAN

SCALE 1 : 3 000





SLIT TRAP ELEVATION

FOR TENDER

TECHI Engineers

PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114 :
E-mail: technical@techi.co.za

Pr. Eng. Approved ECSA PR 20150167

Drawing No. 2516-C-06

Date 2025.07.02

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.02							

Client: SANBI Biodiversity for Life — South African National Biodiversity Institute

Signature:

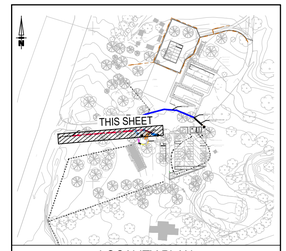
Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

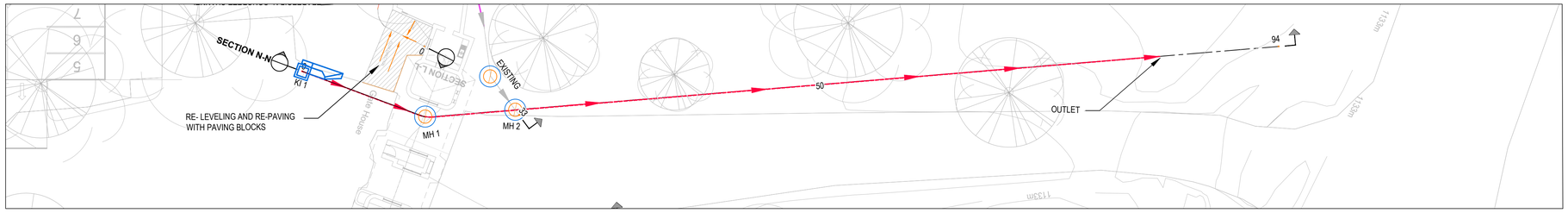
Title: STORMWATER LAYOUT AND SECTIONS (SHEET 1 OF 3)

A1

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
V.G.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	STORMWATER	2516-C-06	A

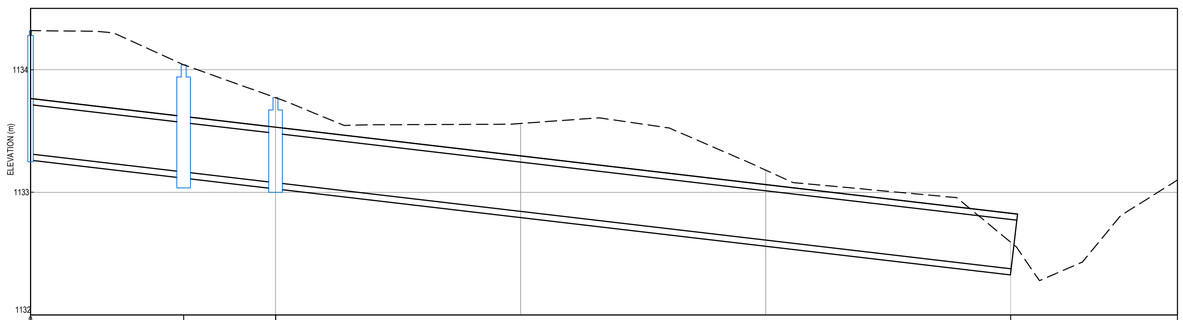


LOCALITY PLAN
SCALE 1 : 3 000



LAYOUT

SCALE 1:250



HORIZONTAL SCALE 1:100
VERTICAL SCALE 1:10
DISTORTED SCALE 1:10

CHAINAGE (m)	0	12,439	20	80	94
MANHOLE	KI 1	P1.1 MH 1	P1.2 MH 2	P1.3	OUTLET
NATURAL GROUND LEVELS (m)	1 134,319	1 134,004	1 133,772	1 132,592	
INVERT LEVELS	1 133,315	1 133,072	1 133,081	1 132,376	
DEPTH TO INVERT	1,004	0,932	0,691	0,216	
GRADE (%)		-1,2%	-1,2%	-1,2%	
PIPE LENGTH		11,692	6,433	62,24	
PIPE DIAMETER PIPE MATERIAL		450 ROCLA CLASS 100D CONCRETE		450 ROCLA CLASS 75D CONCRETE	

SECTION N-N

SCALE 1:250

FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114 :
E-mail: technical@techi.co.za

Drawing No. 2516-C-07

Pr. Eng. Approved: ECSA PR 20150167

Date: 2025.07.02

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.02							

Client: SANBI Biodiversity for Life — South African National Biodiversity Institute

Signature:

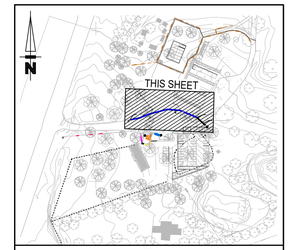
Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title: STORMWATER LAYOUT AND SECTIONS (SHEET 2 OF 3)

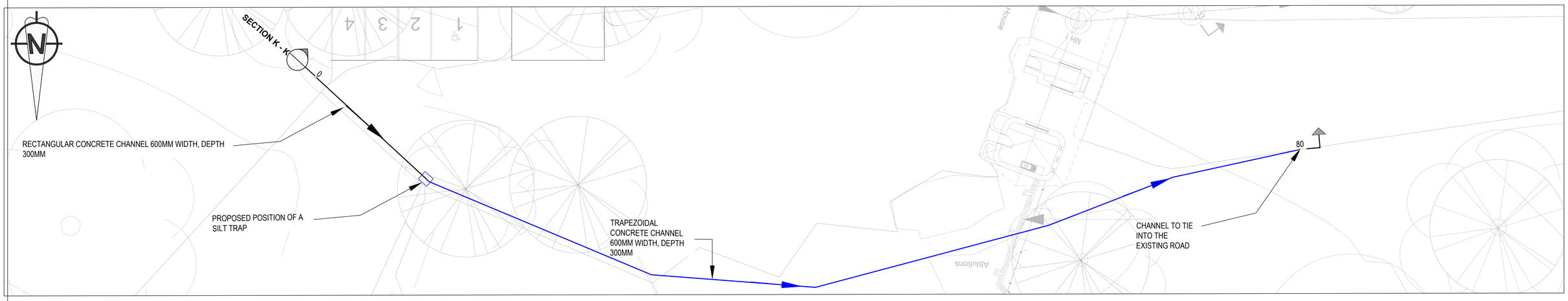
A1

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
V.G.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	STORMWATER	2516-C-07	A



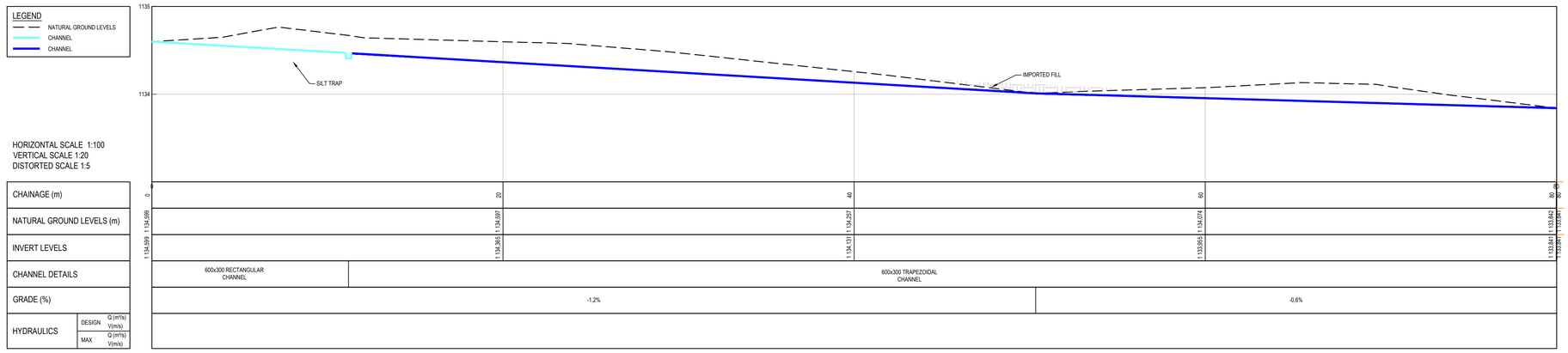
LOCALITY PLAN

SCALE 1:1 : 12500



LAYOUT

SCALE 1:150



SECTION K-K

SCALE 1:150

FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 462 5114 :
E-mail: technical@techi.co.za

Drawing No. 2516-C-08

Pr. Eng. Approved — ECSA PR 20150167 — Date 2025.07.02

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.02							

Client: SANBI South African National Biodiversity Institute

Signature:

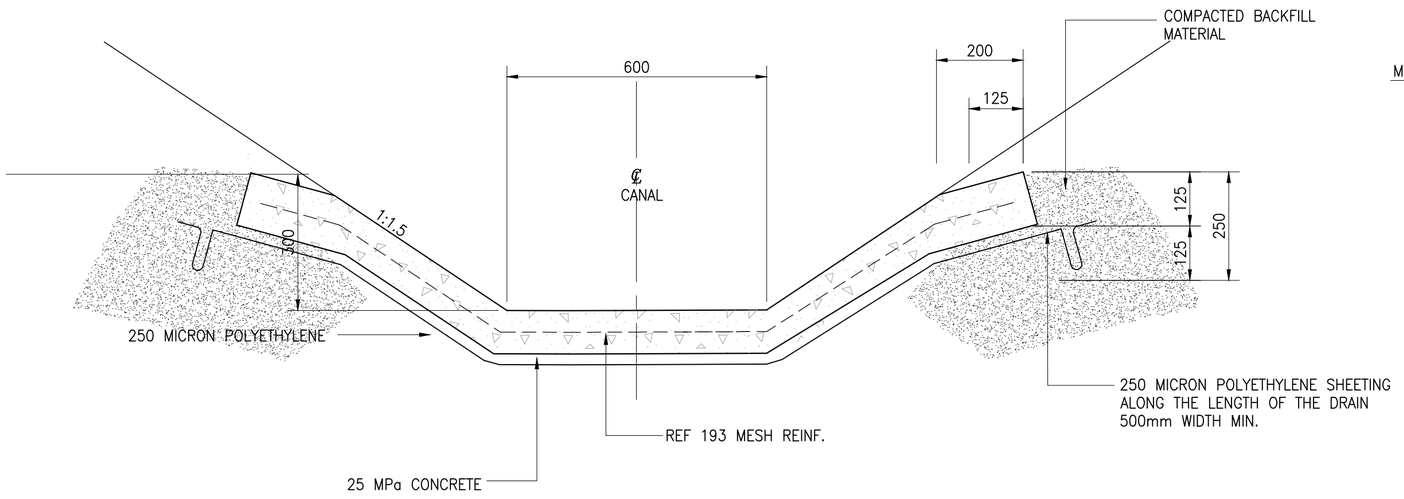
Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title: STORMWATER LAYOUT AND SECTIONS (SHEET 3 OF 3)

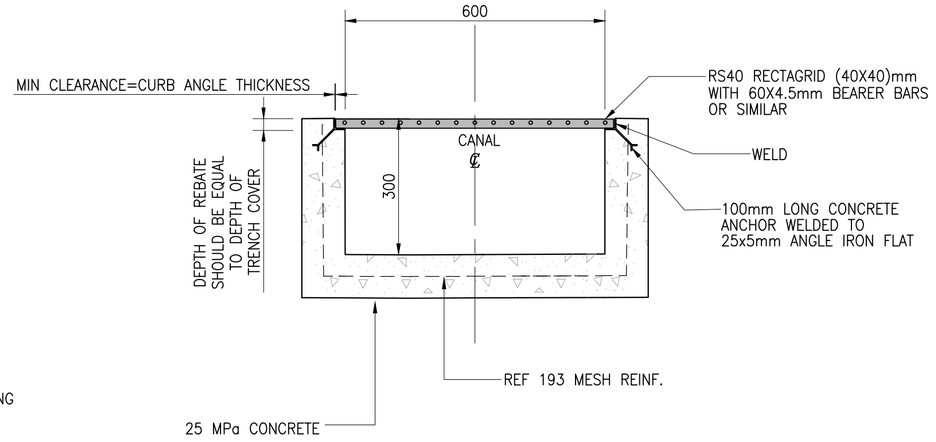
A1

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
V.G.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	STORMWATER	2516-C-08	A



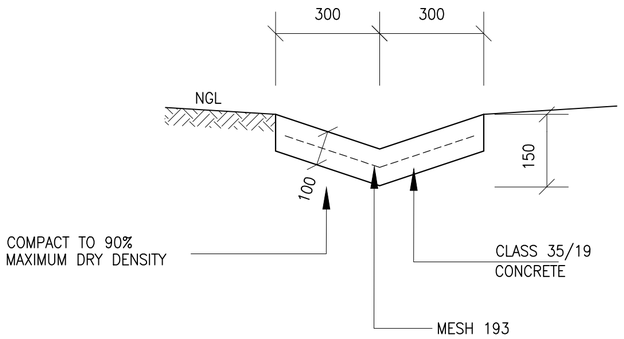
TYPICAL TRAPEZIUM CHANNEL DETAIL

(FOR NON–TRAFFIC AREAS)
(200 mm THICK CONCRETE FOR TRAFFIC AREAS)
SCALE 1 : 10



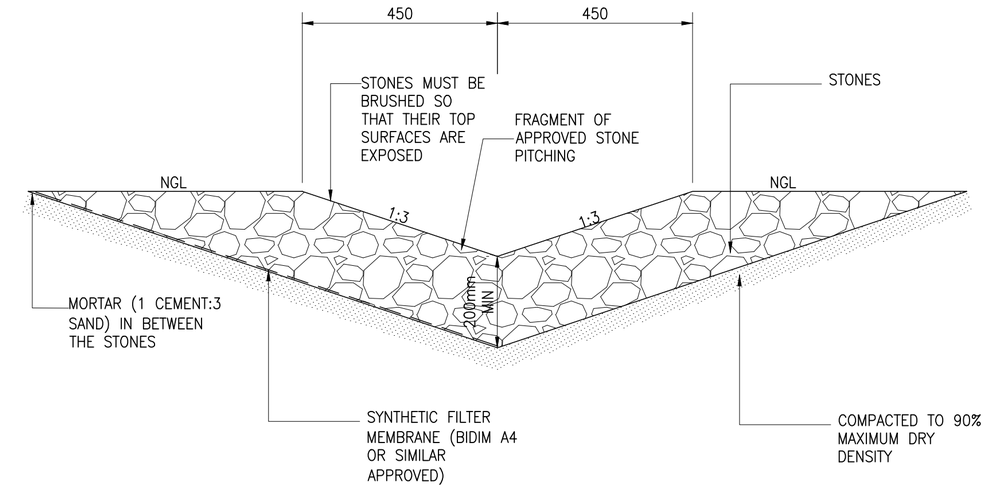
TYPICAL RECTANGULAR CHANNEL DETAIL

(FOR NON–TRAFFIC AREAS)
(200 mm THICK CONCRETE FOR TRAFFIC AREAS)
SCALE 1 : 10



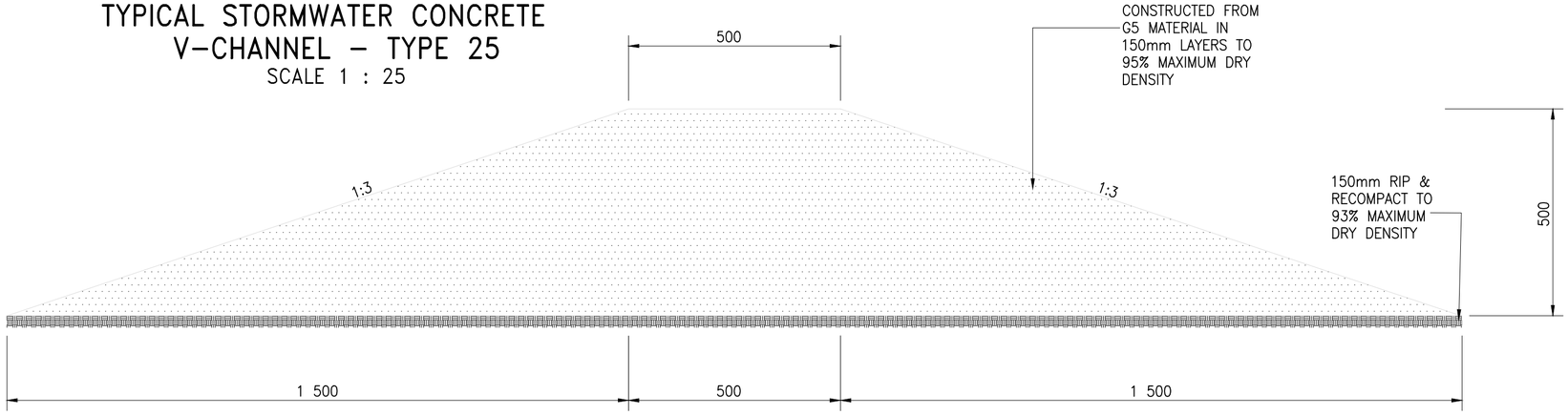
TYPICAL STORMWATER CONCRETE V–CHANNEL – TYPE 25

SCALE 1 : 25



GROUTED STONE PITCHING

SCALE 1 : 10



TYPICAL EARTH BERM

SCALE 1 : 10

FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114 :
E-mail: technical@techi.co.za
Pr. Eng. Approved
ECSA PR 20150167

Drawing No. 2516-C-09
Date 2025.07.02

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.02							

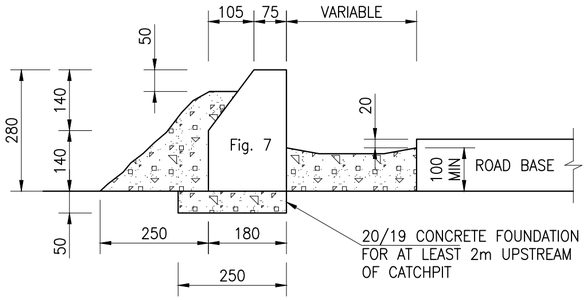
Client: SANBI South African National Biodiversity Institute
Signature:
Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

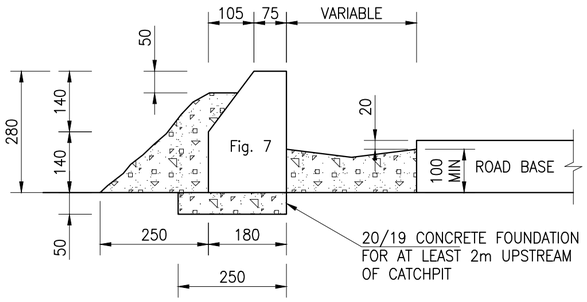
Title: STORMWATER CHANNELS SECTION

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
V.G.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	STORMWATER	2516–C–09	A

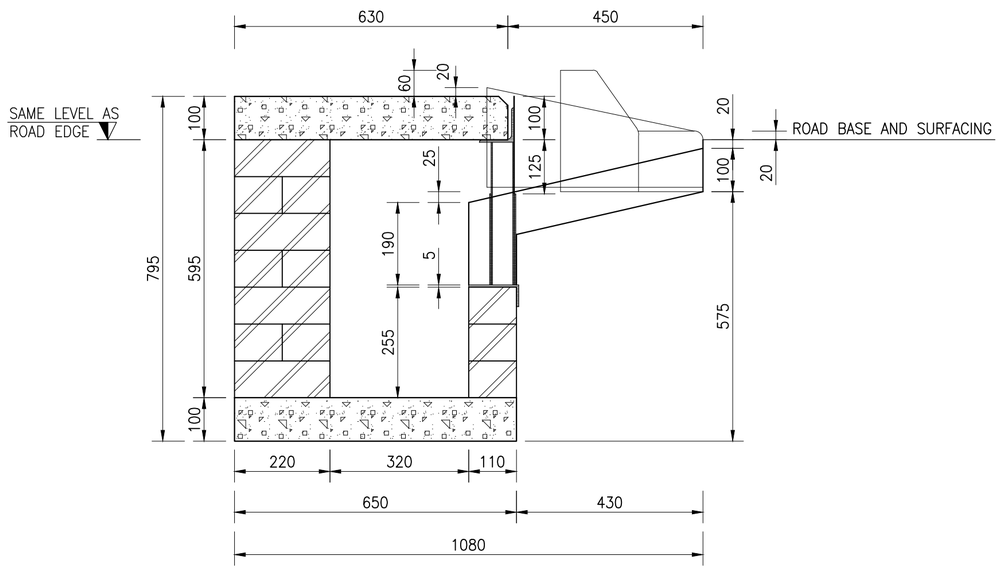
A2



SECTION B
SCALE 1 : 10



SECTION A
SCALE 1 : 10



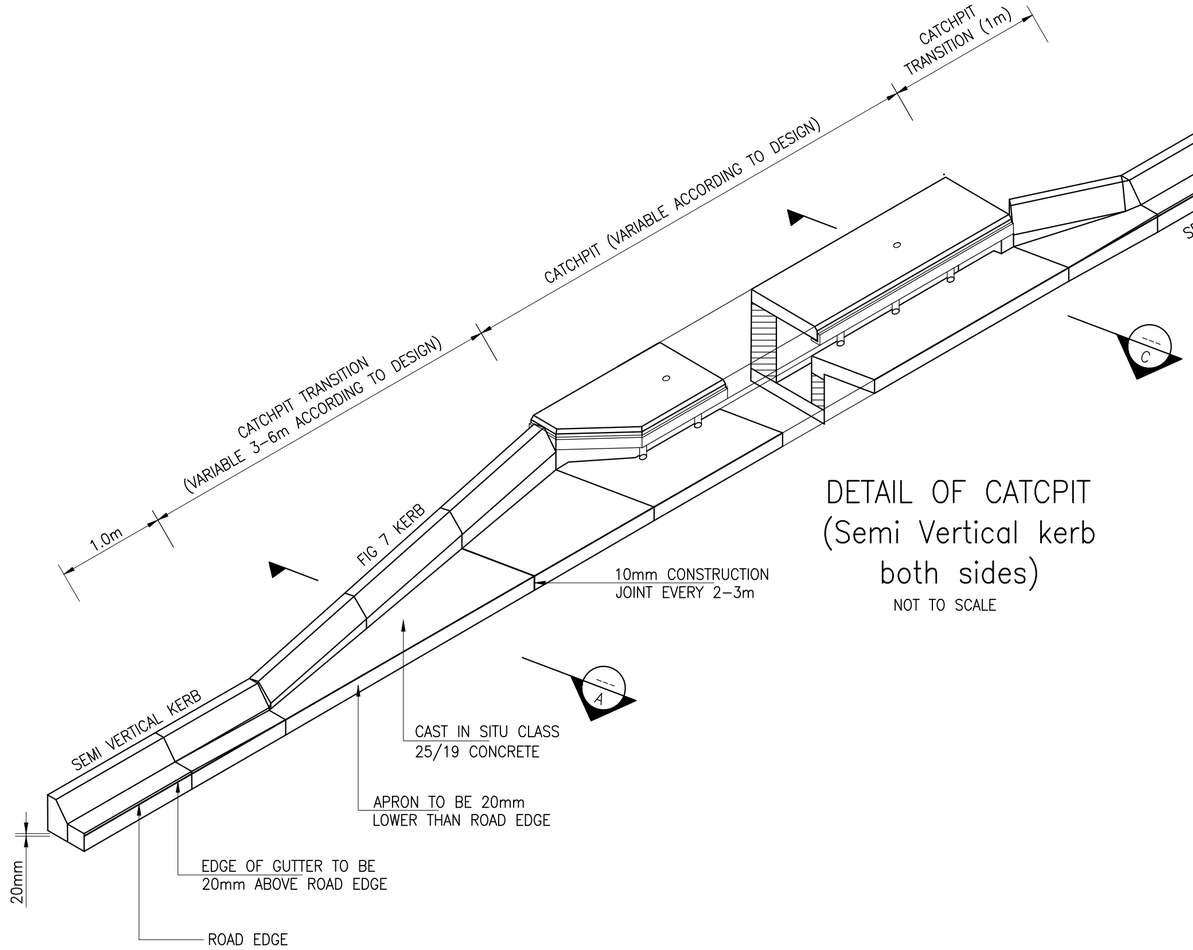
SECTION C
SCALE 1 : 10

NOTES:

1. PERMISSION MUST BE OBTAINED FROM THE ENGINEER AS WELL AS FROM THE ROADS AND STORMWATER DINISION IF ANY OTHER CATCHPIT TYPE IS PROPOSED.

2. 'SILT TRAP CATCHPITS' WILL BE SPECIFIED BY THE ENGINEER IN AREAS SUBJECT TO SILTATION. 'SILT TRAP CATCHPITS' WILL BE CONSTRUCTED BY LOWERING THE CATCHPIT FLOOR WITH ONE BRICK LAYER AND CONSTRUCTING A 170MM HIGH DOUBLE BRICK WALL AT THE CATCHPIT OUTLET. THE WALL MUST NOT BE CONSTRUCTED TO THE WALLS OF THE CATCHPIT BUT A 10MM SLOT MUST BE FORMED ON EACH SIDE TO ENSURE WATER SEEPING THROUGH INTO THE JUNCTION BOX AFTER A STORM. THE OTHER LEVELS AND DIMENSIONS OF THE CATCHPIT REMAIN THE SAME.

3. 'SILT TRAP CATCHPIT' WILL BE MEASURED SEPARATELY FROM THE OTHER CATCHPITS AND INDICATED AS SUCH IN THE SCHEDULE OF QUANTITIES.



DETAIL OF CATCPIT
(Semi Vertical kerb
both sides)
NOT TO SCALE

FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114 :
E-mail: technical@techi.co.za

Drawing No. 2516-C-10

Pr. Eng. Approved — ECSA PR 20150167 — Date 2025.07.02

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.02							

Client: SANBI — South African National Biodiversity Institute
Signature:
Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title: STORMWATER CATCHPIT DETAILS AND SECTIONS

A2

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
V.Z.M	2025.07.02	M.L.M	2025.07.02	M.L.M	2025.07.02	AS SHOWN	STORMWATER	2516-C-10	A

REINFORCEMENT								BENDING DIMENSIONS FOR SHAPE CODES SABS 82				
Member	No OF Mbrs	No of bars in each	Type and size	Cutting length	TOTAL NUMBER	Bar mark	Shape Code	A mm	B mm	C mm	D mm	E/r mm
STRIP FOUNDATION 700x250 1 No.	1	56	Y10	1700	56	01	60	170	620			
		24	Y12	5300	24	02	20	(5300)				
RB01 (220x450) thus RB02 Similar 2Nos.	2	27	Y10	1300	54	03	60	170	400			
		4	Y12	6200	8	04	38	250	5740	(250)		
RB03 (220x450) thus RB04 Similar 2Nos.	2	27	Y10	1300	54	03	60	170	400			
		4	Y12	6200	8	05	38	250	5760	(250)		
ROOF SLAB REBAR 200mm THICK 1 No.	1	28	Y10	7250	28	06	38	1400	150	(5740)		
		28	Y10	7250	28	07	38	1400	140	(5760)		
		12	Y10	3000	12	08	20	(3000)				
		8	Y10	900	8	09	83	250	110	250	(250)	

Bar size	8	10	12	16	20	25	32	40	TOTAL
R kg									
Y kg		422	201						623
TOT		422	201						623

Date	2025-07-15
Detailed	G.V.M
Drg.Ref.	2516-R-03
Member	REBAR

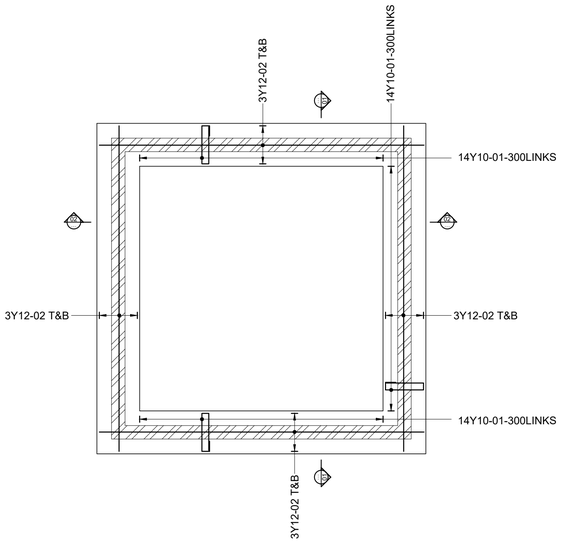
TECHI Engineers PTY LTD
PLOT 8
DANN ROAD
KEMPTON PARK
AH, 1619
Cell: +27 83 480 1305
Tell: +27 11 452 5114
Email: technical@techi.co.za

PROJECT
ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

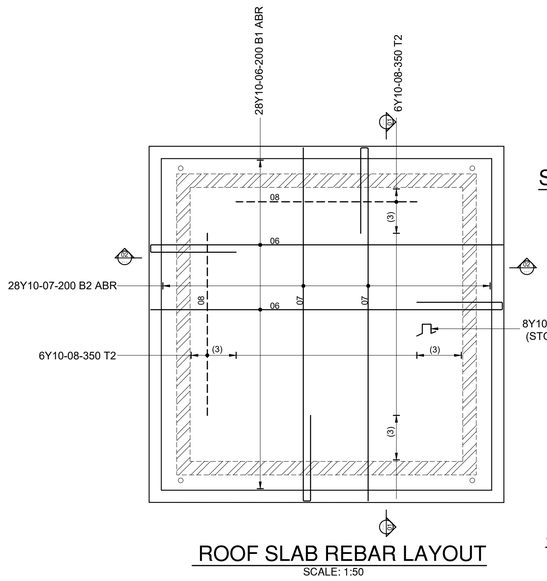
PROJECT NO.
1903

ENGINEER.
M.L.M

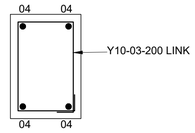
Part	FOUND.ROOF& BEAMS
Revision	A
Schedule No	01



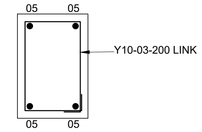
FOUNDATION REBAR LAYOUT
SCALE: 1:50



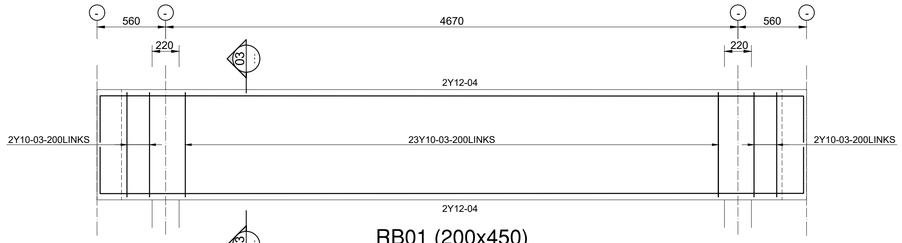
ROOF SLAB REBAR LAYOUT
SCALE: 1:50



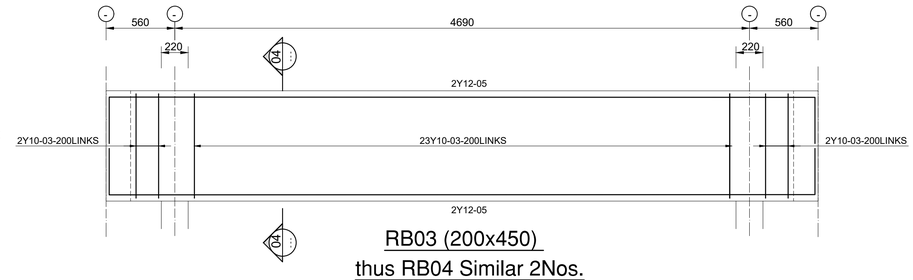
SECTION 03-03
SCALE: 1:10



SECTION 04-04
SCALE: 1:10



RB01 (200x450)
thus RB02 Similar 2Nos.
SCALE: 1:25



RB03 (200x450)
thus RB04 Similar 2Nos.
SCALE: 1:25

A. GENERAL :

1. THE CONTRACTOR SHALL ENSURE THAT WATER-PROOFING MATERIALS ARE NOT DAMAGED DURING BACKFILLING OPERATIONS AND FIXING OF STEEL.
2. SHOP FRONTS, PARTITIONS AND WINDOW FRAMES ARE TO ALLOW FOR LONG TERM DEFLECTION OF 12mm.

B. CONCRETE :

1. CONCRETE STRENGTH SHALL BE AT 28 DAYS AS FOLLOWS :

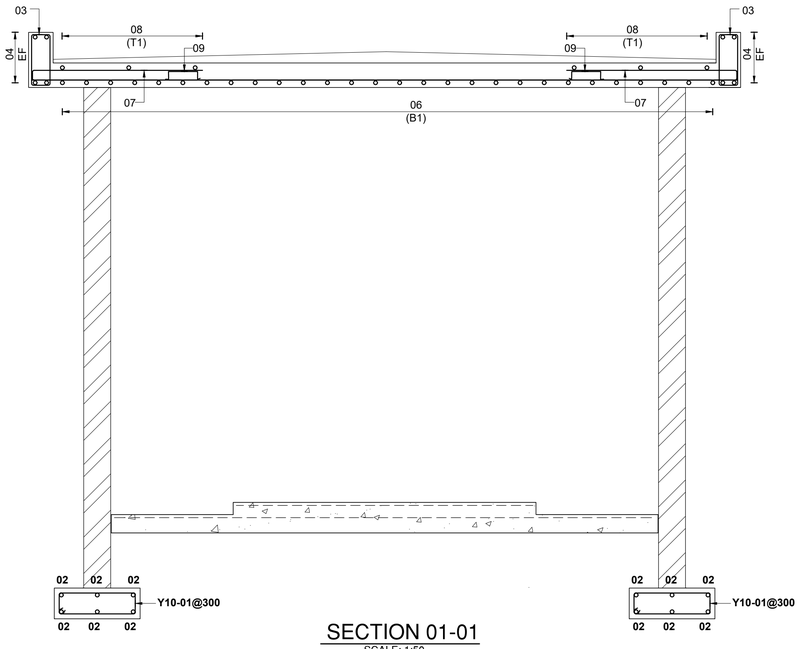
BLINDING	15 MPa / 19 mm
FOUNDATIONS	
STRIP FOOTING	25 MPa / 19 mm
PAD FOOTING	30 MPa / 19 mm
SURFACE BED	25 MPa / 19 mm
BEAMS	30 MPa / 19 mm
COLUMNS	30 MPa / 19 mm
RETAINING WALL	30 MPa / 19 mm
CAVITY WALLS	20 MPa / 19 mm
SUSPENDED SLAB	30 Mpa / 19mm
STAIRCASE	30 Mpa / 19mm

2. STRUCTURAL DRAWINGS MUST BE READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS AND ANY DISCREPANCIES MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
3. CURING OF CONCRETE SHALL BE CARRIED OUT STRICTLY IN ACCORDANCE WITH SABS 1200 G.
4. NO BRICK WALLS SHALL BE BUILT ON SUSPENDED FLOOR SLABS UNTIL THE SLABS HAVE REACHED THEIR 14 DAY STRENGTH. AND PROPPING SHOULD BE LEFT IN PLACE FOR 28 DAYS
5. ALL CONCRETE WORK SHALL COMPLY WITH THE REQUIREMENTS OF SABS 1200 G.
6. STRIPPING TIMES OF SHUTTERING AND PROPPING SHALL BE IN ACCORDANCE WITH SABS 1200 G.

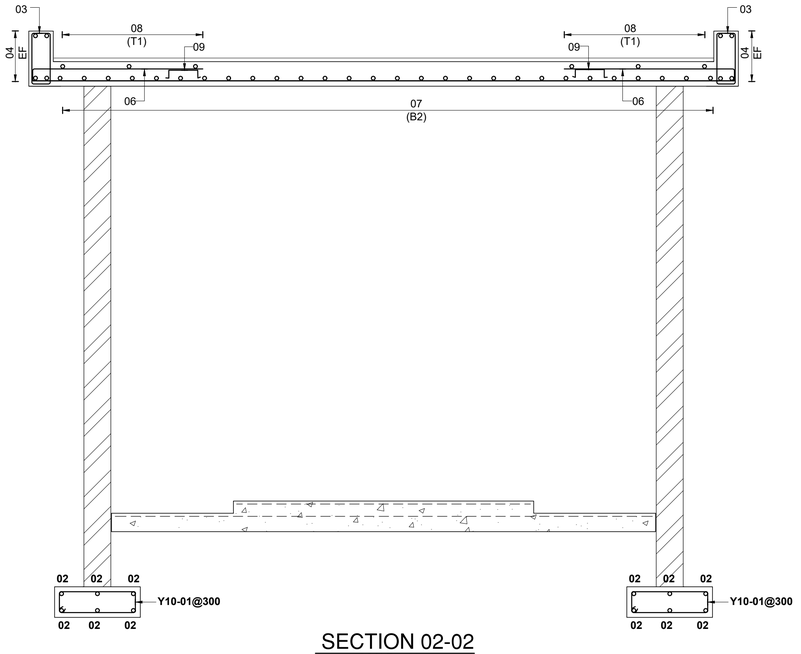
C. REINFORCEMENT :

1. THE CONTRACTOR SHALL INSPECT AND APPROVE THE FIXED REINFORCEMENT BEFORE THE ENGINEER IS NOTIFIED ALL REINFORCEMENT SHALL BE INSPECTED AND APPROVED IN WRITING BY THE ENGINEER BEFORE CASTING OF CONCRETE MAY COMMENCE.
2. BENDING OF REINFORCEMENT SHALL BE IN ACCORDANCE WITH SABS 82.
3. REINFORCEMENT SHALL BE FIXED TO COMPLY WITH THE TOLERANCES AS SPECIFIED IN SABS 1200 G AND/OR THE PROJECT SPECIFICATION.
4. MAXIMUM CONCRETE COVER TO REINFORCING, EXCEPT WHERE NOTED OTHERWISE ON BENDING SCHEDULES, IS AS FOLLOWS :

FOUNDATIONS	40 mm
GROUND BEAMS	40 mm
COLUMNS	
BELOW GROUND	40 mm
ABOVE GROUND	25 mm
SUSPENDED BEAMS	25 mm
SLABS	25 mm



SECTION 01-01
SCALE: 1:50



SECTION 02-02
SCALE: 1:50

BENDING DIMENSIONS FOR SHAPE CODES SABS 82

Member	No OF Mbrs	No o f bars in each	Type and size	Cutting length	TOTA L NUMBER	Bar mark	Shape Code	A mm	B mm	C mm	D mm	E /r mm
STRIP FOUNDATION 700x250 1 No.	1	56 24	Y10 Y12	1700 5300	56 24	01 02	60 20	170 (5300)	620			
RB01 (220x450) thus RB02 Similar 2Nos.	2	27 4	Y10 Y12	1300 6200	54 8	03 04	60 38	170 250	400 5740	(250)		
RB03 (220x450) thus RB04 Similar 2Nos.	2	27 4	Y10 Y12	1300 6250	54 8	03 05	60 38	170 250	400 5760	(250)		
ROOF SLAB REBAR 200mm THICK 1 No.	1	28 28 12 8	Y10 Y10 Y10 Y10	7250 7250 3000 900	28 28 12 8	06 07 08 09	38 38 20 83	1400 1400 (3000) 250	150 140 110	(5740) (5760) 250	(250)	

Bar size	8	10	12	16	20	25	32	40	TOTA L
R kg									
Y kg		422	201						623
TOT		422	201						623

FOR TENDER

TECHI Engineers

Drawing No. 2516-R-03

Pr. Eng. Approved ECSA PR 20150167

Date 2025.07.15

REVISIONS			
REV No.	DESCRIPTION	DATE	APPROVED
A	ISSUED FOR TENDER	2025.07.15	

REFERENCE DRAWINGS	
DRG No.	DESCRIPTION

CLIENT APPROVAL			
NAME	DESIGNATION	SIGN	DATE

Client: SANBI South African National Biodiversity Institute

Signature:

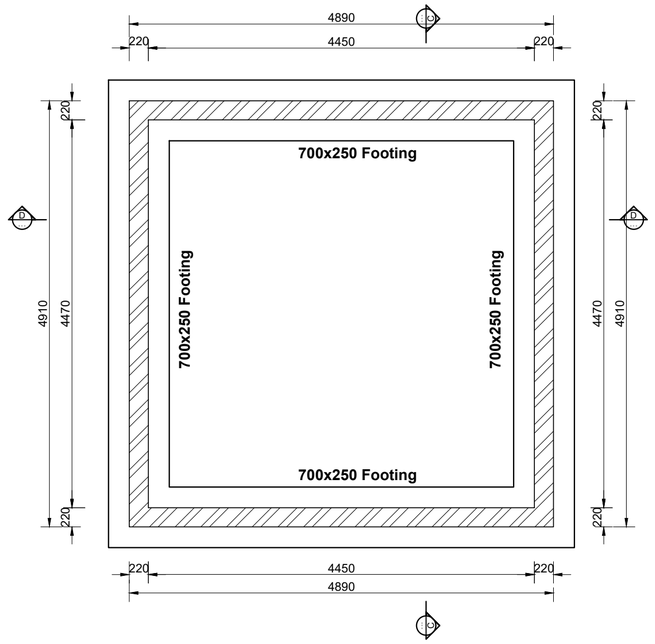
Date:

PROJECT DESCRIPTION: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

TITLE: PUMP HOUSE FOUNDATION, GROUND FLOOR & ROOF SLAB LAYOUT AND DETAILS

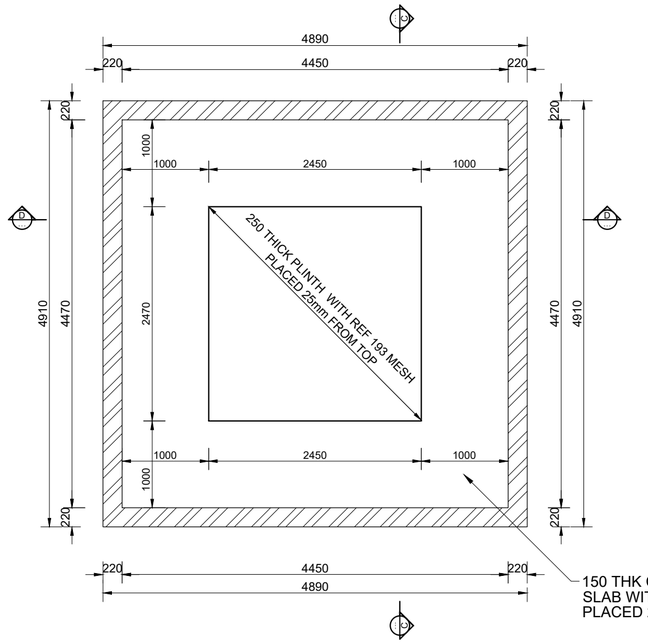
DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG No:	REV:
V.G.M	2025.07.15	M.L.M	2025.07.15	M.L.M	2025.07.15	AS SHOWN	PUMP HOUSE	2516-R-03	A

A1



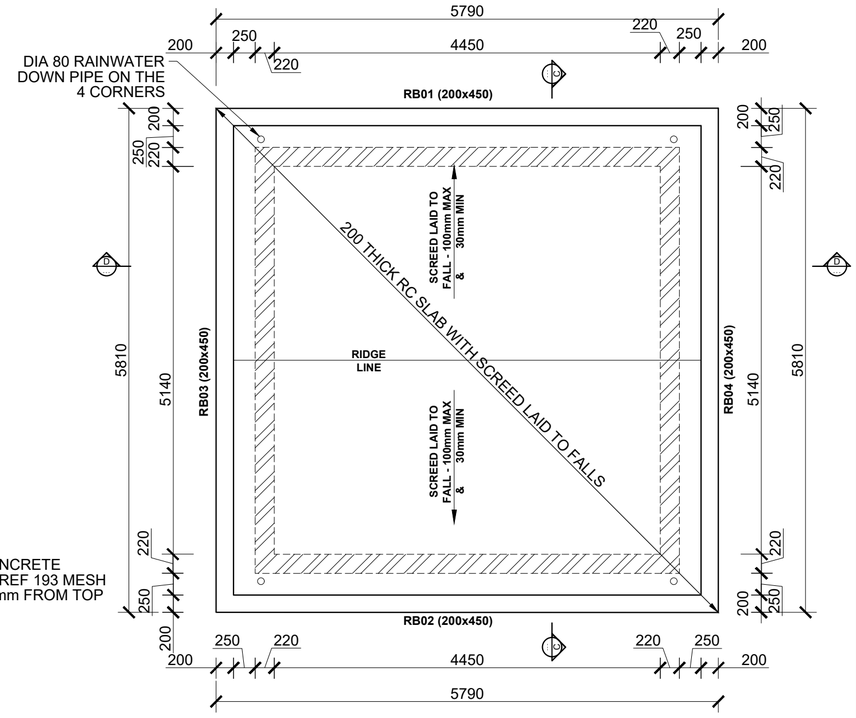
PUMP HOUSE FOUNDATION LAYOUT

SCALE: 1:50



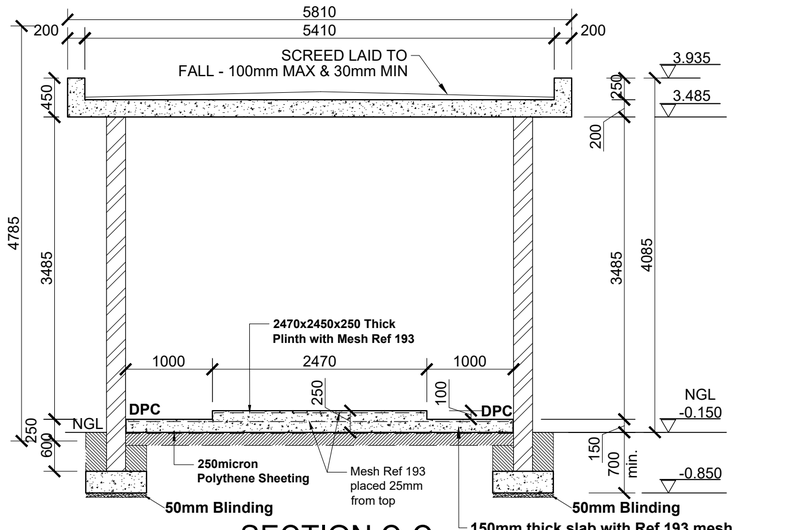
PUMP HOUSE GROUND FLOOR LAYOUT

SCALE: 1:50



ROOF SLAB LAYOUT

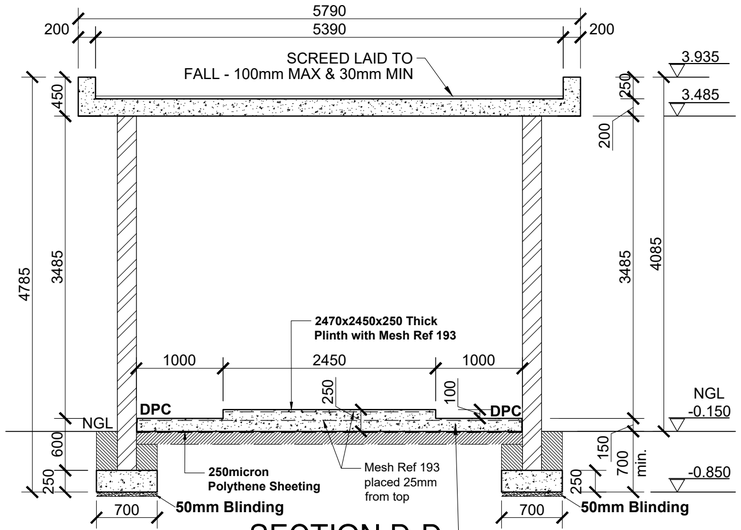
SCALE: 1:50



SECTION C-C

SCALE: 1:50

150mm thick slab with Ref 193 mesh placed 25mm from top on 250micron Polythene sheeting on at least 150mm layer of G6 material compacted to 98%MDD in layers not exceeding 150mm on scarified ground compacted to 93% MDD



SECTION D-D

SCALE: 1:50

150mm thick slab with Ref 193 mesh placed 25mm from top on 250micron Polythene sheeting on at least 150mm layer of G6 material compacted to 98%MDD in layers not exceeding 150mm on scarified ground compacted to 93% MDD

A. GENERAL :

1. THE CONTRACTOR SHALL ENSURE THAT WATER-PROOFING MATERIALS ARE NOT DAMAGED DURING BACKFILLING OPERATIONS AND FIXING OF STEEL.
2. SHOP FRONTS, PARTITIONS AND WINDOW FRAMES ARE TO ALLOW FOR LONG TERM DEFLECTION OF 12mm.

B. SURFACE BED :

1. PROVIDE 10 mm POLYSTYRENE JOINT WITH POLYSULPHIDE SEALER AROUND ALL COLUMNS (SIZE 12 x 12 WIDE).
2. SURFACE BED TO BE CAST IN PANELS NOT EXCEEDING 12,0 m2 FOR 100mm SLAB WITH CONSTRUCTION AND SAW-CUT JOINTS. NO SIDE LENGTH TO EXCEED 3,5m. LENGTH TO WIDTH RATIO NOT TO EXCEED 1,5 . POSITION OF CONSTRUCTION AND SAW-CUT JOINTS TO BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
3. SAW-CUT JOINTS ARE TO BE DONE AS SOON AS THE CONCRETE IS FIRM ENOUGH NOT TO BE TORN OR DAMAGED BY THE BLADE, USUALLY BETWEEN 6 TO 12 HOURS AFTER CASTING.
4. JOINTS MUST BE REPEATED IN THE FINISH.
5. SURFACE BED TO BE CAST ON 250 umm PLASTIC SHEETING.

C. CONCRETE :

1. CONCRETE STRENGTH SHALL BE AT 28 DAYS AS FOLLOWS :

BLINDING	15 MPa / 19 mm
FOUNDATIONS	
STRIP FOOTING	25 MPa / 19mm
PAD FOOTING	30 MPa / 19mm
SURFACE BED	25 MPa / 19 mm
BEAMS	30 MPa / 19 mm
COLUMNS	30 MPa / 19 mm
RETAINING WALL	30 MPa / 19 mm
CAVITY WALLS	20 MPa / 19 mm.
SUSPENDED SLAB	30 Mpa / 19mm
STAIRCASE	30 Mpa / 19mm

2. STRUCTURAL DRAWINGS MUST BE READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS AND ANY DISCREPANCIES MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
3. CURING OF CONCRETE SHALL BE CARRIED OUT STRICTLY IN ACCORDANCE WITH SABS 1200 G.
4. NO BRICK WALLS SHALL BE BUILT ON SUSPENDED FLOOR SLABS UNTIL THE SLABS HAVE REACHED THEIR 14 DAY STRENGTH. AND PROPPING SHOULD BE LEFT IN PLACE FOR 28 DAYS
5. ALL CONCRETE WORK SHALL COMPLY WITH THE REQUIREMENTS OF SABS 1200 G.
6. STRIPPING TIMES OF SHUTTERING AND PROPPING SHALL BE IN ACCORDANCE WITH SABS 1200 G.

D. BRICKWORK :

1. THE MINIMUM CRUSHING STRENGTH OF ALL LOAD BEARING BRICKWORK SHALL BE 14 MPa.
2. WATER ABSORPTION LESS THAN 10% AND IRREVERSIBLE MOISTURE EXPANSION 0.05
3. THE MINIMUM CRUSHING STRENGTH OF MORTAR SHALL BE AS FOR CLASS II MORTAR IN ACCORDANCE WITH TABLE 1 SABS 0164 PART I - 1980.
4. ALL SHALL BE REINFORCED WITH AN APPROVED BRICK FORCE, EVERY LAYER FOR THE FIRST 3 LAYERS ABOVE ANY HORIZONTAL CONCRETE SURFACE, EVERY LAYER FOR 3 LAYERS BELOW ANY HORIZONTAL CONCRETE SURFACE AND EVERY 4TH LAYER IN BETWEEN MINIMUM OVERLAP 200mm
5. ALL BRICKWORK SHOWN IS LOAD BEARING UNLESS OTHERWISE INDICATED.
6. SEE ARCHITECT'S DRAWINGS FOR GENERAL LAYOUT OF BRICKWORK.
7. ALL BRICK ANCHORS, WALL TIES AND STRAPS SHALL BE HOT DIPPED GALVANIZED.
8. V-JOINTS ARE TO BE MADE IN PLASTER WORK WHERE BRICKWORK AND CONCRETE JOIN. FILL WITH JOINTEX AND SEAL WITH AN APPROVED SEALANT ON ALL SIDES.
9. NON - LOAD BEARING BRICKWORK MAY NOT BE BUILT CLOSER THAN 20 mm FROM THE SOFFITS & SIDES OF BEAMS.
10. WALL TIES IN CAVITY WALLS AND BRICK RETAINING WALLS SHALL BE OF THE VERTICAL TWISTED TYPE AS IN SABS 0164 PART I - 1980 FIGURE 1 OR SIMILAR APPROVED TYPE, PLACED EVERY FOURTH LAYER VERTICALLY AND AT 500 c/c HORIZONTALLY.
11. BRICKS TO BE WETTED BEFORE USE .
12. WALL JOINTS MUST BE REPEATED IN ALL TILED FINISHES.
13. BALUSTRADES ON ROOF TO HAVE JOINTS AT 6 M c/c .
14. ALL PLANTERS BUILT IN BRICKWORK ARE TO BE PROVIDED WITH 25mm DIA WEEP HOLES ABOVE FINISHED PAVING LEVELS AND AT @ 1000 c/c.
15. BRICK WALLS ARE TO BE TIED TO THE CONCRETE COLUMNS WITH 30x3 GALV. HOOP IRON TIES AT EVERY 4th COURSE . FIX THE TIES TO THE COLUMNS WITH 2 HILTI SHOT STUDS EACH. MIN. HOR. LENGTH 300mm.
16. PROVIDE HORIZONTAL SLIP SHEETS BETWEEN ALL CONCRETE AND NON-LOADBEARING BRICKWORK SURFACES.

NOTE:

ALL STRUCTURAL STEELWORK TO BE STAINLESS STEEL

FOR TENDER

TECHI Engineers

Drawing No. 2516-S-05

Pr. Eng. Approved — ECSA PR 20150167 — Date 2025.07.15

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.15							

Client: SANBI Biodiversity for Life — South African National Biodiversity Institute

Signature:

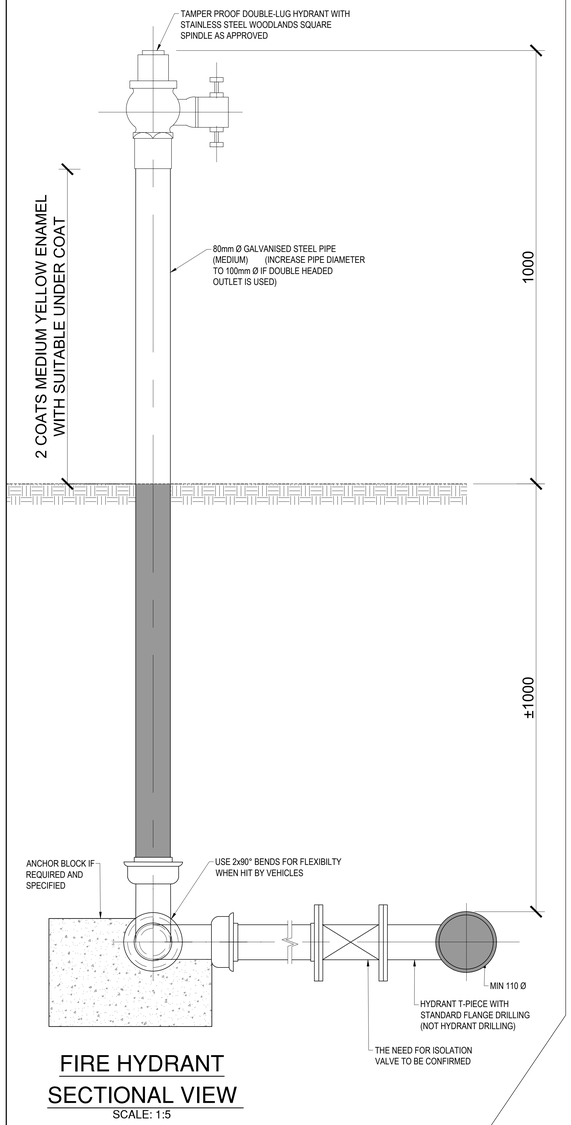
Date:

PROJECT DESCRIPTION: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

TITLE: PUMP HOUSE FOUNDATION, GROUND FLOOR & ROOF SLAB LAYOUT AND DETAILS

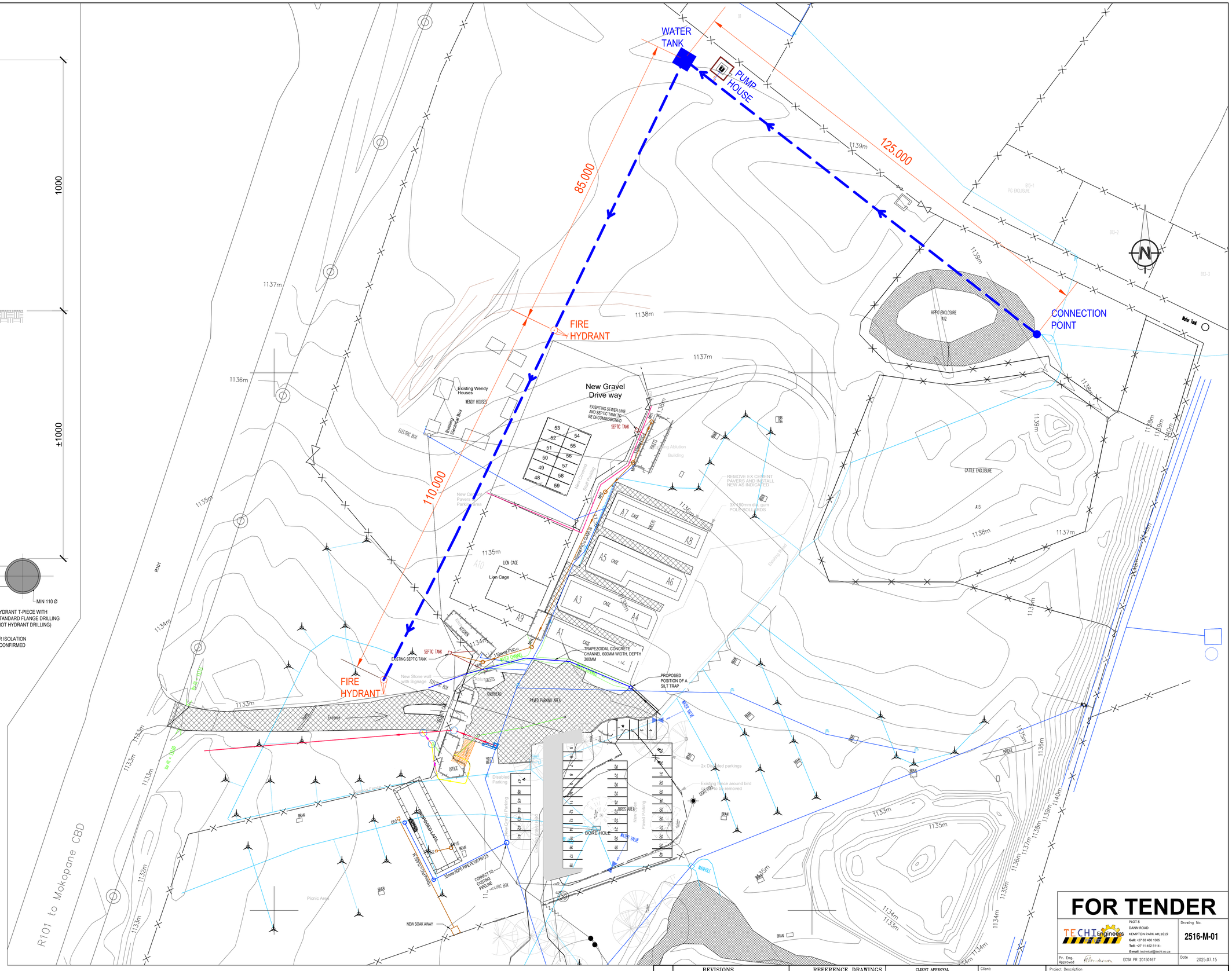
A2

DRAWN:	DATE:	CHECKED:	DATE	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
Y.G.M	2025.07.15	M.L.M	2025.07.15	M.L.M	2025.07.15	AS SHOWN	PUMP HOUSE	2516-S-05	A



FIRE HYDRANT SECTIONAL VIEW

SCALE: 1:5



SCALE 1:350

LEGEND

- STONE PITCH LINED STORMWATER DRAINS
- 450mm DIAMETER ROCLA PIPE
- 375mm DIAMETER ROCLA PIPE
- RECTANGULAR CONCRETE CHANNEL 600MM WIDTH, DEPTH 300MM
- TRAPEZOIDAL CONCRETE CHANNEL 600MM WIDTH, DEPTH 300MM
- V-DRAIN CONCRETE CHANNEL 600MM WIDTH, DEPTH 150MM
- NEW SEWER LINE
- EXISTING SEWER LINE
- NEW WATER LINE
- EXISTING WATER LINE
- EXISTING ELECTRICAL POWERLINE
- FIRE HYDRANT
- CONNECTION POINT
- WATER TANK
- WATER TANK & FIRE HYDRANT WATER LINE

FOR TENDER

REVISIONS			
REV No.	DESCRIPTION	DATE	APPROVED
A	ISSUED FOR TENDER	2025.07.15	

REFERENCE DRAWINGS	
DRG No.	DESCRIPTION

CLIENT APPROVAL			
NAME	DESIGNATION	SIGN	DATE

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tel: +27 11 452 5114
E-mail: technical@techi.co.za

Drawing No. 2516-M-01

Pr. Eng. Approved: ECSA PR 20150167

Date: 2025.07.15

Client: SANBI Biodiversity for life — South African National Biodiversity Institute

Signature:

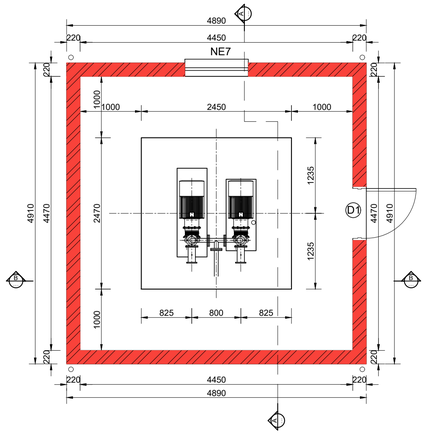
Date:

Project Description: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

Title: FIRE HYDRANT LAYOUT & DETAILS

AO

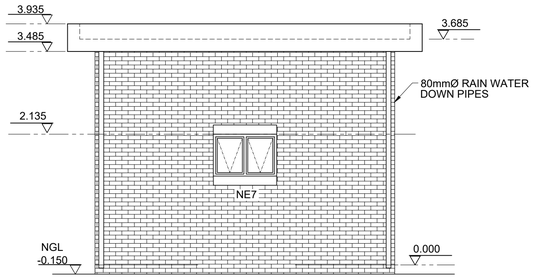
DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG No:	REV:
V.G.M	2025.07.15	M.L.M	2025.07.15	M.L.M	2025.07.15	AS SHOWN	FIRE HYDRANT	2516-M-01	A



PLAN ON PUMP HOUSE

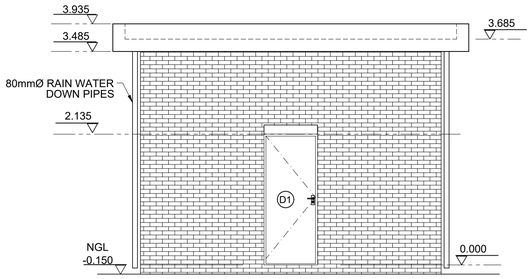
SCALE: 1:50

AREA = 24m²



SIDE ELEVATION

SCALE: 1:50



FRONT ELEVATION

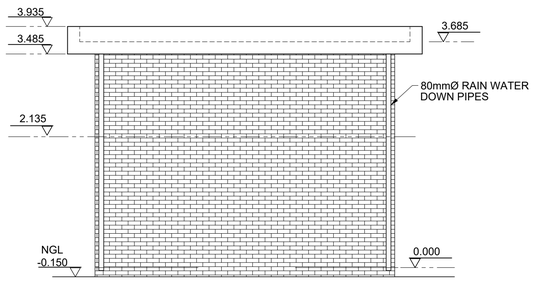
SCALE: 1:50

A. GENERAL :

1. THE CONTRACTOR SHALL ENSURE THAT WATER-PROOFING MATERIALS ARE NOT DAMAGED DURING BACKFILLING OPERATIONS AND FIXING OF STEEL.
2. SHOP FRONTS, PARTITIONS AND WINDOW FRAMES ARE TO ALLOW FOR LONG TERM DEFLECTION OF 12mm.

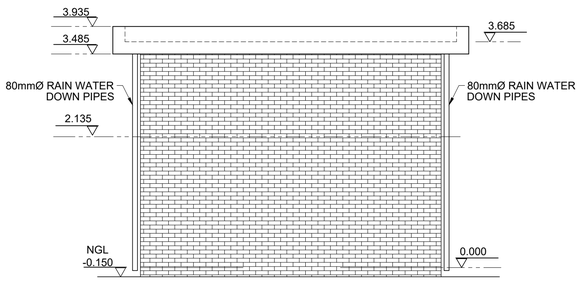
B. CONCRETE :

1. CONCRETE STRENGTH SHALL BE AT 28 DAYS AS FOLLOWS :
   - BLINDING 15 MPa / 19 mm
   - FOUNDATIONS 30 MPa / 19 mm
   - COLUMNS 30 MPa / 19 mm
   - WALLS 30 MPa / 19 mm
   - SURFACE BED 30 MPa / 19 mm
   - BEAMS/GROUND BEAMS 30 MPa / 19 mm
   - SLABS 30 MPa / 19 mm
   - CONCRETE CAVITY WALLS 20 Mpa / 19mm
   - REINF. EARTH RETAINING WALL 30 Mpa / 19mm
2. STRUCTURAL DRAWINGS MUST BE READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS AND ANY DISCREPANCIES MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
3. CURING OF CONCRETE SHALL BE CARRIED OUT STRICTLY IN ACCORDANCE WITH SABS 1200 G.
4. NO BRICK WALLS SHALL BE BUILT ON SUSPENDED FLOOR SLABS UNTIL THE SLABS HAVE REACHED THEIR 14 DAY STRENGTH. AND PROPPING SHOULD BE LEFT IN PLACE FOR 28 DAYS
5. ALL CONCRETE WORK SHALL COMPLY WITH THE REQUIREMENTS OF SABS 1200 G.
6. STRIPPING TIMES OF SHUTTERING AND PROPPING SHALL BE IN ACCORDANCE WITH SABS 1200 G.



SIDE ELEVATION

SCALE: 1:50

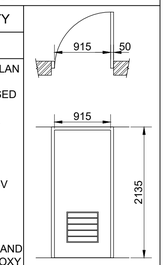


BACK ELEVATION

SCALE: 1:50

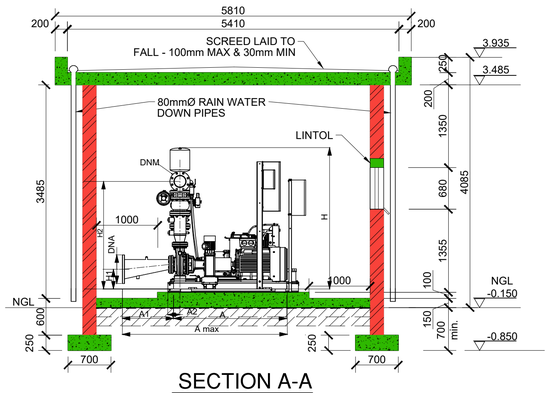
DOOR SCHEDULE

D1	QTY
EXTERNAL DOOR	1
DOOR SWINGS AS PER PLAN THE FRAMES ARE PRESSED FROM 1.6mm PRE-GALVANISED STEEL SHEETING, IN A DOUBLE REBATE PROFILE BITCON TRANSFORMER ROOM DOORS TYPE B, BV WITH VENT GALVANISED UNITS ARE CLEANED WITH A DEGREASING SOLUTION AND FINISHED WITH GREY EPOXY PRIMER. DOORS ARE FITTED WITH A PULL HANDLE, PADLATCH AND BARREL BOLTS TO DOUBLE DOORS . THE DOORS ARE FITTED WITH 100mm HEAVY DUTY 4,2mm THICK FLANGED BRASS HINGES LOUVRE VENTS LINED ON THE INSIDE WITH A VERMIN PROOF MESH SCREEN SIZE 560mm X 560mm (AV.) CAN BE FITTED TO THE DOORS OR MANUFACTURED FULLY LOUVRED IF REQUIRED	



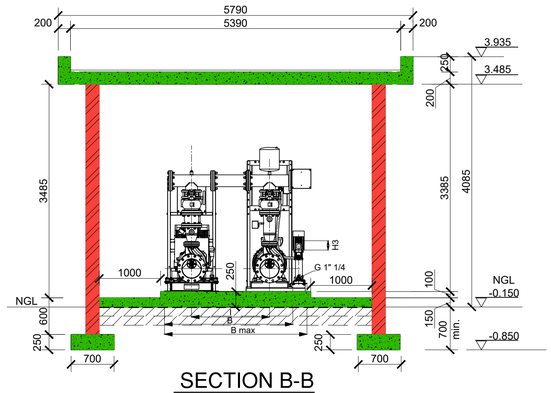
DOOR SCHEDULE

SCALE: 1:50



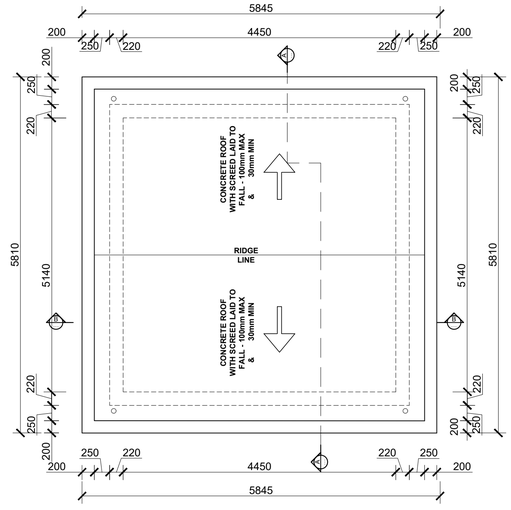
SECTION A-A

SCALE: 1:50



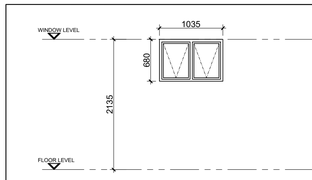
SECTION B-B

SCALE: 1:50



ROOF PLAN

SCALE: 1:50



WINDOW CODE	NE7	QTY 1
FRAME FINISH	PURPOSE MADE WHITE COATED STEEL WINDOW COMPLETE WITH ALL NECESSARY BEADING, RUBBER SEALS AND DRIP SECTIONS AS PER MANUFACTURER'S SPEC.	
GLAZING	6.38mm CLEAR SAFETY GLASS REQUIREMENTS OF SANS 10137, SANS 10400 AND PRODUCED TO SANS 50572 AND SANS 1263. ALL GLAZING TO CONFORM TO NHBRC SPECIFICATIONS.	
IRONMONGERY	YELLOW PASSIVE MILD STEEL CASEMENT STAY AND CAST WEDGE HANDLE	
CILLS	INTERNAL: - BRICK ON EDGE EXTERNAL: - BRICK ON EDGE	
B.BARS	ON ALL OPENABLE SECTIONS OF THE WINDOW	

WINDOW SCHEDULE

SCALE: 1:50

PUMP MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H4	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 50-250/263 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1846	253	170	2284	-	-	2172	1829	341	1384	265	-	-	800	DN 125	DN 80	1720	1748

NOTE:

ALL STRUCTURAL STEELWORK TO BE STAINLESS STEEL

FOR TENDER

TECHI Engineers

Drawing No. 2516-P-01

Pr. Eng. Approved — ECSA PR 20150167 — Date 2025.07.14

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.14							

Client: SANBI — South African National Biodiversity Institute

Signature:

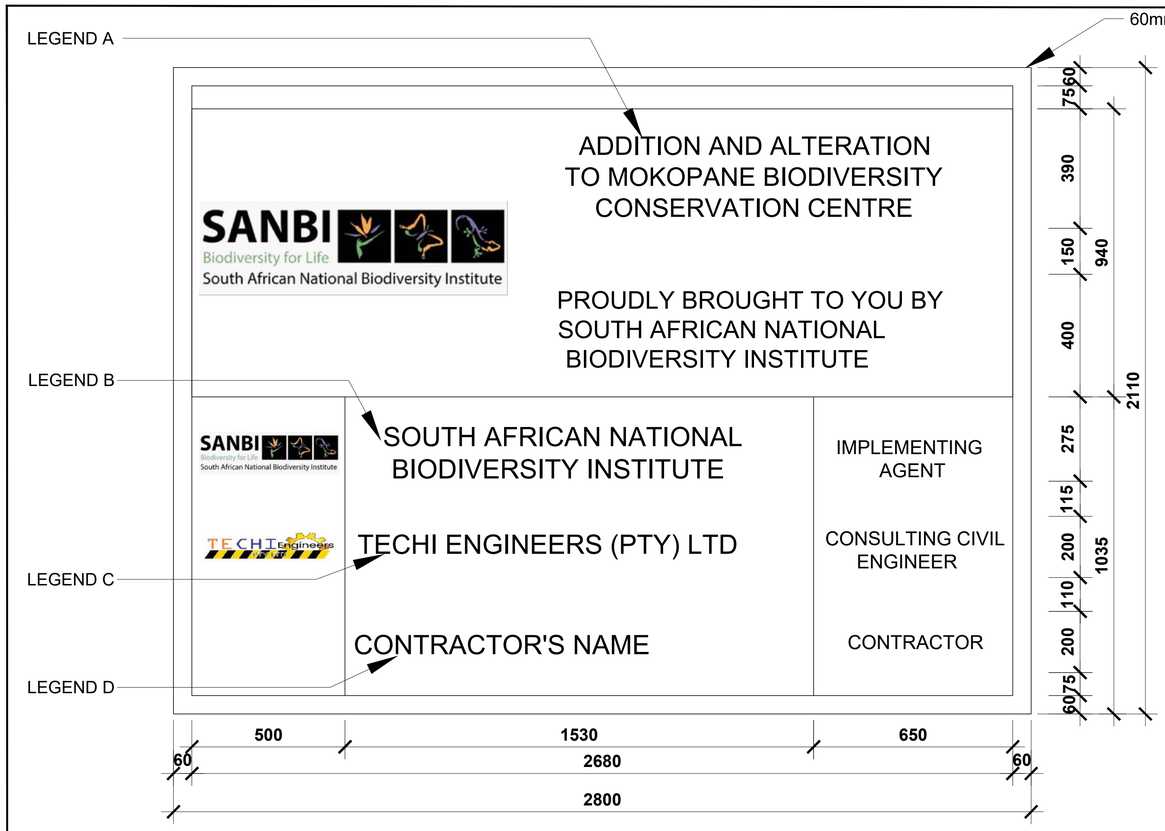
Date:

PROJECT DESCRIPTION: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

TITLE: PUMP HOUSE LAYOUT AND DETAILS

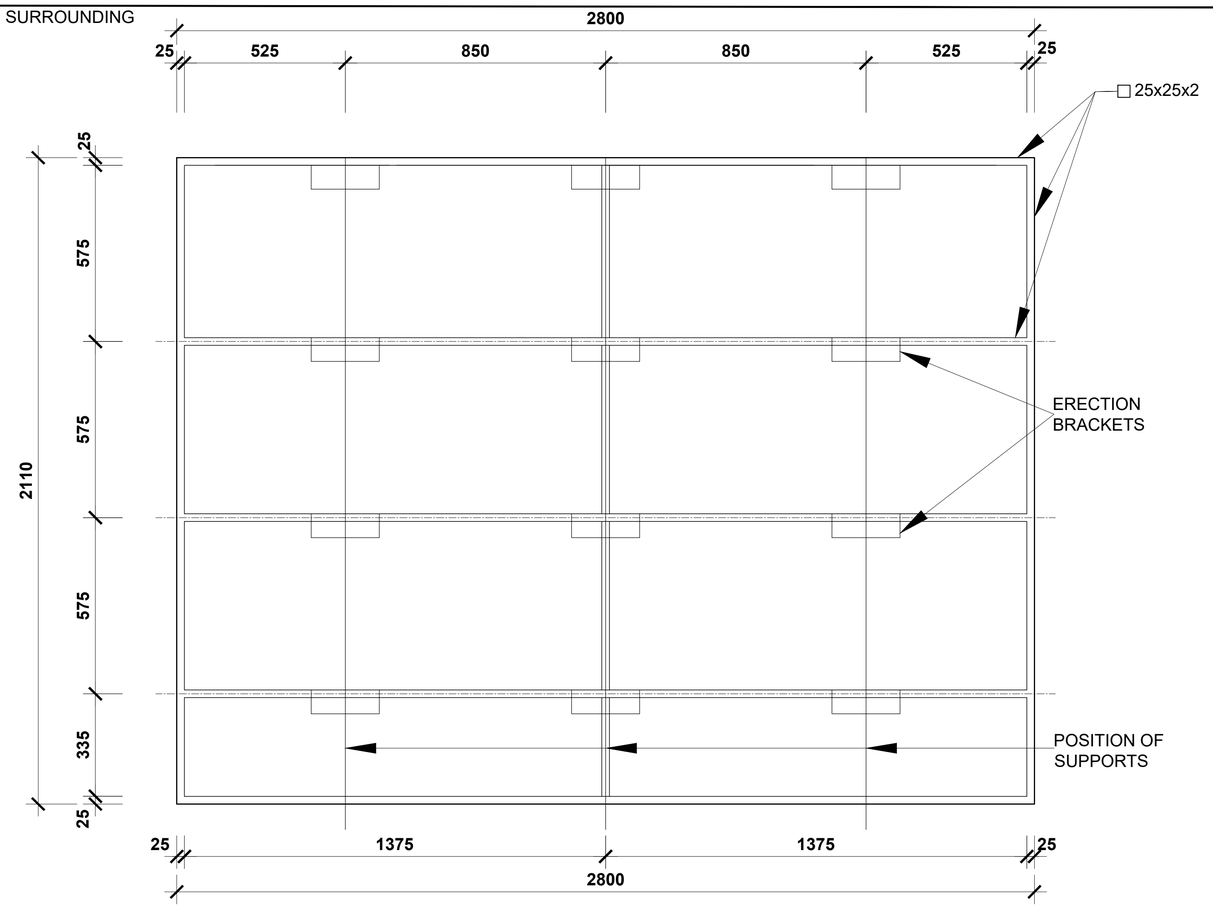
A1

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG No:	REV:
V.G.M	2025.07.14	M.L.M	2025.07.14	M.L.M	2025.07.14	AS SHOWN	PUMP HOUSE	2516-P-01	A



PROJECT NOTICE BOARD - ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

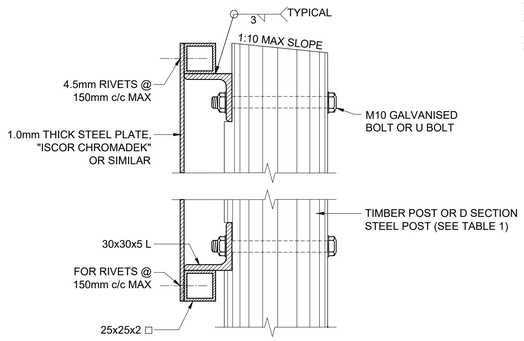
SCALE 1 : 20



REAR SIDE BRACING

SCALE 1 : 20

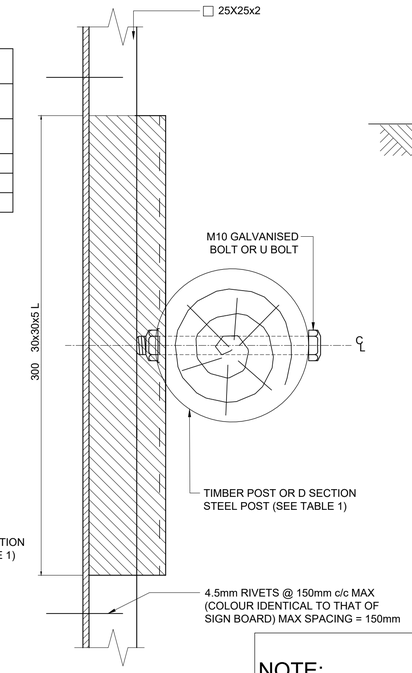
TABLE 1				
ERECTION DETAILS				
TYPE POST	UPRIGHT	STAY	D	B
TIMBER POST AND STAY	100mm	80mm	600mm	850mm
TIMBER POST	180mm	-	1000mm	1450mm
D SECTION STEEL POST	100mm x 4mm	-	1000mm	1450mm



SIDE ELEVATION

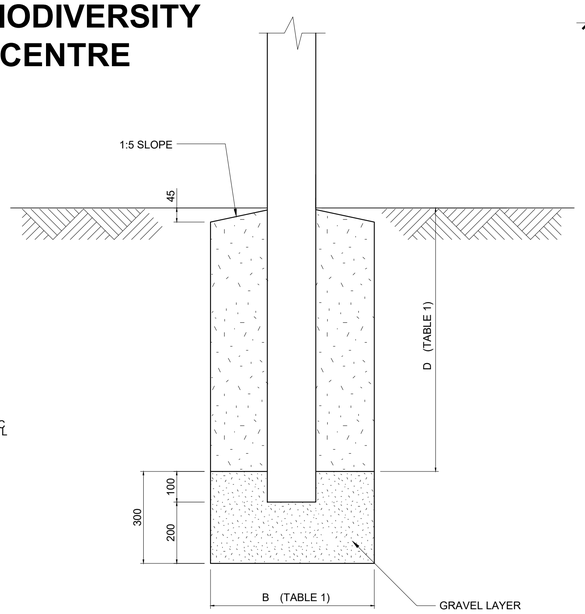
N.T.S.

FIXING DETAIL



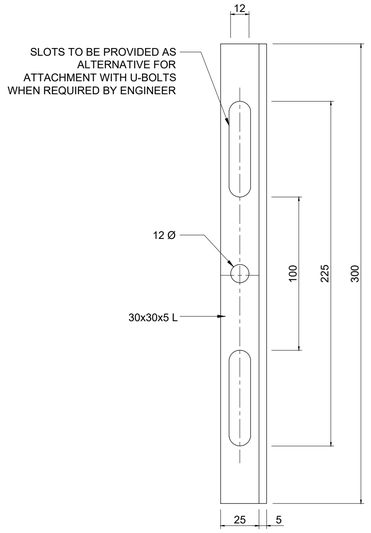
PLAN: SECTION D-D

N.T.S.



FOUNDATION DETAIL

SCALE 1:10



ELEVATION
ERECTION BRACKET

SCALE 1:2

NOTES

1. THE BOARD MUST BE MADE OF 12mm HARDBOARD THAT HAS BEEN BRACED AT THE BACK TO PREVENT WARPING.
2. THE HEIGHT MAY BE VARIED TO MAKE PROVISION FOR THE NAME OF MORE THAN ONE CONSULTING ENGINEER AND/OR CONTRACTOR
3. THE WORDING THAT IS SHOWN ON THE NAMEBOARD IS ONLY AN EXAMPLE. FOR THE ACTUAL WORDING NECESSARY REFER, TO THE PROJECT SPECIFICATIONS.
4. PAINTING SHALL BE CARRIED OUT IN ACCORDANCE WITH SABS CKS 193 AND AS FOLLOWS:
   BACKGROUND: MIDDLE BLUE (F07) ACCORDING TO SABS 1092 = D37 OF CK 279
   TITLE A: 100mm LETTERS - BLACK ON WHITE
   TITLE B, C & D: 75mm AND 50mm LETTERS - WHITE ON BLUE
5. THE NAMEBOARD SHALL BE ERECTED AS AND WHERE DETERMINED BY THE ENGINEER.

NOTE:

1. ALL EMBLEMS TO BE DISPLAYED IN FULL COLOUR ON A SEMI-MATT WHITE BACKGROUND.
2. DESCRIPTION: MATT-BLACK, SERIES DIN B LETTERS AND NUMBERS ON A SEMI-MAT SMOKE-GREY BACKGROUND.
3. BORDER : GREEN NON-REFLECTORISED.
4. TWO SIGN BOARDS, ONE IN ENGLISH AND ONE IN AFRIKANS, SHALL BE ERECTED AS DETERMINED BY THE ENGINEER.
5. DESCRIPTION OF WORK (NUMBER OF KILOMETERS AND TYPE OF WORK, eg "13,5 km RE= DESCRIPTION STARTS CENTERED ON THE LEFT-HAND SIDE AND IN THE FIRST 105mm.
6. (a) SAFCEC EMBLEM ONLY, IF CONTRACTOR IS A MEMBER. ALL OTHER CASES, INCLUDING DEPARTMENTAL CONSTRUCTION, REMAIN BLANK.
   (b) IF DEPARTMENTAL CONSTRUCTION, THE CONTRACTOR AND TELEPHONE ARE REPLACED WITH "GAUTRANS CONSTRUCTION UNIT : TEL :"
7. IF PROJECT IS NOT FINANCED BY GAUTRANS, SIGN BOARD IS ENLARGED TO ACCOMMODATE DETAILS OF FINANCING COMPANY AND HIS EMBLEM MAY APPEAR IN THE BLOCK ON THE LEFT.
8. NEW SAACE LOGO TO BE OBTAINED FROM SAACE, JOHANNESBURG.

FOR TENDER

TECHI Engineers
PLOT 8
DANN ROAD
KEMPTON PARK AH,1619
Cell: +27 83 480 1305
Tell: +27 11 452-5114 :
E-mail: technical@techi.co.za

Drawing No. 2516-SB-01

Pr. Eng. Approved: ECSA PR 20150167 Date: 2025.07.01

REVISIONS				REFERENCE DRAWINGS		CLIENT APPROVAL			
REV No.	DESCRIPTION	DATE	APPROVED	DRG No.	DESCRIPTION	NAME	DESIGNATION	SIGN	DATE
A	ISSUED FOR TENDER	2025.07.01							

Client:

Signature:

Date:

PROJECT DESCRIPTION: ADDITION AND ALTERATIONS TO MOKOPANE BIODIVERSITY CONSERVATION CENTRE

TITLE: SIGN BOARD ELEVATIONS AND DETAILS

A1

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:	SCALE:	SECTION:	DRG.No:	REV:
G.V.M	2025.07.01	M.L.M	2025.07.01	M.L.M	2025.07.01	AS SHOWN	SIGN BOARD	2418-SB-01	A