

# MAKHADO LOCAL MUNICIPALITY

## **REHABILITATION OF PRETORIUS STREET, LOUIS TRICHARDT**

**TENDER NO. 57/2022** 

CLOSING DATE: 23 SEPTEMBER 2022

TIME: 12:00

CLIENT:	CONSULTING ENGINEERS:				
	SA Quest Consulting Engineers				
MAKHADO LOCAL MUNICIPALITY Civic Centre 83 Krogh Street MAKHADO 0920	SA QUEST CONSULTING ENGINEERS Riverside Office Park, Letaba House Cnr Lenchen South & Heuwel Ave CENTURION 0046				
Contact Name: <b>Ms. P. Mudau</b> Tel: (015) 519 3000 Fax: 015 516 1195 Email: <b>phophim@makhado.gov.za</b>	Contact Name: Shelton Pfupajena T: +27 12 000 0630 Fax: 086 273 3780 Email: <u>admin@saquest.co.za</u>				
Tenderer:					
CSD No. :					
CIDB Registration Number :					
Total price inclusive of Value added Tax: R					
Amount in Words:					





Part T1: Tendering Procedures

T.1 of T.64

## MAKHADO LOCAL MUNICIPALITY

## REHABILITATION OF PRETORIUS STREET, LOUIS TRICHARDT

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## MAKHADO LOCAL MUNICIPALITY Rehabilitation Of Pretorius Street, Louis Trichardt

## TENDER NO.: 57/2022

1 MA	0010000	KHADO LOCA (015) 519 3000 Fax: (015) 516 1195 • 83 Krogh S			
A	26	TENDER N	IOTICE		Ad designed by Zoutnet Publishers
a last	obtainable from (	ee providers are hereby invited to bid for the below mentioned projects 11 September 2022 at non-refundable amount of R600.00 per docu be downloaded from e-tender portal for free https://etenders.treasury.	ment at the Procurement Office No. B043 Gr	ound Floor, 83 Krogh Stre	
BID NO:	DESCRIPTION	COMPULSORY BRIEFING SESSION	SPECIAL REQUIREMENT	REFERENCE AND NOTICE NO.	CLOSING DATE AND TIME
56 / 2022	Construction of Tshedza to Vuvha access road phase 4	05 September 2022 at 11:00 at T-Junction of Tshedza to Vuvha Road along Witvlaagte to Tshikombani (coordinates: 22o58,163'S and 30o 10, 418'E)	CIDB Grading 5CE or higher	8/3/2/1901 Nbtice no: 109/2022	23 Septem- ber 2022 at 12H00pm
57 / 2022	Rehabilitation of Pretorius Street , Louis Trichardt	06 September 2022 at 11:00 at CNR Grobler street and Pretorius Street	CIDB Grading 5CE or higher	8/3/2/1902 Notice no: 110/2022	23 Septem- ber 2022 at 12H00pm
58 of 2022	Upgrading roads to Vleifontein clinic	07 September 2022 at 14:30 At Vleinfontein Clinic, Wateral region	CIDB Grading 6CE or higher     Attach three year audited financial statement ( only for those who are required by law)	8/3/2/1903 Notice no: 111/2022	30 Septem- ber 2022 at 12H00pm
main entrand The Municipa	Completed bid documents signed by a duly authorized person, sealed in an envelope clearly marked "As mentioned above" must reach the undersigned by depositing it into the tender box at the foyer of the main entrance to the Civic Centre by not later than "As mentioned above" when all tenders received will be opened in public in the Council Chamber, Ground Floor, Civic Centre, No.83 Krogh Street, Makhado. The Municipality is not bound to accept the lowest or any bid and reserves the right to accept any part of a bid. Bids must remain valid for a period of ninety (90) days after closing date of submission thereof. Submitted tenders will be evaluated on 80/20 preferential points with functionality				
Bids which a tender specif	re late, incomplete, unsigned or subr fications, will not be evaluated and wi	nitted in pencil or by telegraph or facsimile or electronically by e-mail Il be disqualified:	, or not having the following documents attac	ched for evaluation or no	t complying with the
<ul> <li>A copy of</li> <li>Certified of</li> <li>Attach proboth entity</li> </ul>	<ul> <li>Valid Tax compliance status pin issued by SARS</li> <li>A copy of company registration documents CK</li> <li>Certified copy/copies of company owner(s) ID book(s), not older than three (03) months.</li> <li>Attach proof of payment for municipal rates not owing for more than (03) months or formal lease agreement for rental premises or letter from the traditional authority in cases of non-ratable areas. (Attach for both entity and directors of the company)</li> <li>Copy of central supplier database report.</li> </ul>				
<ul> <li>All Service</li> </ul>	Service provider must submit their certified BBBEE verification certificate from verification agency accredited by South African National Accreditation system (SANAS) or sworn affidavit.				
All technical enquiries can be directed to Acting Director Technical Services Mr MG Raleshuku at (015) 519 3000, during office hours while procurement enquiries should be directed to Ms P Mudau or Mr M Ramabulana at (015) 519 3044/3024.					
Civic Centre 83 Krogh Str Louis Trichar	reet				MR KM NEMANAME Nicipal Manager

## T1.2. TENDER DATA

## 1. GENERAL

The Conditions of Tender in the Standard Conditions of Tender as contained in Annex F of SANS 294 – *Construction Procurement Processes, Methods and Procedures* which contain references to the Tender Data for details that apply specifically to this tender.

The Tender Data shall be read with the Standard Conditions of Tender in order to expand on the Tenderer's obligations and the Employer's undertakings in administering the tender process in respect of the project under consideration.

The Tender Data hereafter shall have precedence in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender.

Each item of Tender Data given below is cross-referenced to the relevant clause in the standard Conditions of Tender.

## 2. TENDER DATA APPLICABLE TO THIS TENDER

F.1.1 The Employer for this Contract is: MAKHADO LOCAL MUNICIPALITY

## F.1.2 Tender Documents

(a) **The Tender Document** consists of the following:

## <u>TENDER</u>

#### **T1: Tendering Procedures**

- T1.1: Tender Notice and Invitation to Tender
- T1.2: Tender Data

## **T2: Returnable Documents**

- T2.1: List of Returnable Documents
- T2.2: Returnable schedules and forms

## **CONTRACT**

#### Part 1: Agreements and Contract Data

- C1.1: Form of Offer and Acceptance
  - C1.2: Contract Data

## Part 2: Pricing Data

- C2.1: Pricing Instructions
- C2.2: Bill of Quantities

## Part 3: Scope of Work

C3: Scope of Work

## Part 4: Site Information

C4: Site information

## (b) Drawings,

The Tender Document and the drawings shall be obtained from the Employer or his authorized representative at the physical addresses stated in the Tender Notice, upon payment of the deposit stated in the Tender Notice.

## F.1.4 The Employer's agent is:

	<ul> <li>SA Quest Consulting Engineers</li> <li>Riverside Office Park, Letaba House Cnr Lenchen South &amp; Heuwel Ave CENTURION 0046</li> </ul>
Telephone	012 000 0630
E-mail address:	admin@saquest.co.za

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

The Employer is not obliged to accept the lowest or any tender offer.

## F.2.1 Eligibility

A Tenderer will not be eligible to submit a tender if:

- (a) the Contractor submitting the tender is under restrictions or has principals who are under restrictions to participate in the Employer's procurement due to corrupt or fraudulent practices.
- (b) the Tenderer does not have the legal capacity to enter into the contract.
- (c) the Contractor submitting the tender is insolvent, in receivership, bankrupt or being wound up,

has his affairs administered by a court or a judicial officer, has suspended his business activities, or is subject to legal proceedings in respect of the foregoing.

- (d) The Tenderer does not comply with the legal requirements stated in the Employer's procurement policy.
- (e) The Tenderer cannot demonstrate that he possesses the necessary professional and technical

qualifications and competent, financial resources, equipment and other physical facilities, managerial capability, personnel, experience and reputation to perform the contract.

(f) The Tenderer cannot provide proof that he is in good standing with respect to duties, taxes,

levies and contributions required in terms of legislation applicable to the work in the contract.

Only those Tenderers who are registered with the Construction Industry Development Board (CIDB) in a contractor-grading equal to or higher than a contractor grading designation **5CE or Higher** as defined in the Regulations (09 June 2004 and 22 July 2005), in terms of the CIDB Act No 38 of 2000, are eligible to submit tenders for this contract.

## F.2.7 Site visit and clarification meeting

The arrangements for the compulsory site inspection visit and clarification meeting are as follows:

Compulsory Briefing Session / Clarification Meeting Location: Main office of MAKHADO LOCAL **MUNICIPALITY,** in MAKHADO LOCAL.

Date: 06 September 2022 Starting time : 11:00

Site Inspection Meeting: Makhado Local Municipality (CNR Grobler street and

Pretorius street)

Enguiries and confirmation of attendance at least one full working day in advance regarding the meeting and site inspection may be directed to:

## MAKHADO LOCAL MUNICIPALITY

## SA QUEST CONSULTING ENGINEERS

Name: Telephone No: e-mail address:	<b>Ms. P. Mudau</b> (015) 519 3000 <u>phophim@makhado.gov.z</u> <u>a</u>	Name: Shelton Pfupajena Preen. Telephone No: 012 000 0630 e-mail address: <u>admin@saquest.co.za</u>
	<u>4</u>	<u>aanin(@baqabbi.bbi.za</u>

## F.2.10 pricing the tender offer

Value Added Tax (a)

The Valued Added Tax (VAT) rate shall be 15% or as otherwise provided for by legislation.

- (b) The successful Tenderer shall be required to produce a VAT invoice that shall only be prepared once measurements and valuations for work done in terms of the contract offer have been agreed with the Employers agent and a certificate of payment issued.
- Payment of VAT to non-VAT vendors shall be processed from the month in which the Tenderers liability (c) with the South African Revenue Services is effective.
- F.2.11 A Tender offer shall not be considered if alterations have been made to the forms of tender data or contract data (unless such alterations have been duly authenticated by the Tenderer) or if any particulars required therein have not been completed in all respects.
- F.2.12 Alternative tenders
- Alternative Tender Offers F.2.12.1

If a tenderer wishes to submit an alternative tender offer, the only criteria permitted for such an alternative tender offer are:

(a) Individual items

Individual items offered as alternatives to items in the Bill of Quantities will only be considered if listed and priced in Form I: Amendments, Qualifications and Alternatives in Part 2 of the Contract Document, accompanied by a detailed statement as necessary.

(b) Alternative designs

Where a Tenderer desires to submit alternative tender involving modifications to the design or method of construction that would alter the character of the tender, the following procedure must be observed:

(i) The alternative offer must be accompanied by supporting information, drawings, calculations and a priced alternative Bill of Quantities to enable its technical acceptability, construction time and price to be fully assessed. Such information, drawings and Bill of Quantities must be sufficient for proper evaluation of the Tender T1.2

tendered alternative, otherwise the offer will not be considered.

(ii) Any alternative tender involving modifications to design will be assessed on its merits and may be accepted. An accepted alternative design will become the design for the purpose of the contract.

(iii) If an alternative design with its priced Bill of Quantities has been accepted, the sum thus tendered for the alternative will not be subject to re-measurement and will be the final amount payable to the Contractor, except only for variations arising from:

- Changes in design parameters ordered by the Engineer.
- Changes not arising from any failure or fault of the Contractor, but from modifications requested by the Engineer.

(iv) A decision whether or not to adopt a technically acceptable modified design will be governed by the amount of the overall saving and the advantages to the Employer which the modified design can be reliably expected to achieve. Matters to be considered in arriving at the overall saving will include the effect of any deferment in starting date arising from extra time needed for the preparation of an amended contract for signature.

(v) The Tenderer will be liable for all costs necessary for the Engineer to check the alternative design offered

## F2.13 Submitting a Tender Offer

**F.2.13.3** Tender offers shall be submitted as an original only.

Under no circumstances whatsoever may the tender forms be retyped or redrafted.

Photocopies of the original tender documentation may be used, but an original signature must appear on such photocopies.

## F.2.15 Closing Time

The closing time for submission of Tender Offers is: **12:00** on **23 September 2022.** Telephonic, telegraphic, telex, electronic or e-mailed tenders will not be accepted.

## F.2.16 Tender validity

The Tender Offer validity period is **90 days** from the closing time for submission of tenders.

## F.2.19 Access

Access shall be provided for inspections and testing by personnel acting on behalf of the Employer.

## F.2.23 Certificates

The following certificates must be provided with the tender:

#### • See F.3.11

## F.3.4 Opening of Tender Submissions

The time and location for opening of the tender offers are:

Time: **12:01.** Date: **23 September 2022** 

Location / Venue: MAKHADO LOCAL MUNICIPALITY OFFICES.

F.3.5 The two-envelope system will <u>not</u> apply to this tender.

## F.3.11 Evaluation of Tender Offers

**F.3.11.1** The Tenders will be evaluated using a two-stage system as per Preferential Procurement Regulations 2011 pertaining to the Preferential Procurement Policy Framework Act, Act No 5 of 2000 as follows.

Option 1:

The employer shall:

- a) Determine and test each tender offer for responsiveness in accordance with the conditions of tender and tender data
- b) Check the responsive tenders for arithmetical errors, omissions and discrepancies in accordance with the conditions of tender and tender data.
- c) Obtain clarification from the Tenderer in accordance with the conditions of tender and tender data
- d) Evaluate responsive tenders in accordance with the conditions of tender and tender data.

Responsive tenders will be evaluated according to the MFMA, Circular No.53 of the Municipal Act No.56 of 2003.

## <u>First stage – Compliance to administrative requirements</u> Bidders will be evaluated on the following administrative compliance

- Attendance of Site Inspection
- Power of attorney / authority for signatory of JV
- Valid Tax Clearance attached (If JV, for Both) and SARS PIN
- CIDB Grading of 5CE or Higher or Higher certificates relevant for the bid (if JV, for Both)
- Form of offer Completed in figures and words
- Document filled in with a black pen
- All pages signed or initiated
- Schedule of construction plant included (Proof of ownership to be attached or other Arrangement)
- Program of Works
- Schedule of Company Experience: Active and completed projects should be supported by Appointment letters and completion certificates (attachment)
- Certified copy of B-BBEE Certificate (If JV, certified copy of consolidated B-BBEE Certificates)
- Certified copies of Cipro Documents (If JV, for both)
- Certified ID Copies of all directors/members/shareholders of company/business/ (If JV, for Both)
- Proof of maintaining a business bank accounts or original cancelled cheque or originally Stamped bank confirmation (If JV, a joint venture business account should be provided)
- Signed and initialized JV Agreement
- Proof of bank rating for determining Bidders Financial capability to successfully deliver the Project (original letter from the bank and should be less than three (3) months old)
- Letter of intent for Providing Guarantee must be from a Reputable Bank
- Original Letter of Good Standing with Compensation Commission (Compensation for Injuries and Disease Act)
- Occupational Health and Safety Plan
- Organogram, curriculum vitae and certified qualification of key personnel
- Tax invoice or statement as proof of updated municipal rates and taxes for the Company/business as well as directors/members/shareholders (SAPS affidavit for nonrated municipal areas & or copy of lease agreement with signed letter or confirmation From landlord to certify such arrangement
- Proof of purchased bid receipt
- No Price amendment without signature in the bills of quantity
- Certificate of non-collusion
- Completion of MBD documents (MBD04,08 AND 09)
- Non-Alteration to the bid document or submission of a copy of the original bid document will <u>Amount</u> to disqualification

## Second stage – Evaluation of functionality:

Responsive tenders will then be evaluated on functionality. The minimum score for functionality is 65%, and a bidder who scores below this minimum shall not be considered for further evaluation in terms of the preference point system.

FUNCTIONALITY COMPETENCE ACHIEVEMENT SCHEDULES FUNCTIONALITY SCHEDULE

	TARGETED GOALS Name reference with contact details (Previous 3 yrs, Projects involving pump mains)	Max Points to be Scored	Points Claimed by Tenderer	Allocated Points
1	Project 1	8		
2	Project 2	8		
3	Project 3	8		
4	Project 4	8		
5	Project 5	8		
	Sub-Total: Reputation and References	40		

NOTE: The tender should attach <u>Appointment Letter and Completion Certificate</u> as a proof for having completed such project. Points for each project will be allocated as follows:

5CE: 8 points 4CE: 7 points 3CE: 6 points

2CE: 5 points

## FINANCIAL REFERENCES

	TARGETED GOALS	Tendered Goal	Points Claimed by Tenderer	Allocated Points
1	Tenderer submitted banking details proof attached	2		
2	Bank rating of "C" or better	5		
3	Registered financial Institution's full details as guarantor in the amount of 10% as specified for surety purpose shall be submitted	3		
	Sub-Total: Financial References	10		

## EXPERIENCE AND QUALIFICATION OF KEY STAFF

	TARGETED GOALS	Points Allocation	Points Claimed by Tenderer	Allocated Points
1	Contract Manager: 10 years in Road Projects	>10 yrs=5		
		6-9 yrs=3		
		3-5 yrs=2		
		1-2yrs=1		
2	Site Agent: 8 years in Road Projects	>8 yrs=5		
		5-7 yrs=3		
		3-4 yrs=2		
		1-2yrs=1		
3	Foreman 5 years in Road Projects	>5 yrs=3		
		4 yrs=1.5		
		3 yrs=1		
		1-2yrs=0.5		
4	Health and Safety Officer 5 years of experience as	>5 yrs=2		
	OHS in Civil Engineering Construction	4 yrs=1		
		3 yrs=0.5		
		1-2yrs=0.25		
		-		
	Sub-Total: Experience	15		

## <u>NOTE: Project organogram should be attached. Curriculum vitae with detailed experience and contact details</u> <u>should be attached to the tender document for verification by the consultants.</u>

## **Qualifications**

	TARGETED GOALS	Tendered Goal	Points Claimed by Tenderer	Allocated Points
1	Contract Manager: Civil Engineering or	BSc = 5		
	construction management or project	B-Tech /PrCPM = 5		
	management	ND = 3		
		N6 = 2		
		Any Cert= 1		
2	Site Agent: Civil Engineering or Construction	BSc/B-Tech = 5		
	management	ND = 4		
	(Must have at least NQF 5)	NQF 5/7 = 3		
		N6 = 2		
		Any Cert= 1		
3	Foreman	ND = 3		
		NQF 7 =2		
		N6 = 2		
		N3= 1.5		
		NQF5= 1.5		
		NQF 4= 1		
		NQF 3= 0.5		
4	Health and Safety Office 5 years of experience	ND = 2		
	as OHS in Road projects	Cert = 0.5		
	Sub-Total: Qualifications	15		

## CV's and Certified Qualifications should be attached.

## PLANT AND EQUIPMENT

	TARGETED GOALS	Tendered Goal	Points Claimed by Tenderer	Allocated Points
1.	Grader (1 no)	4		
2.	TLB (1 no)	3		
3.	Excavators (1 no)	4		
4.	Water Cart (10 000 litre)	2		
6.	10 m <sup>3</sup> Tipper Trucks (2 no)	4		
7.	12 Ton Roller (1 no)	3		
	Sub-Total: Plant and Equipment	20		

Note: Tenderers should attach certified proof of ownership certificate for the plant mentioned above if they own such plant. In case of hired plant, tenderers will be required to attach a letter of undertaking by the hiring firm indicating that they will provide the tenderer with such plant should the tenderer becomes a successful bidder. The hiring company should also provide proof of ownership for such plants.

## SUMMARY

DESCRIPTION	Maximum Points to be Allocated	Points Claimed by Tenderer	Allocated Points
REPUTATION AND REFERENCE OF THE FIRM:			
TABLE A1	40		
FINANCIAL REFERENCES: TABLE A2	10		
EXPERIENCE OF KEY STAFF: TABLE 3.1	15		
QUALIFICATION OF KEY STAFF: TABLE A3.2	15		
PLANT AND EQUIPMENT: TABLE A4	20		
TOTAL	100		

The minimum score required for functionality is **70%**, and a bidder who scores below this minimum shall be disqualified and shall not be considered for further evaluation in terms of the 80/20 preference point system

The procedure for evaluation of responsive Tender Offers will be Method 2: Financial Offer and Preferences.

**F.3.11.2** The <u>financial offer</u> will be scored in terms of Formula 2, Option 2 of Table F.1 of SANS 294: 2004, which reads as follows: 80 maximum points

Where:

Nfo = number of tender evaluation points awarded for the financial offer;
 W1 = 80/20 preference point system from R30 000 and up to R50 million
 Pm = the rand value of the lowest comparative offer;
 P = the rand value of the Tender Offer under consideration.
 Points will be rounded off to the nearest 2 decimal places.

F.3.11.3 (b) The preferences points (B-BBEE), maximum 20 points will be allocated as follows:

Tenderers are required to submit original and valid B-BBEE status level Verification Certificates or certified copies thereof together with their bids, to substantiate their B-BBEE rating claims.

Tenderers who do not submit B-BBEE status level Verification certificate or are non-compliant contributors to B-BBEE do not qualify for preference points for B-BBEE but will not be disqualified from the bidding process. They will score points out of 80 for price only and zero (0) points out of 20 for B-BBEE.

A trust, consortium or joint venture must submit a consolidated B-BBEE status level verification certificate for every separate bid.

B-BBEE Status Level Of Contributor	Number of Points (80/20 System)
1	20
2	18
3	16
4	12
5	8
6	6
7	4
8	2
Non-Compliant Contributor	0

## F.3.13 Acceptance of Tender Offer

F.3.13.1 Tender Offers will only be accepted on condition that:

- (a) the tender offer is signed by a person authorised to sign on behalf of the Tenderer and authority of Signatory is attached;
- (b) a valid Tax Clearance Certificate is included with his tender;
- (c) The Tenderer has signed and initialized all pages of tender document
- (d) Tenderer's declaration of compliance with the Occupational Health and Safety Act No. 85 of 1993 and the Construction Regulations 2003 as well as the Tenderer's health and safety plan, is included with his tender submission;
- (e) a Tenderer who submitted a tender as a Joint Venture has included an acceptable Joint Venture Agreement with his tender;
- (f) Tender document has not been unbundled or tempered with,
- (g) the Tenderer or a competent authorised representative of the Contractor who submitted the tender has attended the compulsory clarification meeting or site inspection;
- (h) The Contractor who submits the tender has been registered with the Construction Industry Development Board in accordance with the Construction Industry Development Board Act No. 38 of 2000 and the CIDB Regulations 2003 promulgated in terms of the Act.
- The Tenderer or any of its principals is <u>not</u> 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;
- (j) The Tenderer has <u>not</u> abused the Employer's Supply Chain Management System or has failed to perform on any previous contract and has been given a written notice to this effect;
- (k) The Tenderer or any of its principals, directors or managers is <u>not</u> employed in the service of the State or any municipality. In the event that such principals are involved, official approval from the Executing Authority regarding carrying out remunerative work outside of the public service must be included in the tender submission.
- (I) The Employer is satisfied that the Tenderer or any of his principals have <u>not influenced</u> the tender offer and acceptance by the following criteria:
  - a. having offered, promised or given a bribe or other gift or remuneration to any person in connection with the obtaining or execution of this Contract;
  - b. having acted in a fraudulent or corrupt manner in obtaining or executing this Contract;
  - c. having approached an officer or employee of the Employer or the Employer's Agent with the objective of influencing the award of a Contract in the Tenderer's favour;
  - d. having entered into any agreement or arrangement, whether legally binding or not, with any other person, firm or company to refrain from Tendering for this Contract or as to the amount of the Tender to be submitted by either party;
  - e. having disclosed to any other person, firm or company other than the Employer, the exact or approximate amount of his proposed Tender;
  - f. The Employer may, in addition to using any other legal remedies, repudiate the Tenderoffer and acceptance and declare the Contract invalid should it have been concluded already.

## F.3.18 Copies of Contract

The number of paper copies of the signed contract to be provided by the Employer is ONE.

## Annex F: Standard Conditions of Tender

### (As contained in Annexure F of the CIDB Standard for Uniformity in Construction Procurement)

## F.1 General

#### F.1.1 Actions

The employer and each tenderer submitting a tender offer shall comply with these conditions of tender. In their dealings with each other, they shall discharge their duties and obligations as set out in F.2 and F.3, timeously and with integrity, and behave equitably, honestly and transparently.

#### F.1.2 Tender Documents

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

#### F.1.3 Interpretation

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

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

**F.1.3.3** For the purposes of these conditions for the calling for expressions of interest, the following definitions apply:

- a) **comparative offer** means the tenderer's financial offer after the factors of non-firm prices, all unconditional discounts and any other tendered parameters that will affect the value of the financial offer have been taken into consideration
- b) **corrupt practice** means the offering, giving, receiving or soliciting of anything of value to influence the action of the employer or his staff or agents in the tender process; and
- c) **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
- d) **quality (functionality)** means the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs

#### F.1.4 Communication and employer's 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 read, copied and recorded. Writing shall be in the English language. The employer shall not take any responsibility for non-receipt of communications from or by a tenderer. The name and contact details of the employer's agent are stated in the tender data.

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

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

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

## F.2 Tenderer's obligations

#### F.2.1 Eligibility

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

#### F.2.2 Cost of tendering

Accept that 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 satisfy requirements.

#### F.2.3 Check documents

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

#### F.2.4 Confidentiality and copyright of documents

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

#### F.2.5 Reference documents

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

#### F.2.6 Acknowledge addenda

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

#### F.2.7 Clarification meeting

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

#### F.2.8 Seek clarification

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

#### F.2.9 Insurance

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

#### F.2.10 Pricing the tender offer

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

F2.10.2 Show VAT payable by the employer separately as an addition to the tendered total of the prices.

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

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

#### F.2.11 Alterations to documents

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

#### F.2.12 Alternative tender offers

**F.2.12.1** Submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted. The alternative tender offer is to be submitted with the main tender offer together with a schedule that compares the requirements of the tender documents with the

alternative requirements the tenderer proposes.

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

#### F.2.13 Submitting a tender offer

**F.2.13.1** Submit a tender offer to provide the whole of the works, services or supply identified in the contract data and described in the scope of works, unless stated otherwise in the tender data.

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

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

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

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

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

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

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

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

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

#### F.2.15 Closing time

**F.2.15.1** Ensure that the employer receives the tender offer at the address specified in the tender data not later than the closing time stated in the tender data. Proof of posting shall not be accepted as proof of delivery. The employer shall not accept tender offers submitted by telegraph, telex, facsimile or e-mail, unless stated otherwise in the tender data.

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

#### F.2.16 Tender offer validity

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

**F.2.16.2** If requested by the employer, consider extending the validity period stated in the tender data for an agreed additional period.

#### F.2.17 Clarification of tender offer after submission

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

Note: Sub-clause F.2.17 does not preclude the negotiation of the final terms of the contract with a preferred tenderer

following a competitive selection process, should the Employer elect to do so.

#### F.2.18 Provide other material

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

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

#### F.2.19 Inspections, tests and analysis

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

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

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

#### F.2.21 Check final draft

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

#### F.2.22 Return of other tender documents

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

#### F.2.23 Certificates

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

## F.3 The employer's undertakings

#### F.3.1 Respond to clarification

Respond to a request for clarification received up to five working days prior to the tender closing time stated in the Tender Data and notify all tenderers who drew procurement documents.

#### F.3.2 Issue Addenda

If necessary, issue addenda that may amend or amplify the tender documents to each tenderer during the period from the date of the Tender Notice until seven 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, will then notify it to all tenderers who drew documents.

#### F.3.3 Return late tender offers

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

#### F.3.4 Opening of tender submissions

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

**F.3.4.2** Announce at the opening 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, the total of his prices, preferences claimed and time for completion, if any, for the main tender offer only.

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

#### F.3.5 Two-envelope system

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

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

#### F.3.6 Non-disclosure

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

#### F.3.7 Grounds for rejection and disqualification

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

#### F.3.8 Test for responsiveness

Determine, on opening and before detailed evaluation, whether each tender offer properly received:

- a) meets 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.

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:

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

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

#### F.3.9 Arithmetical errors

Check responsive tender offers for arithmetical errors, correcting them in the following manner:

- Where there is a discrepancy between the amounts in figures and in words, the amount in words shall govern.
- If a bill of quantities (or schedule of rates) 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 will be corrected.
- 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 a bills of quantities applies) to achieve the tendered total of the prices.

Consider the rejection of a tender offer if the tenderer does not correct or accept the correction of his arithmetical errors in the manner described above.

#### F.3.10 Clarification of a tender offer

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

tender offer.

#### F.3.11 Evaluation of tender offers

#### F3.11.1 General

Appoint an evaluation panel of not less than three persons. Reduce each responsive tender offer to a comparative offer and evaluate it using the tender evaluation method that is indicated in the Tender Data and described below:

Method 1:	1) Rank tender offers from the most favourable to the least favourable comparative offer.
Financial offer	<ol> <li>Recommend highest ranked tenderer for the award of the contract, unless there are compelling and justifiable reasons not to do so.</li> </ol>
Method 2:	1) Score tender evaluation points for financial offer.
Financial offer and preferences	2) Confirm that tenderers are eligible for the preferences claimed and if so, score tender evaluation points for preferencing.
preferences	3) Calculate total tender evaluation points.
	4) Rank tender offers from the highest number of tender evaluation points to the lowest.
	5) Recommend tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
Method 3: Financial offer	1) Score quality, rejecting all tender offers that fail to score the minimum number of points for quality stated in the Tender data.
and quality	2) Score tender evaluation points for financial offer.
	3) Calculate total tender evaluation points.
	4) Rank tender offers from the highest number of tender evaluation points to the lowest.
	5) Recommend tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
Method 4: Financial offer,	1) Score quality, rejecting all tender offers that fail to score the minimum number of points for quality stated in the Tender data.
quality and preferences	2) Score tender evaluation points for financial offer.
	3) Confirm that tenderers are eligible for the preferences claimed, and if so, score tender evaluation points for preferencing.
	4) Calculate total tender evaluation points.
	5) Rank tender offers from the highest number of tender evaluation points to the lowest.
	6) Recommend tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.

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

## F.3.11.2 Scoring Financial Offers

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

 $N_{\text{FO}}$ =  $W_1 x A$ , where:

= the number of tender evaluation points awarded for the financial offer.  $N_{\text{FO}}$ 

W1 = the maximum possible number of tender evaluation points awarded for the financial offer as stated in the Tender Data. А

= a number calculated using either formulas 1 or 2 below as stated in the Tender Data.

Formula	Basis for comparison	Option 1	Option 2
1	Highest price or discount	$(1 + \frac{(P - P_m)}{P_m})$	P/P <sub>m</sub>
2	Lowest price or percentage commission/fee	$(1 - \frac{(P - P_m)}{P_m})$	P <sub>m</sub> /P

where: Pm

Ρ

=	the comparative offer of the most favourable tender offer.
---	--

the comparative offer of tender offer under consideration. =

#### F.3.11.3 Scoring quality (functionality)

Score quality in each of the categories stated in the Tender Data and calculate total score for quality.

#### F.3.12 Insurance provided by the employer

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

#### F.3.13 Acceptance of tender offer

**F.3.13.1** Accept tender offer only if the tenderer satisfies the legal requirements stated in the Tender Data.

**F.3.13.2** Notify the successful tenderer of the employer's acceptance of his tender offer by completing and returning one copy of the form of offer and acceptance before the expiry of the validity period stated in the tender data or agreed additional period. Providing the form of offer and acceptance does not contain any qualifying statements, it will constitute the formation of a contract between the employer and the successful tenderer as described in the form of offer and acceptance.

#### F.3.14 Notice to unsuccessful tenderers

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

#### F.3.15. Prepare contract documents

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,
- c) other revisions agreed between the employer and the successful tenderer, and
- d) the schedule of deviations attached to the form of offer and acceptance, if any.

#### F.3.16 Issue final contract

Prepare and issue the final draft of contract documents to the successful tenderer for acceptance as soon as possible after the date of the employer's signing of the form of offer and acceptance (including the schedule of deviations, if any). Only those documents that the conditions of tender require the tenderer to submit, after acceptance by the employer, shall be included.

#### F.3.17 Complete adjudicator's contract

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

#### F.3.18 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.

## MAKHADO LOCAL MUNICIPALITY

## Rehabilitation of Pretorius Street, Louis Trichardt

## T2.1 List of Returnable Documents ...

The tenderer must complete the following returnable documents:

## 1 Returnable Schedules required only for tender evaluation purposes

- A: Certificate of Attendance at a Tender Site Meeting
- B: Record of Addenda to Tender Documents
- C: Certificate of Authority for Joint Ventures / Close Corporation/ Partnership/ Company/ Sole Proprietor (Certified copies of Identity Documents in the case of Sole Proprietor)
- D: Registration Certificates of entities Joint Ventures / Close Corporation/ Partnership/ Company/ Sole Proprietor
- E: Compulsory Enterprise Questionnaire
- F: Schedule of the Tenderer's Experience
- G: Schedule of Key Personnel
- H: Format of Curriculum Vitae
- I: Proposed Amendments, Qualifications and Alternatives
- J: Schedule of Subcontractors
- K: Schedule of Plant and Equipment
- L: Copy of the Workmen's Compensation Registration Certificate (or proof of payment of contributions in terms of the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993)
- M: Bank rating letter

## 2 Other documents required only for tender evaluation purposes

- N: An original valid Tax Clearance Certificate issued by the South African Revenue Services.
- O: Form of intent to provide a performance guarantee
- P: CIDB 5 or Higher or Higher registration certificateQ:
- B-BBBE Status Level Verification Certificate

## 3 Other documents that will be incorporated into the contract

- **R: Execution Programme**
- S: Contractor's Health and Safety Declaration
- T: Contractor's Safety Plan
- U: Pro forma Notification form in terms of the Occupational Health and Safety Act 1993, Construction Regulations, 2003
- V: MBD Forms (4, 8 and 9)
- 4 The offer portion of the C1.1 Offer and Acceptance
- 5 C1.2 Contract Data (Part 2)
- 6 C2.2 Bills of quantities

## A. CERTIFICATE OF ATTENDANCE AT A TENDER SITE MEETING

This is to certify that (Tenderer) .....

of (address).....

I / We acknowledge that the purpose of the meeting was to acquaint myself / ourselves with the site of the works and / or matters incidental to doing the work specified in the tender documents in order for me / us to take account of everything necessary when compiling our rates and prices included in the tender.

#### Particulars of person(s) attending the meeting:

Name:	Signature:
Capacity:	
Name:	Signature:
Capacity:	

# Attendance of the above person(s) at the meeting is confirmed by the Employer's representative, namely:

Name:	Signature:
Capacity:	Date and Time:

## **B. RECORD OF ADDENDUM TO TENDER DOCUMENTS**

I / We confirm that the following communications received from the Employer or his representative before the date of submission of this tender offer, amending the tender documents, have been taken into account in this tender offer.

ADD. No.	DATE	TITLE OR DETAILS
1		
2		
3		
4		
5		

 DATE: .....

## C- CERTIFICATE OF AUTHORITY OF AN ENTITY

Indicate the status of the tenderer by ticking the appropriate box hereunder. The tenderer must complete the certificate set out below for the relevant category.

(I) Company	(II) Close Corporation	(III) Partnership	(IV) Joint Venture	(V) Sole Proprietor

## (I) CERTIFICATE FOR COMPANY

I	, c	chairperso	on of t	he Boa	ard of Direc	tors
of	, hereby confir	m that by	/ reso	olution	of the Boa	rd
(copy attached) taken on 20	,					
Mr/Ms	,	acting	in	the	capacity	of
	, v	vas autho	rised	to sign	all docume	nts
in connection with this tender and any contract r	esulting from it on	behalf of	the c	ompan	ıy.	
Signature of Chairman:						
Signature of Signatory:						
As Witnesses:						
1	Name in Block Lo	etters				
2	Name in Block Le	etters				
Date:						

## (II) CERTIFICATE FOR CLOSE CORPORATION

We, the undersigned, being the key members in	the business trading as
hereby authorise Mr/	Ms,
acting in the capacity of	, to sign all documents
in connection with the tender for Contract No from it on our behalf.	and any contract resulting
Signature of Signatory:	
As Witnesses:	
1	Name in Block Letters
2	Name in Block Letters
Date:	

NAME	ADDRESS	SIGNATURE	DATE

Note: This certificate is to be completed and signed by all of the key members upon whom rests the direction of the affairs of the Close Corporation as a whole.

### (III). CERTIFICATE FOR PARTNERSHIP

We, the undersigned, being the key partners in the business trading as,

hereby authorise		
Mr/Ms		
acting in the capacity of	, to sign all documents in connection	
with the tender for Contract No from it on our behalf.	and any contract resulting	
Signature of Signatory:		
As Witnesses:		

1	Name in Block Letters
2	Name in Block Letters
Date:	

NAME	ADDRESS	SIGNATURE	DATE

*Note:* This certificate is to be completed and signed by all of the key partners upon who rests the direction of the affairs of the Partnership as a whole.

## (IV) CERTIFICATE FOR JOINT VENTURE

We, the undersigned, are submitting this tender offer in Joint Venture and hereby authorize Mr/Ms

....., authorized signatory of the company,

.....

.....acting in the capacity of lead partner, to sign all documents in connection with the

tender offer for Contract No .....and any contract resulting from it on our behalf.

This authorization is evidenced by the attached power of attorney signed by legally authorized signatories of all the partners to the Joint Venture.

Signature of Signatory:	
As Witnesses:	
1	Name in Block Letters
2	Name in Block Letters

Date: .....

NAME OF FIRM	ADDRESS	AUTHORISING SIGNATURE, NAME AND CAPACITY
Lead partner		

*Note:* This certificate is to be completed and signed by all of the key partners upon who rests the direction of the affairs of the Partnership as a whole.

## V) CERTIFICATE FOR SOLE PROPRIETOR

## D. REGISTRATION CERTIFICATE OF AN ENTITY

[Important note to Tenderer: Certified Registration Certificates for Companies, Close Corporations and Partnerships, ID documents for Sole Proprietors, must be inserted here. In the case of a Joint Venture, a copy of a duly signed Joint Venture Agreement must beincluded]

## E. 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: CIDB registration number, if any: .....

#### 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 of 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 1 of 1999)

a member of an accounting authority of any national or provincial public entity

an employee of Parliament or a provincial legislature

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

Name of sole proprietor, partner, director, manager,	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
principal shareholder or stakeholder		current	Within last 12 months
*insert separate page if necessary		1	1

#### 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 of 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 been 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 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

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

- i) authorizes 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 the 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 of 2004;
- iii) confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears, 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;
- iv) confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

Date
Position

## F. SCHEDULE OF THE TENDERER'S EXPERIENCE

The following is a statement of work of similar nature recently successfully executed by myself / ourselves. Tenderer must attach certified copies of appointment letters and completion certificates in order to claim 5 points per project completed, maximum 20 points (4 projects)

Employer: Contact Person and Telephone Number	Consulting Engineer: Contact Person and Telephone Number	Nature of Work	Value of Work (inclusive of VAT)	Date Completed or Expected to be Completed

 DATE: .....

### G. KEY PERSONNEL

In terms of the Project Specification and the Conditions of Tender, unskilled workers may only be brought in from outside the local community if such personnel are not available locally.

The Tenderer shall list below the personnel which he intends to utilize on the Works, including key personnel which may have to be brought in from outside if not available locally.

			of Persons	ıs						
Category of Employee	the Con	nnel, Part of tractor's isation	imported if	onnel to be not available cally	Unskilled Personnel to be recruited from local community					
	HDI	NON-HDI	HDI	NON-HDI	HDI	NON-HDI				
Site Agent, Project Managers										
Foremen, Quality Control and Safety Personnel										
Technicians, Surveyors, etc										
Artisans and other Skilled workers										
Plant Operators										
Unskilled Workers										
Others:										

 DATE: .....

## H. CURRICULUM VITAE FORMAT OF KEY PERSONNEL

CV of key personnel to follow this format.

CV of Construction Manager, Site Manager and Safety Office T.9 of T.59 for full breakdown of requirements	er are required for full points, see
Name:	Date of birth:
Profession:	Nationality:
Qualifications:	
Professional Registration Number:	
Name of Employer (firm):	
Current position:	Years with firm:
Employment Record:	· · · ·
Experience Record Pertinent to Required service: last 4 ma	jor roads construction projects
managed:	

#### Certification:

I, the undersigned, certify that, to the best of my knowledge and belief, this data correctly describes me, my qualifications and my experience.

Signature of person named in the schedule

Date

## I. AMENDMENTS, QUALIFICATIONS AND ALTERNATIVES

(*This is not an invitation for amendments, deviations or alternatives* but should the Tenderer desire to make any departures from the provisions of this contract he shall set out his proposals clearly hereunder. The Employer will not consider any amendment, alternative offers or discounts unless forms (a), (b) and (c) have been completed to the satisfaction of the Employer).

I / We herewith propose the amendments, alternatives and discounts. as set out in the tables below:

### (a) **AMENDMENTS**

PAGE, CLAUSE OR ITEM NO	PROPOSED AMENDMENT

[Notes: (1) Amendments to the General and Special Conditions of Contract are not acceptable;

(2) The Tenderer must give full details of all the financial implications of the amendments and qualifications in a covering letter attached to his tender.]

#### (b) ALTERNATIVES

PROPOSED ALTERNATIVE	DESCRIPTION OF ALTERNATIVE

**[Notes:** (1) Individual alternative items that do not justify an alternative tender, and an alternative offer for time for completion should be listed here.

- (2) In the case of a major alternative to any part of the work, a separate Bill of Quantities, programme, etc, and a detailed statement setting out the salient features of the proposed alternatives must accompany the tender.
- (3) Alternative tenders involving technical modifications to the design of the works and methods of construction shall be treated separately from the main tender offer.]

## (c) DISCOUNTS

ITEM ON WHICH DISCOUNT IS OFFERED	DESCRIPTION OF DISCOUNT OFFERED

**[Note:** The tenderer must give full details of the discounts offered in a covering letter attached to his tender, failing which, the offer will be prejudiced]

DATE: .....

## J. SCHEDULE OF PROPOSED SUB-CONTRACTORS

We notify you that it is our intention to employ the following Subcontractors for work in this contract.

If we are awarded the 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.
5.		
Signed	Date	

Signed

Name

Date

Position

Tenderer

## K. SCHEDULE OF PLANT AND EQUIPMENT

Quantity	escription, size, capacity, etc.	
		_
		+
		+

(b) Details of major equipment that will be hired, or acquired for this contract if my/our tender is acceptable. Submit original letter from Plant hire confirming that plant will be hired out to tenderer

Signed	Date	

Name

Position

Tenderer

## L. COPY OF WORKMENS' COMPENSATION REGISTRATION CERTIFICATE (OR PROOF OF PAYMENT OF CONTRIBUTIONS IN TERMS OF THE COMPENSATION FOR OCCUPATIONAL INJURIES AND DISEASES ACT NO. 130 OF 1993)

[Certified Copy of the Certificate or Proof of Payment thereof obtained from the Workmen's Compensation Commissioner to be inserted here]

## M. BANK RATING

Tenderers should submit an original bank rating letter from their banker that indicates their bank rating.

## TABLE A2: BANKING RATING

	TARGETED GOALPrevious projects involving RoadsConstruction projects	POINT ALLOCATION	MAXIMUM POINT
1	No information provided or information is not relevant to project objectives	0	
2	Rating of E or Lower	0	10
3	Rating of C or D	5	
4	Rating of B	8	
5	Rating of A	10	

N.B: Proof of original bank rating letter must be provided, it must be specific to this bid and not older than 30 days. Failure to provide this shall warrant claiming zero points.

## N. TAX CLEARANCE CERTIFICATE

#### **IMPORTANT NOTES:**

1. The following is an abstract from the Preferential Procurement Regulations 2001 promulgated with the Preferential Policy Framework Act No 5 of 2000:

#### "Tax clearance certificate

16. No contract may be awarded to a person who has failed to submit an original TaxClearance Certificate from the South African Revenue Service ("SARS") certifying the taxes of that person to be in order or that suitable arrangement have been made with SARS."

2. The ST 5.1 form, Application for Tax Clearance Certificate (in respect of tenders), must be completed by the tenderer in every detail and submitted to the Receiver of Revenue where the tenderer is registered for income tax purposes. The Receiver of Revenue will then furnish the tenderer with a Tax Clearance Certificate that will be valid for 6 months from date of issue. This Tax Clearance Certificate must be submitted in the original with the tender that is before the closing time and date of the tender.

Each party to a Consortium/Joint or Venture/Sub-contractors must complete a separate Tax Clearance Certificate.

## Failure to submit an original and valid Tax Clearance Certificate, or certified copy thereof, will invalidate the tender.

3. An **example** of the Application for Tax Clearance Certificate, which Tenderers may use to apply for the Tax Clearance Certificate is included hereafter and is available at any Receiver's Office.

## APPLICATION FORM FOR TAX CLEARANCE CERTIFICATE/ (IN RESPECT OF TENDER)

1. NAME OF TAXPAYER/TEN	IDERE	R:							•••••							
2. TRADE NAME:																
3. IDENTIFICATION No. (if app	olicable	e)														
4. COMPANY/CLOSE CORPC	RATIC	ON REG N	lo. :			[										
5. INCOME TAX REFERENCE	No.		:			[										
6. VAT REGISTRATION No.			:													
7. PAYE EMPLOYERS REG N	lo. (if a	pplicable)	:			[										
NB: Copy of the tender reque	est mu	st be atta	ached	to th	is ap	plic	atio	on.								
CONTACT PERSON REQUIR	ING TA	X CLEAF	RANC	E CE	RTIFI		TE:									
SIGNATURE:																
NAME :																
TELEPHONE NUMBER	:	CODE:		1	NUME	BER	:									
ADDRESS	:															
DATE	:	2018/	/													
Please note that the Commis discretionary powers in favour of due to the late or underpaymer	of any p	person wit	h rega	ard to	any ir	nter	est,	pena	alties	s and	l/or a	dditi	onal	tax I		
NAME OF PERSON RESPON	SIBLE	FOR COM	NTRA	СТ:.							(ST 5	1) M		1000	·····	

**NB:** This is a pro forma application form that has to be submitted to SARS to enable themto issue the required Tax Clearance Certificate. The original and valid Tax Clearance Certificate furnished by the Receiver of Revenue must be submitted with the tender (to be attached to the next page).

## TAX CLEARANCE CERTIFICATE

[Tax Clearance Certificate obtained from SARS to be inserted here]

## **O. FORM OF INTENT TO PROVIDE A PERFORMANCE GUARATEE**

[The Tenderer must attach hereto a letter from the bank or institution with whom he has made the necessary arrangements, to the effect that the said bank or institution will be prepared to provide the required performance guarantee when asked to do so]. A Proforma is attached for the tenderers to use.

#### PRO-FORMA FOR A PERFORMANCE GUARANTEE

#### PERFORMANCE GUARANTEE

Contract No:		
(Contract title)		
WHEREAS		
(Hereinafter referred to as "the Employer") enter	ed into, a Contract with	
	day of	20

AND WHEREAS it is provided by such Contract that the Contractor shall provide the Employer with security by way of a guarantee for the due and faithful fulfilment of such Contract by the Contractor;

AND WHEREAS \_\_\_\_\_\_(hereinafter referred to as "the Guarantor") Has/have at the request of the Contractor, agreed to give such guarantee;

NOW THEREFORE WE,

Do hereby guarantee and bind ourselves jointly and severally as Guarantor and Co-principal Debtors to the Employer under renunciation of the benefits of division and exclusion for the due and faithful performance by the Contractor of all the terms and conditions of the said Contract, subject to the following conditions:

- 1. The Employer shall, without reference and/or notice to us, have complete liberty of action to act in any manner authorized and/or contemplated by the terms of the said Contract, and/or to agree to any modifications, variations, alterations, directions or extensions of the Completion Data of the Works under the said Contract, and that its rights under this guarantee shall in no way be prejudiced nor our liability hereunder be affected by reason of any steps which the Employer may take under such Contract, or of any modification, variation, alterations of the Completion Date which the Employer may make, give, concede or agree to under the said Contract.
- 2. This guarantee shall be limited to the payment of a sum of money
- 3. The Employer shall be entitled, without reference to us, to release any guarantee held by it, and to give time to or compound or make any other arrangement with the Contractor.

However, upon receipt by us of an authenticated copy of the Certificate of Completion in terms of the Contract, the amount of liability shall be reduced by 50%, which shall be in force until the issue of the Final Approval Certificate at expiry of the Defects Liability Period

- 4. This guarantee shall remain in full force and effect until the issue of the Certificate of Completion in terms of the Contract, unless we are advised in writing by the Employer before the issue of the said Certificate of his intention to institute claims, and the particulars thereof, in which event this guarantee shall remain in full force and effect until all such claims have been paid of liquidated.
- 5. Our total liability hereunder shall not exceed the sum of

		(in words)						
	 R	· · · · · · · · · · · · · · · · · · ·						
	R(10 % of the tender sum) that amount I/we a	agree to hold at your disposal.						
6.		ndraw from this guarantee by depositing the reupon the Guarantor's liability hereunder shall						
		Guarantor, waive the legal exceptions available aid amount or such portion thereof as may be tten demand from you.						
		ient and satisfactory evidence as to the amount of enabling provisional sentence orany similar						
		transferable, and must be surrendered to the f the Guarantee being paid to the Employer.						
7.	I/We hereby choose our address for the serving of all notices for all purposes arising here from as							
IN WITNE	ESS WHEREOF this guarantee has been exec	cuted by us at						
on this	day of	20						
As witness	ses:							
1	Signature							
1	Signature							
Duly auth	norized to sign on behalf of ( <i>Guarantor</i> )							
	Address							

## P. CIDB REGISTRATION CERTIFICATE

Tenderers must be registered with the CIDB in Civil Engineering class of construction works. Tenderers should have a CIDB contractor grading designation of 5CE or Higher or higher.

## Q.

## **B-BBEE STATUS LEVEL**

A maximum 20 points will be allocated as follows:

Tenderers are required to submit original and valid B-BBEE status level Verification Certificates or certified copies thereof together with their bids, to substantiate their B-BBEE rating claims.

Tenderers who do not submit B-BBEE status level Verification certificate or are non-compliant contributors to B-BBEE do not qualify for preference points for B-BBEE but will not be disqualified from the bidding process. They will score points out of 80 for price only and zero (0) points out of 20 for B-BBEE.

A trust, consortium or joint venture must submit a consolidated B-BBEE status level verification certificate for every separate bid.

B-BBEE Status Level Of Contributor	Number of Points
1	20
2	18
3	16
4	12
5	8
6	6
7	4
8	2
Non-Compliant Contributor	0

## R. EXECUTION PROGRAMME

The Tenderer shall detail below or attach a preliminary programme reflecting the proposed sequence and tempo of execution of the various activities comprising the work for this Contract. The programme shall be in accordance with the information supplied in the Contract, requirements of the Project Specifications and with all other aspects of his Tender.

The Execution Programme must be based on the completion time as specified in the Contract Data.

**PLEASE NOTE**: the cashflow projections from the contractor (to be submitted before commencement of the execution of the contract) must be in accordance with this execution plan in order to ensure proper cashflow management by the Municipality and to minimise delayed payments.

			WE	EKS /	MON	ITHS			
ACTIVITY									

#### PROGRAMME

 DATE: ....

## S. CONTRACTOR'S HEALTH AND SAFETY DECLARATION

In terms of Clause 4(4) of the OHSA 1993 Construction Regulations 2003 (referred to as "the Regulations" hereafter), a Contractor may only be appointed to perform construction work if the Employer is satisfied that the Contractor has the necessary competencies and resources to carry out the work safely in accordance with the Occupational Health and Safety Act No 85 of 1993 and the OHSA 1993 Construction Regulations 2003.

To that effect a person duly authorised by the tenderer must complete and sign the declaration hereafter in detail.

#### **Declaration by Tenderer**

- 1. I the undersigned hereby declare and confirm that I am fully conversant with the Occupational Health and Safety Act No 85 of 1993 (as amended by the Occupational Health and Safety Amendment Act No 181 of 1993), and the OHSA 1993 Construction Regulations 2003.
- 2. I hereby declare that my company has the competence and the necessary resources to safely carry out the construction work under this contract in compliance with the Construction Regulations and the Employer's Health and Safety Specifications.
- 3. I propose to achieve compliance with the Regulations by one of the following:
  - (a) From my own competent resources as detailed in 4(a) hereafter: ........... \*Yes / No

  - (c) From outside sources by appointment of competent specialist subcontractors as detailed in 4(c) hereafter: .....\*Yes / No
  - (\* = delete whatever is not applicable)
- 4. Details of resources I propose:

(Note: Competent resources shall include safety personnel such as a construction supervisor and construction safety officer as defined in Regulation 6, and competent persons as defined in Regulations 7, 8, 10, 11, 12, 14, 15, 18, 21(1), 22, 26 and 27, as applicable to this contract)

(a) Details of the competent and qualified key persons from my company's own resources, who will form part of the contract team:

NAMES OF COMPETENT PERSONS	POSITIONS TO BE FILLED BY COMPETENT PERSONS

- (a) Details of training of persons from my company's own resources (or to be hired) who still have to be trained to achieve the necessary competency:
  - (i) By whom will training be provided? ......
    (ii) When will training be undertaken? ......
    (iii) List the positions to be filled by persons to be trained or hired: ......
- (c) Details of competent resources to be appointed as subcontractors if competent persons cannot be supplied from own company:

Name of proposed subcontractor:
Qualifications or details of competency of the subcontractor:

- 5. I hereby undertake, if my tender is accepted, to provide, before commencement of the works under the contract, a suitable and sufficiently documented Health and Safety Plan in accordance with Regulation 5(1) of the Construction Regulations, which plan shall be subject to approval by the Employer.
- 6. I confirm that copies of my company's approved Health and Safety Plan, the Employer's Safety Specifications as well as the OHSA 1993 Construction Regulations 2003 will be provided on site and will at all times be available for inspection by the Contractor's personnel, the Employer's personnel, the Engineer, visitors, and officials and inspectors of the Department of Labour.
- 7. I hereby confirm that adequate provision has been made in my tendered rates and prices in the schedule of quantities to cover the cost of all resources, actions, training and all health and safety measures envisaged in the OHSA 1993 Construction Regulations 2003, and that I will beliable for any penalties that may be applied by the Employer in terms of the said Regulations (Regulation 30) for failure on the Contractor's part to comply with the provisions of the Act and the Regulations.
- 8. I agree that my failure to complete and execute this declaration to the satisfaction of the Employer will mean that I am unable to comply with the requirements of the OHSA 1993 Construction Regulations 2003, and accept that my tender will be prejudiced and may be rejected at the discretion of the Employer.

DATE: .....

## T. CONTRACTOR'S SAFETY PLAN

[The Tenderer shall attach to this page the Contractor's Health and Safety Plan as required in terms of Regulation 5 of the Occupational Health and Safety Act 1993 Construction Regulations 2003, and referred to in T2.1]

### U. PRO FORMA NOTIFICATION FORM IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT 1993, CONSTRUCTION REGULATIONS 2003

[This form must be completed and forwarded, <u>prior to commencement</u> of work on site, by all Contractors that qualify in terms of Regulation 3 of the Construction Regulations 2003, to the office of the Department of Labour]

1.	(a)	Name and postal address of Contractor:
	(b)	Name of Contractor's contact person: Telephone number:
2. 3.		tractor's workman's compensation registration number: Name and postal address of client:
	(b)	Name of client's contact person or agent: Telephone number
4.	(a)	Name and postal address of designer(s) for the project:
	(b)	Name of designer's contact person: Telephone number
5.	Reg	ne of Contractor's construction supervisor on site appointed in terms of ulation 6(1):
6.		ne/s of Contractor's sub-ordinate supervisors on site appointed in terms of regulation 6(2).
7.	Exa	ct physical address of the construction site or site office:
8.	Natu	ure of the construction work:
9. 10. 11.	Exp	ected commencement date: ected completion date: mated maximum number of persons on the construction site:
12.		nned number of subcontractors on the construction site accountable to Contractor:
13.	Nam	ne(s) of subcontractors already chosen:
	NED NTR/	BY: ACTOR: DATE:
CLI	ENT:	DATE:

MBD 4

## **DECLARATION OF INTEREST**

- 1. Any legal person, including persons employed by the state<sup>1</sup>, or persons having a kinship with persons employed by the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid (includes an advertised competitive bid, a limited bid, a proposal or written price quotation). In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons employed by the state, or to persons connected with or related to them, it is required that the bidder or his/her authorised representative declare his/her position in relation to the evaluating/adjudicating authority where-
  - the bidder is employed by the state; and/or
  - the legal person on whose behalf the bidding document is signed, has a relationship with persons/a person who are/is involved in the evaluation and or adjudication of the bid(s), or where it is known that such a relationship exists between the person or persons for or on whose behalf the declarant acts and persons who are involved with the evaluation and or adjudication of the bid.
- 2. In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.
- 2.6.1 The names of all directors / trustees / shareholders / members, their individual identity numbers, tax reference numbers and, if applicable, employee / PERSONAL numbers must be indicated in paragraph 3 below.

1"State" means -

- (a) Any national or 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);
- (b) Any municipality or municipal entity;
- (c) Provincial legislature;
- (d) National Assembly or the national Council of provinces; or
- (e) Parliament.

<sup>2</sup>"Shareholder" means a person who owns shares in the company and is actively involved in the management of the enterprise or business and exercises control over the enterprise.

**2.7** Are you or any person connected with the bidder presently employed by the state?

YES / NO

2.7.1	If so, furnish the following particulars:		
	Name of person / director / trustee / shareholder/ member: Name of state institution at which you or the person connected to the bidder is employed:		
	Position occupied in the state institution:		
	Any other particulars:		
2.7.2	If you are presently employed by the state, did you obtain the appropriate authority to undertake remunerative work outside employment in the public sector?	YES / NO	
2.7.2.1	If yes, did you attach proof of such authority to the bid document?	YES / NO	
	(Note: Failure to submit proof of such authority, where applicable, may result in the disqualification of the bid.		
2.7.2.2	If no, furnish reasons for non-submission of such proof:		
2.0			
2.8	Did you or your spouse, or any of the company's directors / trustees / shareholders / members or their spouses conduct business with the state in the previous twelve months?	YES / NO	
2.8.1	If so, furnish particulars:		
2.9	Do you, or any person connected with the bidder, have any relationship (family, friend, other) with a person employed by the state and who may be involved with the evaluation and or adjudication of this bid?	YES / NO	
2.9.1	If so, furnish particulars.		
2.10	Are you, or any person connected with the bidder, aware of any relationship (family, friend, other) between any other bidder and any person employed by the state who may be involved with the evaluation and or adjudication of this bid?	YES / NO	
2.10.1	If so, furnish particulars.		

YES / NO

- **2.11** Do you or any of the directors / trustees / shareholders / members of the company have any interest in any other related companies whether or not they are bidding for this contract?
- 2.11.1 If so, furnish particulars:
  - .....

## 3 Full details of directors / trustees / members / shareholders.

Identity Number	Personal Income Tax Reference Number	State Employee Number / Personal Number
	Identity Number	

## DECLARATION

I, THE UNDERSIGNED (NAME).....

CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 2 and 3 ABOVE IS CORRECT. I ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

Signature

Date

Position

Name of bidder

## MBD 8

# DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

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

## 4 In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

ltem	Question	Yes	No
4.1	Is the bidder or any of its directors listed on the National Treasury's Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector? (Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the <i>audi alteram partem</i> rule was applied).	Yes	No
	The Database of Restricted Suppliers now resides on the National Treasury's website ( <u>www.treasury.gov.za</u> ) and can be accessed by clicking on its link at the bottom of the home page.		
4.1.1	If so, furnish particulars:		
4.2	Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)? for Tender Defaulters can be accessed on the National Treasury's website (www.treasury.gov.za) by clicking on its link at the bottom of the home page.	Yes	No
4.2.1	If so, furnish particulars:		
4.3	Was the bidder or any of its directors convicted by a court of law (including a court outside of the Republic of South Africa) for fraud or corruption during the past five years?	Yes	No
4.3.1	If so, furnish particulars:		
4.4	Was any contract between the bidder and any organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes	No

4.4.1 If so, furnish particulars:

#### CERTIFICATION

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

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

Signature

Date

Position

Name of Bidder

## MBD 9

## CERTIFICATE OF INDEPENDENT BID DETERMINATION

- 1 This Municipal Bidding Document (MBD) must form part of all bids<sup>1</sup> invited.
- 2 Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).<sup>2</sup> Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.
- 3 Treasury Regulation 16A9 prescribes that accounting officers and accounting authorities must take all reasonable steps to prevent abuse of the supply chain management system and authorizes accounting officers and accounting authorities to:
  - a. disregard the bid of any bidder if that bidder, or any of its directors have abused the institution's supply chain management system and or committed fraud or any other improper conduct in relation to such system.
  - b. cancel a contract awarded to a supplier of goods and services if the supplier committed any corrupt or fraudulent act during the bidding process or the execution of that contract.
- 4 This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.
- In order to give effect to the above, the attached Certificate of Bid Determination (MBD9) must be completed and submitted with the bid:

# <sup>1</sup> Includes price quotations, advertised competitive bids, limited bids and proposals.

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

## CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:

## (Bid Number and Description)

in response to the invitation for the bid made by:

(Name of Institution)

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

I certify, on behalf of:\_\_\_\_\_

\_\_that:

## (Name of Bidder)

- 1. I have read and I understand the contents of this Certificate;
- 2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
- 3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
- 4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign the bid, on behalf of the bidder;
- 5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
  - (a) has been requested to submit a bid in response to this bid invitation;
  - (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and

(c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder

 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<sup>3</sup> will not be construed as collusive bidding.

- 7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
  - (a) prices;
  - (b) geographical area where product or service will be rendered (market allocation)
  - (c) methods, factors or formulas used to calculate prices;
  - (d) the intention or decision to submit or not to submit, a bid;
  - (e) the submission of a bid which does not meet the specifications and conditions of the bid; or
  - (f) bidding with the intention not to win the bid.
- 8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
- 9. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.

<sup>3</sup> 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.

10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sectorfor a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

Signature	Date
Position	Name of Bidder

## MAKHADO LOCAL MUNICIPALITY

## Part B: REHABILITATION OF PRETORIUS STREET, LOUIS TRICHARDT

#### CONTRACT

- C1: AGREEMENTS AND CONTRACT DATA
- C2: PRICING DATA
- C3: SCOPE OF WORK
- C4: SITE INFORMATION
- CS: DETAIL SPECIFICATION AND STANDARD TECHNICAL REQUIREMENTS
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### MAKHADO LOCAL MUNICIPALITY

#### REHABILITATION OF PRETORIUS STREET, LOUIS TRICHARDT

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## CS: DETAIL SPECIFICATION AND STANDARD TECHNICAL REQUIREMENTS (WHITE COLOUR)

- C6: EPWP GUIDELINES (GREEN COLOUR)
  - C6.1: MINISTER'S DECLARATION

#### **REHABILITATION OF PRETORIUS STREET, LOUIS TRICHARDT**

#### C1.1 Form of Offer and Acceptance

#### Offer

The employer, identified in the acceptance signature block, has solicited offers to enter into a contract for the procurement of: CONTRACT: **57/2022 Rehabilitation of Pretorius Street, Louis Trichardt** 

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.

By the representative of the tenderer, deemed to be duly authorized, 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 VALUE ADDED TAX IS:

		Rand (in
words);		
R	(in figures)	
acceptance a validity state	ay be accepted by the employer by signing the acc and returning one copy of this document to the ten d in the tender data, whereupon the tenderer become s of Contract identified in the Contract data.	derer before the end of the period of
Signature	******	Date
Name	the second second second second second second second	
Capacity		
for the tend (Name and address of organization)		
Name and signature		*************
of witness		

#### 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 1 to 4 above.

Deviations from and amendments to the documents listed in the tender data and any addenda thereto as 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 said documents are valid unless contained in this schedule.

The tenderer shall within two weeks 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. 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		Date
Name		
Capacity		
for the Employer	MAKHADO LOCAL MUNICIPALITY	
Name and signature		Dette
of witness		Date

#### Schedule of Deviations

1 Subject																																							•	• •	•													
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#### MAKHADO LOCAL MUNICIPALITY

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By the duly authorised representatives signing this agreement, 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 changes 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.

#### MAKHADO LOCAL MUNICIPALITY

#### **REHABILITATION OF PRETORIUS STREET, LOUIS TRICHARDT**

#### **C1.2: CONTRACT DATA**

#### C1.2.1 CONDITIONS OF CONTRACT

#### **GENERAL CONDITIONS OF CONTRACT**

This Contract will be based on the "General Conditions of Contract for Construction Works –2015 Edition", issued by the South African Institution of Civil Engineering. (Short title: "General Conditions of Contract 2015") and can be obtained from:

#### SAICE

Waterfall Park Howick Gardens Vorna Valley Half way House Becker Street MIDRAND 1685 Gauteng Province Tel: (011) 805-5947/8 Fax: (011) 805-5971.

It is agreed that the only variations from the General Conditions of Contract 2010 are those set out hereafter under "Special Conditions of Contract".

#### **SPECIAL CONDITIONS OF CONTRACT**

#### 1. GENERAL

These Special Conditions of Contract (SCC) form an integral part of the Contract. The Special Conditions shall amplify, modify or supersede, as the case may be, the General Conditions of Contract 2010 to the extent specified below, and shall take precedence and shall govern.

The clauses of the Special Conditions hereafter are numbered "SCC" followed in each case by the number of the applicable clause or sub clause in the General Conditions of Conditions 2010, and the applicable heading, or (where a new special condition that has no relation to the existing clauses is introduced) by a number that follows after the last clause number in the General Conditions, and an appropriate heading.

#### 2. AMENDMENTS TO THE GENERAL CONDITIONS OF CONTRACT

No amendments.

## C1.2.2: CONTRACT DATA (Applicable to this contract)

## PART A: DATA PROVIDED BY THE EMPLOYER

The following contract specific data are applicable to this contract.

REFERENCE	CONTRACT SPECIFIC DATA BY THE EMPLOYER											
Clause 1.1.1.13:	The Defects Liability Period to this contract is 12 months measured from the date of the Certificate of Completion.											
Clause 1.1.1.14:	The time for achieving Practical Completion of the whole of the Works is within Five (5) Months including special non-working days and the year-end breaking.											
Clause 1.1.1.15:	Name of Employer: MAKHAD	O LOCAL MUNICIPALITY										
Clause 1.1.1.15:	The Pricing strategy is Re-mea	asurement Contract										
Clause 1.2.1.2:	Address of Employer:	MAKHADO LOCAL MUNICIPALITY										
	Physical:	Postal:										
	Civic Centre 83 Krogh Street MAKHADO 0920	Private Bag X2596 MAKHADO 0920										
	Telephone No: (015) 519 3000											
Clause 1.1.1.16:	Name of Engineer:	SA QUEST CONSULTING ENGINEERS										
Clause 1.2.1.2:	Address of Engineer:											
	Riverside Office Park, Letaba Cnr Lenchen South & Heuwe CENTURION 0046											
	E-Mail: Telephone No:	<u>admin@saquest.co.za</u> 012 000 0630										
	the Employer for the followi	s required to obtain the specific approval o ng: The Engineer requires the Municipality any expenditure in excess of the tender Sun										
Clause 5.3.1	Health and Safety Plan (refer to Initial Programme (Refer to Cla Security (Refer to Clause 6.2) Insurance (Refer to Clause 8.6)	ause 5.6)										
Clause 5.3.2	The time to submit the docum the Works execution is 28 day	entation required before commencement witl s										

Data

Part C1: Agreements and Contract Data

#### MAKHADO LOCAL MUNICIPALITY

#### REFERENCE CONTRACT SPECIFIC DATA BY THE EMPLOYER

Clause 5.8.1

(1) Special non-working days are Sundays and the following statutory public holidays as declared by National or Regional Government:

New Year's Day, Human Rights Day, Good Friday, Family Day, Freedom Day, Workers day, Youth Day, National Women's Day, Heritage Day, Day of Reconciliation, Christmas Day and the Day of Goodwill including the construction industry year end break.

(2) The year end break commences on the first working day after 15 December and ends on the first working day after 6 January of the next year.

Clause 5.12.2.3 An extension of time due to abnormal rainfall shall be determined by means of the critical path method

The rainfall gauge shall be suitably located and accurate rainfall readings shall be taken on the Site daily at 08:00, unless otherwise agreed to by the Engineer and the records entered in a book. The Contractor shall, at his own expense, take all necessary precautions to ensure that unauthorized persons cannot interfere with the rainfall gauge. The record book shall be handed to the Engineer for his signature no later than ten (10) days after rain has fallen and that is considered to justify an extension of time.

- Clause 5.13.1: The penalty for failing to complete the whole of the Works is **<u>R3 000.00</u>** per calendar day
- Clause 5.14.5.2 The Defects Liability Period to this contract is 12 months measured from the date of the Certificate of Completion.
- Clause 5.16.3 The latent defect period is 10 years
- Clause 6.5.1.2.3 The maximum percentage allowance to cover overhead charges is 15%
- Clause 6.10.1.5 The percentage advance on materials not yet built into Permanent Works is Eighty (80%).
- Clause 6.10.3 Retention money guarantee is not allowed.
- Clause 8.6.1.1.2 The value of materials supplied by the Employer to be included in the insurance sum is <u>NIL.</u>
- Clause 8.6.1.1.3 The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is 2.5% of Contract Amount.
- Clause 8.6.1.3 The limit of indemnity for liability insurance is <u>**R 1 000 000.00**</u> for any single liability claim.
- Clause 8.6.1.2: Special risk insurance issued by SASRIA is required.
- Clause 8.6.1.3 The number of Adjudication Board Members to be appointed is one.
- Contract

# C1.2.2: CONTRACT DATA (Applicable to this contract)

# PART B: DATA PROVIDED BY THE CONTRACTOR

The following contract specific data are applicable to this contract.

REFERENCE	CONTRACT SPECIFI	C DATA BY THE CONTRACTOR
Clause 1.1.1.9:	Name of Contractor:	
Clause 1.2.1.2:	Address of the Contr	actor:
Physical:		<u>Postal:</u>
E-Mail:		. Telephone No:

Clause 6.2.1

The Security to be provided by the Contractor (incl Vat) shall be one of the Following

Type of Security	Contractor's choice Indicate "Yes" or "No"
Cash deposit of 10% of the Contract Sum	
Performance guarantee of 10% of the Contract Sum	
Retention of 10% of the value of the Works	Not available
Cash deposit of 5% of the Contract Sum plus	
retention of 5% of the value of the Works	
Performance guarantee of 5% of the Contract Sum	
plus retention of 10% of the value of the works	

Clause 6.8.3: The variation in cost of all special materials is to be provided in the table SM 1 for special materials.

The rates and prices for the special materials shall be furnished by the Tenderer, which rates and prices shall not include VAT but shall include all other obligatory taxes and levies. The quoted price is the ruling price on the 1<sup>st</sup> of Month prior to close of tender.

Γ,	Α	В	LE		S	M	1

Special Materials	Unit*	Rate or Price for the base month
		******

\* Indicate whether the material shall be delivered in bulk or in containers. When called upon to do so, the Contractor shall substantiate the above rates or prices with acceptable documentary evidence.

Signed on behalf of Tenderer: .....

Contract

# REFERENCE

# **CONTRACT SPECIFIC DATA BY THE CONTRACTOR**

Clause 4.4.3:

# Selection of Sub-Contractors

The Tenderer shall list below the Subcontractors and Suppliers whom he intends to appoint in respect of the various specialist items of work to be done or goods supplied on this contract. Alternatives may be mentioned.

The Tenderer shall state whether he intends to carry out any specialised work or supply of goods himself.

Acceptance of this tender shall not be construed as approval of all or any of the listed specialist Subcontractors or Suppliers. Should any of or all of the specialist Subcontractors or Suppliers not be approved subsequent to the acceptance of the tender, it shall in no way invalidate this tender, and the tendered unit rates for the various items of work shall remain final and binding, even in the event of a Subcontractor or Supplier not listed below being approved by the Employer.

# SCHEDULE OF SPECIALIST SUB-CONTRACTORS AND SUPPLIERS

Specialised Item	Name and Details of Specialist Sub-Contractors		

Signed on behalf of Tenderer: .....

Contract

Part C1: Agreements and Contract Data Data

# PRO FORMA

# C1.2.3 PERFORMANCE GUARANTEE

For use with the General Conditions of Contract for Construction Works, Third Edition, 2015.

# **GUARANTOR DETAILS AND DEFINITIONS**

# CONTRACT DETAILS

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

Amount in words:.....

"Expiry Date" Means:.....

# PERFORMANCE GUARANTEE

- 1. The Guarantor's liability shall be limited to the amount of the Guaranteed Sum.
- 2. The Guarantor's period of liability shall be from and including the date of issue of this Performance Guarantee and up to and including the Expiry Date or the date of issue by the Engineer of the Certificate of Completion of the Works or the date of payment in full of the Guaranteed Sum, whichever occurs first. The Engineer and or the Employer shall advise the Guarantor in writing of the date on which the Certificate of Completion of the Works has been issued.
- 3. The Guarantor hereby acknowledges that:
- 3.1 any reference in this Performance Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship.
- 3.2 Its obligation under this Performance Guarantee is restricted to the payment of Money.
- 4. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 4.1 to 4.3:
- 4.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Engineer in an Interim or Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 4.2;
- 4.2 A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) days has elapsed since the first written demand in terms of 4.1 and the sum certified has still not been paid;

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

Signed at
Date:
Guarantor's signatory (1)
Capacity
Guarantor's signatory (2)
Capacity
Witness signatory (1)
Witness signatory (2)

# C1.2.4: AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT No 85 OF 1993

THIS AGREEMENT is made between MAKHADO LOCAL MUNICIPALITY represented by the Municipal Manager. (hereinafter called the EMPLOYER of the one part, herein represented by:

in his capacity as:;
AND:
(hereinafter called the CONTRACTOR) of the other part, herein represented by
in his capacity as:
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duly authorised to sign on behalf of the Contractor.

**WHEREAS** the CONTRACTOR is the Mandatory of the EMPLOYER in consequence of an agreement between the CONTRACTOR and the EMPLOYER in respect of

CONTRACT No: ...... for the.....

.....

**AND WHEREAS** the EMPLOYER and the CONTRACTOR have agreed to enter into an agreement in terms of the provisions of Section 37(2) of the Occupational Health and Safety Act No 85 of 1993, as amended by OHSA Amendment Act No 181/1993 (hereinafter referred to as the ACT);

## **NOW THEREFORE** the parties agree as follows:

- 1. The CONTRACTOR undertakes to acquaint the appropriate officials and employees of the CONTRACTOR with all relevant provisions of the ACT and the regulations promulgated in terms thereof.
- 2. The CONTRACTOR undertakes to fully comply with all relevant duties, obligations and prohibitions imposed in terms of the ACT and Regulations: Provided that should the EMPLOYER have prescribed certain arrangements and procedures that same shall be observed and adhered to by the CONTRACTOR, his officials and employees. The CONTRACTOR shall bear the onus of acquainting himself/herself/itself with such arrangements and procedures.
- 3. The CONTRACTOR hereby accepts sole liability for such due compliance with the relevant duties, obligations, prohibitions, arrangements and procedures, if any, imposed by the ACT and Regulations, and the CONTRACTOR expressly absolves the EMPLOYER and the Employer's CONSULTING ENGINEERS from being obliged to comply with any of the aforesaid duties, obligations, prohibitions, arrangements and procedures in respect of the work included in the contract.
- 4. The CONTRACTOR agrees that any duly authorised officials of the EMPLOYER shall be entitled, although not obliged, to take such steps as may be necessary to ensure that the CONTRACTOR has complied with his undertakings as more fully set out in paragraphs 1 and 2 above, which steps may include, but shall not be limited to, the right to inspect any appropriate site or premises occupied by the CONTRACTOR, or to take such steps it may deem necessary to remedy the default of the CONTRACTOR at the cost of the CONTRACTOR.
- 5. The CONTRACTOR shall be obliged to report forthwith to the EMPLOYER any investigation, complaint or criminal charge which may arise as a consequence of the provisions of the ACT

# Contract No.57/2022

and Regulations, pursuant to work performed in terms of this agreement, and shall, on written demand, provide full details in writing of such investigation, complaint or criminal charge.

Thus signed at		for and on behalf of the <b>CONTRACTOR</b>
on this the	••••	day of 20
SIGNATURE:		
NAME AND SU	IRN	AME:
CAPACITY:		
WITNESSES:	1.	
	2.	

Thus signed at			for and on	behalf of the EMPL	OYER on this
the		day of	20		
SIGNATURE:					
NAME AND SU	RNAME:				
CAPACITY:					
WITNESSES:	1				
	2				

## **REHABILITATION OF PRETORIUS STREET, LOUIS TRICHARDT**

### **C2.1 Pricing Instructions**

- 1. Measurement and payment shall be in accordance with the Bill of Quantities and the Scope of Works.
- 2. The units of measurement described in these Bills of Quantities are metric units. Abbreviations used in the Bills of Quantities are as follows:

%	=	percent
h	=	hour
ha	=	hectare
kg	=	kilogram
kľ	=	kilolitre
km	=	kilometre
km-pass	=	kilometre-pass
kPa	=	kilopascal
kW	=	kilowatt
	=	litre
m	=	metre
mm	=	millimetre
m²	=	square metre
m²-pass		square metre-pass
m³	=	cubic metre
m³-km	=	cubic metre-kilometre
MN	=	meganewton
MN.m	=	meganewton-metre
MPa	=	megapascal
No.	=	number
Prov sum	=	Provisional sum
PC sum	=	Prime Cost sum
R/only	=	Rate only
sum	=	lump sum
t	=	ton (1000 kg)
W/day	=	Work day
, , , , , , , , , , , , , , , , , , , ,		

3. For the purpose of these Bills of Quantities, the following words shall have the meanings hereby assigned to them:

Unit:	The unit of measurement for each item of work as stated in the Bill of
Unit.	The unit of measurement for each item of work as stated in the bin of
	Quantities/Schedule of prices
Quantity:	The number of units of work for each item.
Rate:	The agreed payment per unit of measurement.
Amount:	The product of the quantity and the agreed rate for an item.
Lump sum:	An agreed amount for an item, the extent of which is described in the Bills of
	Quantities but the quantity of work of which is not measured in any units.

- 4. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
- It will be assumed that prices included in the bills of quantities are based on Acts, Ordinances, Regulations, By-laws, International Standards and National Standards that were published 28 days before the closing date for tenders. (Refer to <u>www.stanza.org.za</u> or <u>www.iso.org</u> for

Contract No.57/2022

#### information on standards)

- 6. The prices and rates in these Bills of Quantities are fully inclusive prices for the work described under the items. Such prices and rates cover all costs and expenses that may be required in and for the execution of the work described in accordance with the provisions of the Scope of Work, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the Contract Data, as well as overhead charges and profit. These prices will be used as a basis for assessment of payment for additional work that may have to be carried out.
- 7 Where the Scope of Work requires detailed drawings and designs or other information to be provided, all costs associated therewith are deemed to have been provided for and included in the unit rates and sum amount tendered such items
- 8. An item against which no price is entered will be considered to be covered by the other prices or rates in the Bills of Quantities. A single lump sum will apply should a number of items be grouped together for pricing purposes.
- 9. The quantities set out in these Bills of Quantities are approximate and do not necessarily represent the actual amount of work to be done. The quantities of work accepted and certified for payment will be used for determining payments due and not the quantities given in these Bills of Quantities.
- 10. Reasonable compensation will be received where no pay item appears in the Bills of Quantities in respect of work required in terms of the Contract and which is not covered in any other pay item.
- 11. The short descriptions of the items of payment given in these Bills of Quantities are only for the purposes of identifying the items. More details regarding the extent of the work entailed under each item appear in the Scope of Work.

#### 12. PRELIMINARY, GENERAL AND SITE ESTABLISHMENT

### 11.1 Provision

Provision is made in the Bill of Quantities for lump sums to cover the Contractor's cost to supply, erect commission, maintain and eventually demolish and remove site facilities, plant, tools and equipment, and for the Contractor to comply with any other obligations of a preliminary and general nature in terms of the contract. The sum tendered in the Bill of Quantities for any preliminary and general item shall cover the Contractor's direct and overhead costs, profit and all other costs for the provision of the item and/or compliance with the obligations, liabilities, risks and requirements associated with the item.

### **11.2 Payment for Fixed Cost Items**

The sum tendered for these items will be paid in equal instalments over the contract period, the amount remaining after every instalment being re-calculated to arrive at equal instalments per month for the contractual period remaining.

#### **11.3 Payment for Time-related Items**

The sum tendered for these items will be paid in equal instalments over the contract period, the amount remaining after every instalment being re-calculated to arrive at equal instalments per month for the contractual period remaining. The total sum subject to recalculation will be adjusted according to the Adjusted Contract Period at the time when Certification of Payment is due.

### **11.4 Payment for Value-related Items**

The sum tendered for these items will be paid in equal instalments over the contract period, the amount remaining after every instalment being re-calculated to arrive at equal instalments per month for the contractual period remaining. The total sum subject to recalculation will be adjusted according to the Adjusted Contract Sum at the time when Certification of Payment is due.

# 12 DAY LABOUR, PLANT HIRE AND HAULAGE

Tenderers must state their rates, in the relevant section of the Bill of Quantities, for day labour, plant hire and haulage. Plant hire and Day labour rates are to be shown as hourly rates for the various categories of labour set out in the Schedule. Separate rates shall be quoted for work outside normal working hours, "normal working hours" being taken as all weekdays from 07h00 to 17h00.

No work is to be carried out as a charge to day labour, plant hire or haulage without prior written authorisation of the Engineer, and claims for such activities will not be paid without such authorisation.

Rates must include for the use of Contractor's small tools and equipment and must be inclusive of Contractor's overheads and profit.

# **REHABILITATION OF PRETORIUS STREET, LOUIS TRICHARDT**

# C2.2 Bills of Quantities

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.1	SABS 1200 AA AND AB PSAA, PSAB 8.3. 8.3.1 8.3.2 8.3.2 (a) PSAB 2	SECTION 1 : PRELIMINARY & GENERAL Fixed charges and value related items Contractual requirements Provision of facilities on site Facilities on site for the Engineer	Sum	1	
1 1	8.3 8.3.1 8.3.2 8.3.2 (a) PSAB 2	items Contractual requirements Provision of facilities on site	Sum	1	
2	8.3.2 8.3.2 (a) PSAB 2	Provision of facilities on site	Sum	1	
	8.3.2 (a) PSAB 2				
	PSAB 2	Facilities on site for the Engineer			
2.1					
		1 Office	Sum	1	
2.2	PSAB1	1 Name board	Sum	2	
2.3	8.3.2(b)	Facilities for Contractor	Sum	1	
	8.3.3 PSA 3	Certification of survey beacons upon completion	Sum	1	
.2.6	8.3.4	Removal of site establishment on completion	Sum	1	
	8.4	Time related items			
3	8.4.1	Contractual requirements	Mon	5	
4	8.4.2	Facilities on site - maintenance			
	8.4.2(a)	Facilities for Engineer			
.4.1	PSAB 5	Survey assistants	Mon	5	
.4.2	PSAB 6	Survey equipment	Mon	5	
4.3		Maintain Office	Mon	5	
	8.4.2(b)	Facilities for contractor	Mon	5	
4.4	8.4.3	General responsibilities and other time related Obligations	Mon	5	
4.5	PSA7	Compliance with the Environmental Management Plan	Mon	5	
.4.6	PSA8	Compliance with the Occupational Health & Safety Act and Covid-19 Regulations	Mon	5	
1.6	8.8.2 PSA4	Accomodation of traffic/Bypass	Mon	5.00	
7		Provisional Sum			
7.1	<b>PSA</b> 9.1	Testing of materials by Engineer	P SUM	1	
7.1.1		Contractor's Markup	%	1.00	
7.2	PSA 9.2	Survey by Engineer - Road reserve	P SUM	0.00	
7.2.1		Contractor's Markup	%	0.00	

	REFERS					AMOUNT
		BROUGHT FORWARD	UNIT	QTY		
1.7.3	PSA 9.3	Moving of Eskom poles	P SUM	1.00		
					e ter de la secola d	
1.7.3.1		Contractor's Markup	%	1.00		
1.7.4	PSA 9.4	Moving of structures	P SUM	1.00		
1.7.5	PSA 9.5	Moving of existing water lines	P SUM	1.00		
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		the first and filler to while the			la fatta na si	
		<ul> <li>A second distance</li> </ul>	1.56		1.5 The second	

ITEM NO	PAYMENT REFERS	SHORT DESCRIPTION	UNIT	QTY	RATE	AMOUNT
			_	1		
		SECTION 2 : STORMWATER DRAINAGE		l l		
	SANS 1200				1	
	DB & PSDB				-	
2.1	8.3.2(a)	EXCAVATION				
		Excavation in all materials for trenches				
		backfill, compact and dispose of				
		surplus material for stormwater pipe culverts:				
2.1.2		450 x 450				
2.1.2.1		0 - 1.5	m <sup>3</sup>	35		
2.2		Extra over item 2.1 for				
2.2.1		Intermediate excavation	m³	5		
2.2.2		Hard excavation	m³	3		
2.3	8.3.2©	Excavate unsuitable material from the trench				
		bottom and dispose of it				12
		(Provisional)	m <sup>3</sup>	1		
2.4	8.3.3.1	Imported backfill material from				
2.4.1	=	Commercial or off site sources	m³	1		
2.5.1	PSLD 8	Extra over item 2.1 for cement stabilisation	m³	1		
		of backfill under roads				
2.5.2	8.3.3.3	Compaction in road reserve	m³	1		
	SANS 1200 LB			-		
2.6	8.2.2.3	Provision of bedding material from commercial sources				
2.6.3	8.2.1	a) Selected granular material	m³	1		
2.6.4		b) Crushed stone	m³	1		
2.6.5		c) Dump rock	m <sup>3</sup>	1		
	SABS 1200	Stormwater Drainage				
2.7	LE 8.2.1	PORTAL CULVERTS				
2.7.1		Supply, handle, lay and bed portal culverts				
		including floor slab				
2.7.1.1		450 x 450	m	12		
2.7.1.2		600 × 600	m	0		
2.7.2		Construct inlet / outlet complete as per drawing D01 for the following culverts sizes				
2.7.2.1		450 x 450	No	4		
2.7.2.2		600 × 600	No		6	
_		CARRIED FORWARD				

ITEM NO	PAYMENT REFERS	SHORT DESCRIPTION	TENDER		RATE	AMOUNT
			UNIT	QTY		
		BROUGHT FORWARD				
8	SANS 1200 DK	GABIONS AND PITCHING				
.8.1	8.2.5	Grouted stone pitching 10mm thick	m²	10		
2.9	SANS 1200 DB & PSDB 8.3.2(a)	SURFACE DRAINAGE		÷.,		P
	SANS 1200 DA & PADA	Excavation				
2.10.1	8.2.1 (b)	Excavate in all materials to the lines and levels on the drawings for the canals and dispose of excess material and compact insitu material to 93% AASHTO	m³	1325		
2.10.2	8.3.1 ©	Extra over item 2.10.1 for				
2.10.3	_	Intermediate excavation	m³	20		
2.10.4		Hard rock excavation	m³	4		
	-	Rip and Compact trench bottom	m³	161		
		150mm Gravel base compacted to 93% MOD AASHTO Density	m³	158		
2.10.5	SANS 1200 GA & PSGA 8.2 & 8.4	Line stormwater canal with 25MPa concrete, 75mm thick, including all formwork	۳³	79		
		Install concrete vee-channel as per Drawing D01	m <sup>3</sup>	80		
		Install 20MPa concrete apron	m³	1		
		Install 230mm solid brick plastered wingwalls	m²	8		
2.10.6		Extra over item 2.10.5 for transitions at inlets and outlets	m²	30		
2.10.7	8.3	Extra over 2.10.5 for supply, cut and placing of Mesh Ref 193 Including spacers and overlaps	m²	79		
		CARRIED FORWARD TO SUMMARY				

ITEM NO	PAYMENT REFERS	SHORT DESCRIPTION	TE	NDER	RATE	AMOUNT
		SHORT DESORPTION	UNIT	QTY	KATE	AMOUNT
		SECTION 4 : EARTHWORKS (ROADS SUBGRADE)				
k.1	SABS 1200					
	C, PSC	Site Clearance				
4.1.1	8.2.1	Clear and grub	m²	1800		
4.1.2	8.2.2	Remove and grub large trees and tree stumps of grid				
4.1.2.1		Over 1m and up to and including 2m	No	0		
4.2	SABS 1200D	Removal of topsoil in road reserve or				
	PSDM, PSM	elsewhere on site to nominal depth of				
	8.3.2	150mm, and dispose and stockpile only for sidewalks finishes	m <sup>3</sup>	36		
4.3	8.3.3(a)	Treatment of roadbed				
Ë						
		Roadbed preparation and compaction of material:				
4.3.1		Min of 93% Mod AASHTO density	m³	720		
4.4	8.3.3(b)	In-place treatment of roadbed in inter-	10.00			
1.1	0.0.0(0)	mediate or hard rock material by:				
4.4.1		Ripping and compacting to Min of				
		93% Mod AASHTO	m³	15		
4.4.2		Blasting and compacting to 93% Mod				
		AASHTO	m³	10		-
4.6		Replace unsuitable material	-			
4.6.1	PSDM 4	Replace material unsuitable for				
	8.3.4	subgrade with material from commercial sources compact				
		to 90% Mod AASHTO	m³	240		
4.6.3	8.3.4	Replace material unsuitable for				
		subgrade with dump-rock from				
		commercial sources and compact to				
		93% Mod AASHTO (Prov.)	m³	2		
4.7	8.3.6	Extra over items 4.5 for excavating and				
		breaking down material in:				
4.7.1		a) Intermediate excavation	m³	10		
4.7.2		b) Hard excavation	m³	5		
4.8	8.3.7 BSDM 2	Cut to spoil (Contractor own sources)				
4.8.1	PSDM 2	a) Soft excavation	m³	1440		
4.8.2		b) Intermediate	m³	15		
4.8.3		b) Hard excavation	m³	5		
4.8.4		c) Boulder excavation	m³	3		
		CARRIED FORWARD				

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ITEM NO	PAYMENT		TE	NDER	RATE	AMOUNT
	REFERS		UNIT	QTY		
		BROUGHT FORWARD				
4.9	8.3.13	Surface finishes				
4.9.1		Compaction of top 100mm to side-slopes to 90% Mod AASHTO from				
	1. A. A. A.	stockpile	m³	6		1
4.10	8.3.11	Extra over items 4.5 for temporary stock				
		pile	m³	15		
		Remove existing kerb and channel and	m <sup>3</sup>			
4.11	B17.10	concrete lined drains (haulage beyond 1km and dumping charges paid under items 17/B16.02 and B17.11)	-			
4.12	B17.11	Dumping charges				
		(a) Dumping charges at dump site	Prov sum			150 000.00
	61 H I	(b) Handling costs and profit for Item B17.11(a)	%			
4.13	17/B16.02	Overhaul	m³-km			
4.14	B 38.00	BREAKING UP EXISTING PAVEMENT LAYERS				1444
4.14.1	38.02	Milling out existing bituminous material with an average milling depth:				
		(a) Not exceeding 30 mm	m³			_
	41.0 F.	(b) Exceeding 30 mm but not exceeding 60 mm	m³	19 A.		
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		CARRIED FORWARD TO SUMMARY				

ITEM NO	PAYMENT REFERS	SHORT DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SABS 1200 ME, PSME	SECTION 5 : SUBBASE				
i.1	8.3.1	Construct 150mm thick base G3 material from commercial and compact to 98% MOD AASHTO	m³	720		
i.2	8.3.1	Construct 150mm thick lower subbase with (G5) material from commercial and compact to 95% Mod AASHTO	m³	720		
i.3	8.3.5	Process material by means of:				
5.3.1		c) Stabilizing	m³	0		
5.4	8.3.8	Stabilizing agent:				
5.4.1	-	a) Cement	kg	0		
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ITEM NO	PAYMENT REFERS	SHORT DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SANS 1200	SECTION 6 : BLOCK PAVING				
	MJ & PSMJ	전에 관계에 가장 구성하는 것이 같다.				1 C 1
.1		80mm Block paving				
	8.2.2	Construct paving complete with 80mm				
		class 25, Type S-A concrete blocks including 20mm sand and cutting to				
		fit edge, rolling to lockup and ant poison and weed killer	m²	4800		
				1000		
				5 C)		
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		Sector Sector Sector				
		<ul> <li>Statisticases in success</li> </ul>				
		CARRIED FORWARD TO SUMMARY				

ITEM NO	PAYMENT	PAYMENT SHORT DESCRIPTION	TE	NDER	RATE	AMOUNT
	REFERS		UNIT	QTY	RATE	AMOUNT
	SANS 1200 MK, PSMK	SECTION 7 : KERBING				
.1	8.2.1	Precast edge 300mm wide x 150mm deep, Class 20 Mpa concrete, with joints every for straight and curved including testing	m	1100		
.2	8.2.1	Precast 30mm mountable kerb (100mm high front and 200mm high back) with joints every 3m for straight and curved including testing	m	100		
.3	8.2.6.2	2m Cast in situ transitions	No	10		
	-		_			
				ъ.		

SABS 1200     SECTION 8 : ANCILLARY ROADWORKS       8.1     PERMANENT TRAFFIC SIONS       8.1     B.3.1       Sign faces with painted background. Symbols, characters, legend, and constructed from Cromadek G275 Galvaneed steel (1.4 mm thick) of area       8.1.1     Over and up to 2m <sup>4</sup> 8.2     Extra over item 8.1 for using background. Characters, memobils, legend and borders in engineering grade refro- reflective material with signboards constructed from Cromadek G275 Galvanized       8.1.2     0.3.2       8.1.3     Sign Sugooffs       8.1.4     a) Engineering grade refro- reflective material with signboards       8.1.2     a) Engineering grade refro- reflective material with signboards       8.1.3     b) Steel tubing galvanized : D Section       8.1.4     b) Steel tubing galvanized : D Section       8.1.3     a) Engineering grade refro- reflective material       8.1.3     b) Steel tubing galvanized : D Section       8.1.4     Road MarkingS       8.1.5     b) Steel tubing galvanized : D Section       8.1.1     B.1.1 & B.3.4       B.2.1     100 mm width       8.2     Road MarkingS       8.4.1     Non-reflectived paint applied at nominal rate of 0.42 LUT2 (SABS 731 - 1997)       8.2.1     j) Vihite characters and symbols     m <sup>2</sup> 8.2.1     j) Vihite characters and symbols     m <sup>2</sup> 8.2.1     j)		PAYMENT REFERS	SHORT DESCRIPTION	UNIT	QTY	RATE	AMOUNT
8.1     PERMANENT TRAFFIC SIGNS     Image: Sign faces with painted background. Symbols, characters, legnd, and borders in engineering grade retro- reflective material with signboards constructed from Constructed from Sign Supports a) Sign Supports a) Sign Supports beckground. characters, symbols, legend and borders to SANS is 19 19 90000000000000000000000000000000							
8.3.1       Sign faces with painted background. Symbols, characters, legend, and bodres in enjorence grade retro- reflective material with signboards constructed from Constructed f		MM	ROADWORKS		- C - L - L)		
Symbols, characters, legand, and bodres in enjoyening grade retro- reflective material with sighboards constructed from Constructed from Constructed from 	8.1	1.0	PERMANENT TRAFFIC SIGNS				
bodders in engineering grade reto- reflective material with signbards constructed from Cormacket C275 Galvanised steel (1.4 mm thick) of area 8.3.2 Extra over item 8.1 for using a) Expresenting grade reto-reflective background, characters; symbols, legend and borders to SANS' 1519-1990 8.3.3 Sign Supports b.3.3 b) Steel tubing galvanized : D Section 1.1.3.1 b) Steel tubing galvanized : D Section 1.1.3.2 b) Steel tubing galvanized : D Section 1.1.3.3 b) Steel tubing galvanized : D Section 1.1.3.4 b) Steel tubing galvanized : D Section 1.1.3.2 b) Steel tubing galvanized : D Section 1.1.3.2 b) Steel tubing galvanized : D Section 1.1.3.2 b) Steel tubing galvanized : D Section 1.1.3.3 b) Steel tubing galvanized : D Section 1.1.3.4 b) Steel tubing galvanized : D Section 1.1.3.4 b) Steel tubing galvanized : D Section 1.1.3.2 b) Steel tubing galvanized : D Section 1.1.3.4 b) Steel tubing galvanized : D Section 1.1.3.2 b) Steel tubing galvanized : D Section 1.1.3.4 b) Steel tubing galvanized : D Section 1.1.3.4 b) Steel tubing galvanized : D Section 1.1.3.2 b) Steel tubing galvanized : D Section 1.1.3.2 b) Steel tubing galvanized : D Section 1.1.3.2 b) Steel tubing galvanized : D Section 1.1.3.3 b) Steel tubing galvanized : D Section 1.1.3.4 b) Steel tubing galvanized : D Section 1.1.3.4 b) Steel tubing galvanized : D Section 1.1.3.4 b) Steel tubing galvanized : D Section 1.1.3.5 b) Steel tubing galvanized : D Section 1.1.3.5 b) Steel tubing galvanized : D Section 1.1.3.6 b) Steel tubing galvanized : D Section 1.1.4 b) Steel tubing galvanized : D Section 1.1.5 b) Steel tub		8.3.1	Sign faces with painted background.				
reflective material with signboards constructed from Cromadek G275 Galvanised steel (1.4 mm thick) of aream²5.003.1.1Over and up to 2m²m²5.003.1.2a) Exprisore reflective background, characters, symbols, legend and borders to SANS 1519-1900m²5.003.1.3a) Sign Supportsm²5.003.1.3Sign Supportsm²5.003.1.3b) Steel tubing galvanized : D Sectionm²5.003.1.3S.2 metre longNo2.003.1.3.4S.2 metre longNo2.003.1.3.4S.2 metre longNo2.003.1.3.4S.11 & 8.34Excavation for sign supports and back fulling with insitu materialm²1.003.1.3S.11 & 8.34Excavation for sign supports and back fulling with insitu materialm²1.003.2.2Non-reflectorized paint applied at nominal rate of 0.42 L/m2 (SABS 731 - 1967) a) White lines (broken or unbroken)km0.053.2.100 mm widthkm0.092.233.2.100 mm widthkm0.053.2.2a) Yellow characters and symbolsm²23.2.38.4.4Orderacters and symbolsm²23.2.4A) Yellow characters and symbolsm²23.2.5a) Taffic island markings (ary colour)m²23.3.6B.4.4Setting out and premarking of Lines characters and symbolsm²03.4.4Orstruct peed struing consplete as per typical characters and sym							
a.1.1Constructed from Cromade & 275 Galvanised steel (1.4 mm thick) of aream²5.003.1.1Over and up to 2m²m²5.008.3.2Extra over item 8.1 for usingm²5.008.1.2a) Engineering grade retro-reflective background, characters, symbols, legend and borders to SANSm²5.008.1.3Sin Supportsm²5.008.1.3b) Steel tubing galvanized : D Sectionm²5.003.1.3J.2 metre longNo2.003.1.3.42.0 metre longNo2.003.1.3.5S.1.1 & 8.3.4filling with insitu material metrial materialm²1.003.1.3.2Non-reflectorized path and (ISASS 731 - 1987) (ISASS 731 - 1987)m²1.003.2.1100 mm widthkm0.053.2.1100 mm widthkm0.053.2.10 VMite characters and symbolsm²23.2.10 VMite characters and symbolsm²23.2.10 Vibite characters and symbolsm²23.2.10 Vibite characters and symbolsm²23.2.10 Vibite characters and symbolsm²23.2.10 Vibite characters and symbolsm²23.2.30 Vibite characters and symbolsm²23.3.48.4.4Setting out and premarking of Lines (excluding traffic island markings, characters and symbols)m²23.4Construct peed hump complete as per typical drawing if Sol001/TF7No16 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
steel (1.4 mm thick) of aream²S0.4.1Over and up to 2m²m²5.008.3.2Extra over item 8.1 for usingm²5.008.3.4a) Engineering grade retro-reflective background, characters, symbols, legend and borders to SANS 1519-1980m²5.008.3.3Sign Supportsm²5.008.1.3o) Steel tubing galvanized : D Sectionm²5.008.1.3j. Steel tubing galvanized : D Sectionj. Steel tubing galvanized : D Sectionj. Sign Supports8.1.3j. Steel tubing galvanized : D Sectionj. Sign SupportsNo2.008.1.3.4Steel tubing galvanized : D Sectionm²1.008.1.3s.1.1 & 8.3.4Excervation for sign supports and back filling with insitu materialm²1.008.2.1No-reflectorized paint applied at nominal rate of 0.42 Line2 (SABS 731 - 1987) a) White lines (troken or unbroken)m²1.003.2.1.1100 mm widthkm0.003.2.3o) White characters and symbolsm²13.2.4o) Ville characters and symbolsm²13.2.4o) Ville characters and symbolsm²13.2.4o) Ville characters and symbolsm²13.2.4o) Construct speed hump complete as per typical drawing 1050001/TP7m²23.5iconstruct speed hump complete as per typical drawing 1050001/TP7m²13.5iconstruct speed hump complete as per typicalNo1							
$0.11$ Over and up to $2m^4$ $m^2$ $5.00$ $8.3.2$ Extra over item 8.1 for usinga) Engineering grade retro-reflective background, characters, symbols, legend and borders to SANS 15191900 $m^2$ $5.00$ $8.1.2$ a) Engineering grade retro-reflective background, characters, symbols, legend and borders to SANS 15191900 $m^2$ $5.00$ $8.3.3$ Sign Supports bits 19300 $m^2$ $5.00$ $8.1.3$ b) Steel tubing galvanized : D Section $m^2$ $2.00$ $8.1.3$ $2.0$ metre longNo $2.00$ $8.1.3.2$ $2.0$ metre longNo $2.00$ $8.1.3.4$ Excavation for sign supports and back filling with insitu material sign 1 insitu material ominal rate of 0.42 $Um2$ (GABS 71 1.987) a) White lines (broken or unbroken) $m^4$ $0.05$ $8.4.1$ Non-reflectorized paint applied at nominal rate of 0.42 $Um2$ (GABS 71 1.987) a) White lines (broken or unbroken) $m^4$ $0.05$ $8.2.1.2$ $300  mm$ widthkm $0.05$ $0.00$ $8.2.1.4$ $0.9$ White characters and symbols $m^2$ $2$ $8.2.1$ $0.9$ Unit characters and symbols $m^2$ $2$ $8.4.4$ Setting out and premarking of Lines (broken rate is and symbols) $m^2$ $2$ $8.4.4$ Construct speed hump complete as per typical drawing 1505001/TP7 $m_0$ $1$ $8.4.5$ Construct pedestinan crossing complete as per typical drawing 1505001/TP7 $m_0$ $1$							
8.3.2Extra over item 8.1 for using $\mathbf{x}$ <			steel (1.4 mm thick) of area				
A.1.2       a) Engineering grade retro-reflective background, characters, symbols, legend and borders to SANS       m²       5.00         B.3.3       Stan Supports       m²       5.00         B.1.3       b) Steel tubing galvanized : D Section       No       2.00         B.1.3       b) Steel tubing galvanized : D Section       No       2.00         B.1.3.2       2.0 metre long       No       2.00         B.1.3.3       B.1.1 & B.3.4       Excavation for sign supports and back filling with insity material       m³       1.00         B.2.2       ROAD MARKINGS       m³       1.00         B.2.1.1       Non-reflectorized paint applied at nominal rate of 0.42 L/m2 (SABS 731 - 1967) a) White lines (broken or unbroken)       km       0.05         B.2.1.2       300 mm width       km       0.05         B.2.1.4       d) Yellow characters and symbols       m²       1         B.2.1.2       300 mm width       km       0.05         B.2.1.4       d) Yellow characters and symbols       m²       1         B.2.1.2       e) Traffic island markings (ary colour)       m²       2         B.2.3       c) White characters and symbols       m²       2         B.2.4       d) Yellow characters and symbols       m²       2	3.1.1		Over and up to 2m <sup>∠</sup>	m²	5.00		
background, characters, symbols, legend and borders to SANSm²5.008.3.3Stan Supports3.1.3b) Steel tubing galvanized : D Section8.1.3.13.2 metre longNo8.1.3.22.0 metre longNo8.1.3.38.1.1 & 8.3.4Excavation for sign supports and back filling with insitu materialm²8.2.2ROAD MARKINGS8.2.1Non-reflectorized paint applied at nominal rate of 0.42 L/m2 (SABS 731 - 1987) a) White lines (broken or unbroken)m²8.2.1.1100 mm widthkm0.058.2.1.2o) White characters and symbolsm²18.2.1.40.00 mm widthkm0.058.2.1.2o) White characters and symbolsm²18.2.1.4o) Vellow characters and symbolsm²18.2.3o) White characters and symbolsm²08.4.4Setting out and premarking of Lines (characters and symbols)km0.68.4.1Construct speed hump complete as per typical drawing 1505001/TP?No1		8.3.2	Extra over item 8.1 for using				
background, characters, symbols, liggend and borders to SANS 1519-1990 8.1.3 8.1.3 8.1.3 8.1.3 8.1.3 8.1.4 8.1.3 8.1.1 8.1.4 8.1.1 8.1.4 8.1.1 8.1	8.1.2		a) Engineering grade retro-reflective				
$1519-1990$ $m^2$ $5.00$ 8.3.3Sian Supports))b) Steel tubing galvanized : D Section8.1.33.2 metre longNo2.008.1.3.12.0 metre longNo2.008.1.3.22.0 metre longNo2.008.1.3.38.1.1 & 8.3.4Excavation for sign supports and back filling with insitu material $m^3$ $1.00$ 8.2ROAD MARKINGS $m^3$ $1.00$ 8.2.1Non-reflectorized paint applied at nominal rate of 0.42 L/m2 (SABS 731 - 1897) a) White lines (broken or unbroken) $km$ $0.05$ 8.2.1.1100 mm widthkm $0.09$ 8.2.3 $o$ (White characters and symbols $m^2$ $1$ 8.2.4 $0$ Yellow characters and symbols $m^2$ $2$ 8.3.38.4.4Setting out and premarkings (any colour) $m^2$ $2$ 8.4Construct speed hump complete as per typical drawing 1505001/TP7 $No$ $1$ 8.5Construct pedestrian crossing complete as per typical $No$ $1$							
8.3.3     Sian Supports							
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			drawing 1505001/TP6	No	1		
							8. 
			CARRIED FORWARD TO SUMMARY				

# MAKHADO LOCAL MUNICIPALITY REHABILITATION OF PRETORIUS STREET CONTRACT No: 57/2022 AND STORMWATER

		REHABILITATION OF PRETORIUS ROAD - 600m (SUMMARY)	
SECTION		DESCRIPTION	AMOUNT
	ALTER	ATIONS TO EXISTING BUILDINGS :	
SECTION 1	PRELIMINARY	AND GENERAL	
SECTION 2	STORMWATE	R DRAINAGE	
SECTION 4	EARTHWORK	S	
SECTION 5	SUBBASE		
SECTION 6	<b>BLOCK PAVIN</b>	IG	
	KERBING		
SECTION 8	ANCILLARY		
Cub Table			
Sub-Total A			
Add 10% Cont	lingency		
Sub-Total B			
Add 15% VAT TOTAL			

# REHABILITATION OF PRETORIUS STREET, LOUIS TRICHARDT

# C3: SCOPE OF WORK

# C3.1 STANDARD SPECIFICATIONS

# C3.2 PROJECT SPECIFICATIONS

# PARTA: GENERAL

- PS-1 Project Description
- PS-2 Description of the Site and Access
- PS-3 Details of the Works
- PS-4 Construction Management Requirements

# PART C3 SCOPE OF WORKS

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C3.1.2	Overview of the Works	
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C3.1.4	Location of the Works	
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# STATUS

In the event of any discrepancy between the Scope of Works, the Bill of Quantities or the Drawings, the Project Specifications shall take precedence and prevail in the Contract.

# C3.1 <u>DESCRIPTION OF THE WORKS</u>

### C3.1.1 <u>EMPLOYER'S OBJECTIVES</u>

The Employer's objectives are the Rehabilitation of Pretorius Street, Louis Trichardt. The scope of works covered by this TOR for Pretorius Street shall include:

- Reconstruction of Pretorius Street, with kerbing;
- 2 x bell-mouth reconstruction at Grabler Street;
- 1 x bell-mouth reconstruction at President Street;
- 1 x bell-mouth reconstruction at Kruger Street;
- 1 x wide bend reconstruction at Burger Street;
- New open-channel stormwater drainage, with associated culverts.

Where possible, local workers may be temporarily employed to perform non-specialized parts of the works.

### C3.1.2 OVERVIEW OF THE WORKS

1. Geometric Design

The lateral alignment of the road is fixed according to the existing section of road. Details of cut and fill are given in the designed long section drawings.

2 Pavement Design

The preliminary pavement design is according to TRH4. The design life of the roads is taken to be 20 years after completion. With the road carrying Class traffic, the foundation parameters are selected from the catalogue contained in TRH4.

The scope of the work entails repairs on the pavement are as follows:

2.1 Scope of Works

The Client requested block paving surfacing. The scope of work will comprise road reconstruction, including base reconstruction and surfacing the road section using 80mm inter-locking brick pavers and kerbing. A general overview is given below.

## 2.2 Pavement Design



80mm Interlocking pavers on 25mm Sand Bedding

150 mm Gravel Base G2 Material Compacted to 98% MOD AASHTO Density

150 mm Gravel Sub-Base G7 Material Compacted to 95% MOD AASHTO Density

Road bed: Rip and Compact In-situ Material to 93% MOD AASHTO Density

# 2.3 Sub-Grade

Sub-Grade reconstruction shall comprise the following tasks/operations:

- Rip existing surfacing and base
- Dump loads of base material to compensate for the lost base
- Process base material and compact

# 2.4 Sub-Base

New road construction shall comprise the following tasks/operations:

- Rip existing surfacing and compaction if the material is suitable;
- Import gravel from designated borrow pit after geotechnical tests;
- Prepare and compact G7 pavement layers in 150mm layers (95% AASHTO);
- Process subbase and base material and compact.

# 2.5 Base

New road construction shall comprise the following tasks/operations:

- Rip existing surfacing and compaction if the material is suitable;
- Import gravel from designated borrow pit after geotechnical tests;
- Prepare and compact G2 pavement layers in 150mm layers (98% AASHTO);

Process subbase and base material and compact.

### 2.6 Block-Paving and Finishing

- Kerbing and stormwater collectors;
- 80mm inter-locking block paving;
- Road markings and furniture.

# 3. Drainage Structures

New surface stormwater drainage will be installed on the project to control stormwater and kerbing will also be provided.

Stormwater will be collected from the road surface and surrounding areas by means of:

- Road surface and kerbing;
- Stormwater drift;
- Vee-channel;
- Lined Trapezoidal drain;
- Double-pipe culverts.

### C3.1.3 LOCATION OF THE WORKS

**Pretorius Street** is located within the town of Louis Trichardt in the MAKHADO Local-Municipality in Limpopo Province.

# C3.2 ENGINEERING

# C3.2.1 DESIGN

The Engineer is responsible for the engineering design of the permanent Works as reflected in the Contract Documents unless otherwise stated.

### C3.2.2 EMPLOYER'S DESIGN

Nil.

# C3.2.3 CONTRACTOR'S DESIGN

Where contractor is to supply the design of designated parts of the permanent Works or temporary Works he shall supply full working drawings supported by a professional engineer's design certificate.

#### C3.2.4 DRAWINGS

The Contractor shall ensure that accurate as-built records are kept of all infrastructure installed or relocated during the contract. A marked-up set of drawings shall also be kept and updated by the Contractor. This information shall be supplied to the Engineer's Representative on a regular basis.

All information in possession of the Contractor, required by the Engineer and/or the Engineer's Representative to complete the as-built/record drawings, must be submitted to the Engineer's Representative before a Certificate of Completion will be issued.

The following drawings are included in this tender at this stage, and are deemed sufficient for the contractor to see the scope of the work, the difficulties that would arise during construction, as well as the proposed protection and control requirements, based on the single line diagrammed:

Drawing no.	Description

### C3.2.5 <u>DESIGN PROCEDURES</u>

The Contractor shall submit the designs, which he is responsible for in terms of the contract, to the Engineer for approval, before any fabrication and/or installation may take place.

No design changes shall be implemented unless approval is received in writing from the Engineer. Amended drawings, showing the design changes, shall be issued to all concerned, immediately after approval of such amendments.

All documentation, drawings and instructions shall be accompanied by a transmittal sheet, indicating whether it is for approval/construction/information etc.

### C3.3 PROCUREMENT

C3.3.1 PREFERENTIAL PROCUREMENT

C3.3.1.1 Requirements

As per standard Municipal tender procedures included elsewhere in this tender.

C3.3.1.2 Resource standard pertaining to targeted procurement

As per standard Municipal tender procedures included elsewhere in this tender.

#### C3.3.2 <u>SUBCONTRACTING</u>

C3.3.2.1 Scope of mandatory subcontract works

Due to the specialized nature of certain sections of the works, it is anticipated that the principal contractors that would be appointed, will make use of sub-contractors. Bidders shall indicate in their

tenders where they make use of subcontractors, and also indicate the details of the proposed subcontractors. These subcontractors will be deemed to be domestic sub-contractors.

#### C3.3.2.2 Preferred subcontractors/suppliers

The Bidders shall note that the Employer reserves the right to appoint more than one contractor for the Works. Contractors shall also be acceptable to the Insurers, who will pay for a large portion of the Works. Where more than one contractor is appointed, the Employer reserves the right to appoint specific Contractors as principal contractors and others as nominated or selected contractors under the principal contractors. It is, however, preferred, that the Contractors offer a full turnkey solution.

#### C3.3.2.3 Subcontracting procedures

Before any subcontractors are appointed, full details of the qualifications and experience shall be submitted to the Engineer for approval. No appointment shall be made without the written approval of the Engineer.

# C3.3.2.4 Attendance on subcontractors

Attendance on subcontractors is deemed to be included in the rates, and no separate allowance shall be made for attendance on subcontractors. Attendance due to the work executed by contractors under separate contracts are listed separately.

### C3.4 CONSTRUCTION

#### C3.4.1 WORKS SPECIFICATIONS

C3.4.1.1 Applicable SASS 1200 Standardized Specifications

SABS 1200 is applicable to all works.

C3.4.1.2 Particular Specifications

See Part II of this document.

C3.4.1.3 National and International Standards

See Part II of this document.

C3.4.1.4 Variations and Additions to the SASS 1200 Standardized Specifications

Variations and additions to the following SABS 1200 Standardized Specifications listed in C3.4.1 are given in section C3.4.6.

C3.4.2 <u>SITE ESTABLISHMENT</u>

C3.4.2.1 Services and facilities provided by the Employer

(a) Water sources

The contractor should make his own arrangements for onsite water supply.

(b) Electricity supply

The contractor should make his own arrangements for electricity supply.

(c) Excrement disposal

The contractor shall be responsible for waste disposal onsite

(d) Area for Contractor's site establishment

The Site of the Works is restricted and the Employer has no suitable areas available where the Contractor may erect offices, workshops, stores and other facilities that he requires for the purposes of the Contract. The Contractor shall, at his own cost, be responsible for locating and making all arrangements necessary for securing an area suitable to meet his needs in respect of the erection of the Contractor's offices, stores and other facilities, including the facilities to be provided for the Engineer in accordance with the Contract.

Any potential area proposed by the Contractor shall be within reasonable proximity to the Site of the Works and its location shall be subject to the approval of the Engineer, which approval shall not be unreasonably withheld.

### C3.4.2.2 Facilities provided by the Contractor

(a) Facilities for the Engineer

The Contractor shall provide on the Site, for the duration of the Contract and for the exclusive use of the Engineer and/or his Representative (as applicable), the various facilities described hereunder. All such facilities shall be provided promptly on the commencement of the Contract and failure on the part of the Contractor to provide any facility required in terms of this specification shall constitute grounds for the Engineer to withhold payment of the Contractor's tendered Preliminary and General items until the facility has been provided or restored as the case may be.

(i) Office accommodation

2 x offices

(ii) Carports

4 x carports

(iii) Site meeting venue

For site meetings

(iv) Contract name boards

The Contractor shall provide, erect and maintain contract 2 x name boards at such positions and locations directed by the Engineer (and quantities as listed in the bills of quantities), which name boards shall, unless otherwise specified elsewhere in the Contract, comply with the recommendations for the standard board of the South African Association of Consulting Engineers, with regard to size, painting, decorating and detail, and the requirements described hereunder.

Each name board shall be made of tempered hardboard with a thickness of at least 12 mm, so braced on the reverse side as to prevent warping and shall be mounted on two or more, as necessary, firmly planted poles. The painting of the boards shall comply with the relevant requirements of CKS 193 and the colours of the paints shall be an acceptable match to the applicable colours given in SABS 1091.

The Contractor shall keep the contract name boards in good state of repair for the duration of the Contract and shall remove them on completion of the Contract.

(v) Survey equipment and assistants

(vi) Telephone facilities

Yes. A Cellphone and airtime, the cost of which is provided as provisional sum in the Bill of Quantities.

(vii) Computer facilities

Contractors use

(viii) Fax facilities

Nil.

(ix) Electricity supply for the Engineer

In office

(x) Site instruction book

The Contractor shall keep a triplicate book for site instructions on the Site at all times. This book shall be for the exclusive use of the Engineer. The Contractor must also complete a daily site diary to note daily activities.

(xi) Housing for Engineer's Representative

Nil.

### (b) Water

The Contractor shall, at his own expense, be responsible for obtaining and distributing all water as may be required for the purposes of executing the Contract, including water for both construction purposes and domestic use, as well as for making all arrangements in connection therewith. The Contractor shall further, at his own expense, be responsible for providing all necessaries for procuring, storing, transporting and applying water required for the execution of the Contract, including but not limited to all piping, valves, tanks, pumps, meters and other plant and equipment, as well as for all work and superintendence associated therewith.

The sources of all water utilised for the purposes of the Contract shall be subject to the prior approval of the Engineer, which approval shall not be unreasonably withheld.

The Contractor shall comply with all prevailing legislation in respect of drawing water from natural and other sources and shall, when required by the Engineer, produce proof of such compliance. The distribution of water shall be carried out by the Contractor strictly in accordance with the applicable laws and regulations.

All water provided by the Contractor for construction purposes shall be clean, free from undesirable concentrations of deleterious salts and other materials and shall comply with any further relevant specifications of the Contract. The Contractor shall, whenever reasonably required by the Engineer, produce test results demonstrating such compliance. Water provided by the Contractor for human consumption shall be healthy and potable to the satisfaction of the health authorities in the area of the Site.

No separate payment will be made to the Contractor for the obtainment, distribution and consumption of water, the costs of which will be deemed to be included in the Contractor's tendered rates.

### (c) Electricity

The Contractor shall, at his own expense, be responsible for obtaining and distributing all electricity as he may require for the purposes of executing the Contract, including electricity for both construction purposes and domestic use, as well as for making all arrangements in connection therewith.

The distribution of electricity shall be carried out by the Contractor strictly in accordance with the applicable laws and regulations.

No separate payment will be made to the Contractor for the obtainment, distribution and consumption of electricity, the costs of which will be deemed to be in the Contractor's tendered rates and prices.

#### (d) Excrement disposal

The Contractor shall, at his own expense, be responsible for safely and hygienically dealing with and disposing of all human excrement and similar matter generated on the Site during the course of the Contract, to the satisfaction of the responsible health authorities in the area of the Site and the Engineer. All such excrement shall be removed from the Site and shall not be disposed of by the Contractor on the Site.

The Contractor shall further comply with any other requirements in this regard as may be stated in the Contract.

No separate payment will be made to the Contractor in respect of discharging his obligations in terms of this subclause and the costs thereof shall be deemed to be included within the Contractor's tendered Preliminary and General items.

#### C3.4.2.3 Site usage

Not Applicable

### C3.4.2.4 Permits and Wayleaves

The Contractor shall be responsible to obtain all permits required under this Contract.

### C3.4.2.5 Features requiring special attention

### (a) Site maintenance

During progress of the work and upon completion thereof, the Site of the Works shall be kept and left in a clean and orderly condition. The Contractor shall store materials and equipment for which he is responsible in an orderly manner, and shall keep the Site free from debris and obstructions.

#### (b) Subcontractors

All matters pertaining to subcontractors (including Nominated Subcontractors) and the work executed by them shall be dealt with directly between the Engineer and the Contractor in the context of all subcontract work being an integral part of the Works for which the Contractor is responsible. The Engineer will not liaise directly with any subcontractors nor will he issue instructions concerning the subcontract works directly to any subcontractor.

All matters arising from the subcontract agreements shall be dealt with directly between the Contractor and the subcontractors and the Engineer will not become involved.

### (c) Access to properties

The Contractor shall organise the work to cause the least possible inconvenience to the public and to the property owners adjacent to or affected by the work, and except as hereunder provided, shall at all

times provide and allow pedestrian and vehicular access to properties within or adjoining or affected by the area in which he is working. In this respect the Contractor's attention is drawn to Clause 17.1 of the Conditions of Contract.

If, as a result of restricted road reserve widths and the nature of the work, the construction of bypasses is not feasible, construction shall be carried out under traffic conditions to provide access to erven and properties.

Notwithstanding the aforegoing, the Contractor may, with the prior approval of the Engineer (which approval shall not be unreasonably withheld), make arrangements with and obtain the acceptance of the occupiers of erven and properties to close off part of a street, road, footpath or entrance temporarily, provided that the Contractor duly notifies the occupiers of the intended closure and its probable duration, and reopens the route as punctually as possible. Where possible, such streets, roads, footpaths and entrances shall be made safe and reopened to traffic overnight. Such closure shall not absolve the Contractor from his obligations under the Contract to provide access at all times. Barricades, traffic signs, drums and other safety measures appropriate to the circumstances shall be provided by the Contractor to suit the specific conditions.

(d) Existing residential areas

Electricity and water supply interruptions in existing residential areas shall be kept to a minimum. The Engineer's approval shall be obtained prior to such interruptions and residents shall be notified in writing at least 24 hours but not more than 48 hours in advance. Supplies shall be normalised by 16:00 on the same day.

(e) Monthly statements and payment certificates

The statement to be submitted by the Contractor in terms of Clause 49 of the Conditions of Contract shall be prepared by the Contractor at his own cost, strictly in accordance with the standard payment certificate prescribed by the Engineer, in digital electronic computer format. The Contractor shall, together with a copy of the digital electronic computer file of the statement, submit two (2) A4 size paper copies of the statement.

For the purposes of the Engineer's payment certificate, the Contractor shall subsequently be responsible, at his own cost, for making such adjustments to his statement as may be required by the Engineer for the purposes of accurately reflecting the actual quantities and amounts which the Engineer deems to be due and payable to the Contractor in the payment certificate.

The Contractor shall, at his own cost, make the said adjustments to the statement and return it to the Engineer within three (3) normal workings days from the date on which the Engineer communicated to the Contractor the adjustments required. The Contractor shall submit to the Engineer five (5) sets of A4 size paper copies of such adjusted statement, together with a copy of the electronic digital computer file thereof.

Any delay by the Contractor in making the said adjustments and submitting to the Engineer the requisite copies of the adjusted statement for the purposes of the Engineer's payment certificate will be added to the times allowed to the Engineer in terms of Subclause 49.4 of the Conditions of Contract to submit the signed payment certificate to the Employer and the Contractor. Any such delay will also be added to the period in which the Employer is required to make payment to the Contractor.

(f) Construction in restricted areas

Working space is sometimes restricted. The rates and prices tendered will be deemed to include full compensation for any difficulties encountered by the Contractor while working in restricted areas. No extra payment nor any claim for payment due to these difficulties will be considered.

(g) Notices, signs, barricades and advertisements

All notices, signs and barricades, as well as advertisements, may be used only if approved by the Engineer. The Contractor shall be responsible for their supply, erection, maintenance and ultimate removal and shall make provision for this in his tendered rates.

The Engineer shall have the right to instruct the Contractor to move any sign, notice or advertisement to another position, or to remove it from the Site of the Works if in his opinion it is unsatisfactory, inconvenient or dangerous.

(h) Workmanship and quality control

The onus to produce work that conforms in quality and accuracy of detail to the requirements of the Specifications and Drawings rests with the Contractor, and the Contractor shall, at his own expense, institute a quality control system and provide suitably qualified and experienced engineers, foremen, surveyors, materials technicians, other technicians and technical staff, together with all transport, instruments and equipment to ensure adequate supervision and positive control of the Works at all times.

The cost of supervision and process control, including testing carried out by the Contractor, will be deemed to be included in the rates tendered for the related items of work.

The Contractor's attention is drawn to the provisions of the various Standardized Specifications regarding the minimum frequency of testing required. The Contractor shall, at his own discretion, increase this frequency where necessary to ensure adequate control.

On completion and submission of every part of the work to the Engineer for examination and measurement, the Contractor shall furnish the Engineer with the results of the relevant tests, measurements and levels to demonstrate the achievement of compliance with the Specifications.

### C3.4.2.6 Extension of time due to abnormal rainfall

The contractor shall not be permitted to work on the site during lightning activity.

(a) Extension of time in respect of delays resulting from wet climatic conditions on the Site will only be considered in respect of abnormally wet climatic conditions and shall be determined for each calendar month or part thereof, in accordance with the formula given below:

$$V = (Nw - Nn) + (Rw - Rn)/X$$

in which formula the symbols shall have the following meanings:

V = Potential extension of time in calendar days for the calendar month under consideration:

If V is negative and its absolute value exceeds Nn, then V shall be taken as equal to minus Nn.

When the value of V for any month exceeds the number of days in the particular month, V will be the number of days in the month.

- Nw = Actual number of days in the calendar month under consideration on which a rainfall of Y mm or more was recorded on the Site
- Nn = Average number of days, derived from existing records of rainfall in the region of the Site, on which a rainfall of Y mm or more was recorded for the calendar month
- Rw = Actual rainfall in mm recorded on the Site in an approved rain gauge for the calendar month under consideration

Rn = Average rainfall in mm for the calendar month, derived from existing records of rainfall in the region of the Site

The factor (Nw - Nn) shall be deemed to be a fair allowance for variations from the average number of days during which the rainfall exceeds Y mm.

The factor (Rw - Rn)/X shall be deemed to be a fair allowance for variations from the average number of days during which the rainfall did not exceed Y mm but wet conditions prevented or disrupted work.

(b) The rainfall records at the rainfall station as stated in the Rainfall Table following and the monthly averages (Rn and Nn) for this period shall, for the purposes of this Contract be taken as normal and as the values to be substituted for Rn and Nn in the formula above. The values of X and Y shall be 20 and 10 respectively.

The potential extension of time V has been calculated for each month and year of the period concerned to indicate the possible effect of the rainfall formula. The values of V were obtained by applying the rainfall formula and using the actual rainfall figures and the calculated values of Rn and Nn indicated in the table.

- (c) The Contractor shall, at his own cost, provide and erect on the Site at a location approved by the Engineer, an approved rain gauge, which shall be fenced off in a manner which will prevent any undue interference by workmen and others. The Contractor shall, at his own cost, arrange for the reading of the rain gauge on a daily basis for the duration of the Contract. The gauge readings, as well as the date and time at which the reading was taken shall be recorded in a separate record book provided by the Contractor for this purpose. All entries in the rainfall record books shall be signed by the person taking the reading and the gauge shall be properly emptied immediately after each reading has been taken. If required by the Engineer, the Engineer shall be entitled to witness the reading of the gauge.
- (d) The Contractor's claims in terms of Sub clause 10.3 of the Conditions of Contract for extension of time in respect of delays resulting from wet climatic conditions on the Site during each month, shall be submitted in writing to the Employer monthly;

provided always that the period allowed to the Contractor in terms of Clause 10.3 of the Conditions of Contract in which to submit his claim for each month shall be seven (7) days, calculated from the last day of the month to which the claim applies.

The Contractor's monthly claim shall be accompanied by a copy of the signed daily rainfall readings for the applicable month.

- (e) The extent of any extension of time which may be granted to the Contractor in respect of wet climatic conditions (whether normal or abnormal) shall be determined as the algebraic sum of the 'V' values for each month between the Commencement Date and the Due Completion Date of the Contract provided always that:
  - (i) rainfall occurring within the period of the Contractor's Christmas shut-down shall not be taken into account in the calculation of the monthly "V' values;
  - (ii) rainfall occurring during any period during which the Contractor was delayed due to reasons other than wet climatic conditions on the Site, and for which delay an extension of time is granted by the Employer, shall not be taken into account in the calculation of the monthly "V' values;
  - (iii) if the algebraic sum of the 'V' values for each month is negative, the time for completion will not be reduced on account of subnormal rainfall, and

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(iv)where rainfall is recorded only for part of a month, the "V' value shall be calculated for that part of the month using pro rata values for Nn and Rn.

- (f) The Employer shall, simultaneous with granting any extension of time in terms of this clause, revise the Due Completion Date of the Contract to reflect an extension of time having been granted in respect of wet climatic conditions, to the extent of the algebraic sum of all the "V' values for all the preceding months of the Contract, less the aggregate of the "Nn" values for the remaining (unexpired) months of the Contract (viz less aggregate of the potential maximum negative "V' values for the remaining Contract Period). Thus, provided that where such period is negative, the Due Completion Date shall not be revised.
- (g) Any extension of time in respect of wet climatic conditions granted in terms of this clause shall not be deemed to take into account delays experienced by the Contractor in repairing or reinstating damage to or physical loss of the Works arising from the occurrence of abnormal climatic conditions. Extension of time in respect of any such repairs or reinstatement regarding damage shall be the subject of a separate application for extension of time in accordance with the provisions of the Conditions of Contract.
- (h) The Contractor shall make due allowance within his programme submitted for a total anticipated delay to items on the critical path resulting from wet climatic conditions, of 21 (twenty-one) normal working days during the Contract.
- (i) Extension of time, if granted by the Employer, will be determined as the aggregate number of normal working hours for which all progress on the item or items on the critical path was brought to a halt as a result of wet climatic conditions, less the number of normal working days specified in subclause (d) above.
- (j) In determining the revised Due Completion Date of the Contract, the Employer shall add the equivalent number of normal working days delay determined in accordance with subclause (e) and all intervening normal non-working days to the prevailing Due Completion Date.

### C3.4.3 PLANT AND MATERIALS

C3.4.3.1 Plant and materials supplied by the Employer

None

- C3.4.3.2 Materials, samples and shop drawings
- (a) Samples

Materials or work which does not conform to the approved samples submitted in terms of Subclause 23.4 of the Conditions of Contract, will be rejected. The Engineer reserves the right to submit samples to tests to ensure that the material represented by the sample meets the specification requirements.

The costs of any such tests conducted by or on behalf of the Engineer, the results of which indicate that the samples provided by the Contractor do not conform to the requirements of the Contract, shall, in accordance with the provisions of Subclause 23.7 of the Conditions of Contract, be for the Contractor's account.

- C3.4.4 CONSTRUCTION EQUIPMENT
- C3.4.4.1 <u>Requirements for equipment</u>

and Regulation Gazette No 7721 of 18 July 2003. Non-compliance with these regulations, in any way whatsoever, will be adequate reason for suspending the Works.

The proposed type of work, materials to be used and potential hazards likely to be encountered on this Contract are detailed in the Project Specifications, Schedule of Quantity and Drawings, as well as in the Employers' health and safety specifications (regulation 4(1)) of the Construction Regulations 2003, which are bound in the Contract document/will be issued separately by the Employer.

The Contractor shall in terms of regulation 5(1) provide a comprehensive health and safety plan detailing his proposed compliance with the regulations, for approval by the Employer.

The Contractor shall at all times be responsible for full compliance with the approved plan as well as the Construction Regulations and no extension of time will be considered for delays due to non-compliance with the abovementioned plan or regulations.

A payment item is included in the Schedule of Quantities to cover the Contractor's cost for compliance with the OHS Act and the abovementioned regulations.

### C3.6.2 <u>PROTECTION OF THE PUBLIC</u>

The Site is within a restricted area and the Contractor will take all measures required not to allow members of the public access to the Site.

# C3.6.3 BARRICADES AND LIGHTING

The Contractor is required to implement the relevant regulations in terms of the OHS Act. The contractor is advised to barricade his work areas from such live parts of the network to ensure the safety of his employees.

#### C3.6.4 TRAFFIC CONTROL ON ROADS

Not Applicable

#### C3.6.5 MEASURES AGAINST DISEASE AND EPIDEMICS

The Contractor shall, in his Health and Safety Plan, make provision for measures against the spread of disease and epidemics.

# C3.6.6 <u>AIDS AWARENESS</u>

The Contractor shall, in his Health and Safety Plan, make provision for the education of his personnel in the dangers and complications related to the transfer of AIDS. Regular informative sessions shall be held, preferably at the same time as the Safety Meetings, where the methods for the prevention of Aids are explained and discussed.

The Contractor's personnel shall be fully informed about the Aids awareness campaigns, counselling clinics and medical aid available to suspected sufferers of the disease.

#### Part C4 Site Information

#### C4.1 LOCALITY PLAN



Makhado Local Municipality is located in the northern parts of Limpopo Province (coordinates 23° 00′ 00′′ S 29° 45′ 00′′ E) approximately 100km from the Zimbabwean border along the N1 Route. (See Locality Map below). The municipal area is 6698.294 km² (or 669829.4 Hectares) in size and strategically located on a macro scale along a major passage between South Africa and the rest of the African continent. Approximately 416 728 people currently reside within the Municipality and based on the vastness of the rural populace the municipality can be classified as predominately rural with a population density of 67 persons per square kilometer.

MAKHADO LOCAL MUNICIPALITY

#### C5: GENERAL & DETAIL SPECIFICATION STANDARD TECHNICAL REQUIREMENTS

#### 5.0 GENERAL

Bids shall be evaluated based on the completeness of the Technical Schedules and Supporting Materials & Equipment Specifications submitted in-line with the specifications herein. However, additional proposals for alternative specifications and designs in-line with best international practices and technological developments are welcome.

All technical schedules shall be completed and submitted as part of the technical bid. The full manufacturer specification documentation of all the equipment supplied shall be submitted as part of the technical bid. Bids that lack completed technical schedules, or manufacturer specification documentation shall be considered non-compliant.

The Contractor shall provide a detailed work plan that shall include the starting date for mobilizing adequate resources and the time schedule for all works up to the completion and commissioning of the works. The effective start date of the work schedule submitted as part of the bid documentation shall be taken to be 60 days from the close of bids.

The Contractor shall furnish all tools, plant, instruments, qualified supervisory personnel, labour, materials, any temporary works, consumables etc. whether or not such items are specifically stated herein, for completion and commissioning of the works in accordance with specification requirements.

This Specification covers the supply of all materials, the execution of all works, including all design and investigative work and all commissioning, necessary for the satisfactory completion and operation of the Project. However, should there be any details of construction or materials which have not been referred to in the Specification, but the necessity for which are usual or essential to the completion of all works in all trades, the same shall be deemed to be included in the Contract Price.

The bidder shall supply as part of the bid documentation the completed Technical Schedules with supportive documentation for all the specifications included in this Terms of Reference. The supportive documentation shall include the manufacturer's equipment specifications, operating and maintenance manuals, data sheets etc. that verify the information submitted by the bidder in the Technical Schedules.

#### 5.1 Design and Standardization

N/A

#### 5.2 Quality Assurance

The Contractor shall submit as part of the bid documentation, a quality management plan, for the assurance of quality of construction and installation of the works.

The quality assurance arrangements shall conform to the relevant requirements of ISO 9001 or ISO 9002 as appropriate.

The systems and procedures which the Contractor will use to ensure that the Works comply with the ToR requirements shall be defined in the quality management plan for the works.

The quality management plan for the works shall set out the activities in a logical sequence and, unless advised otherwise, shall include the following:

- a) An outline of the proposed work and program sequence
- b) The duties and responsibilities assigned to staff ensuring quality of work for project
- c) The inspection of materials and components on receipt
- d) Reference to the Contractor's work procedures appropriate to each activity
- e) Inspection during fabrication/construction
- f) Final inspection and test

The Contractor shall retain responsibility for the disposition of non-conforming items.

During the course of the project, the Employer will monitor the implementation of the Quality Assurance arrangements. Monitoring will be by surveillance of the activities on site and/or by formal audits of the adherence of the Contractor to the systems and procedures which constitute his Quality Assurance arrangements.

Corrective actions shall be agreed and implemented in respect of any deficiencies

The Contractor shall provide any facilities, including access, which may be required by the Employer for monitoring activities.

#### 5.3 Health Safety and Environment (HSE)

The Contractor shall at all times adhere to the Safety Policy when carrying out these works. Within one month of award of contract the Contractor shall submit an HSE Plan for the project, for the approval by the Employer

The primary objective of the HSE Plan is for the contractor to demonstrate that he has the capability to carry out the project works in a cost-effective manner, giving due consideration to the Health, Safety and Environmental management of both his own employees, those of the Employer and anyone who may be affected by his activities.

The HSE Plan shall conform to the following general structure:

- a) Contractors Policy Statement
- b) Health
- c) First Aid
- d) Occupational health
- e) Safety
- f) Motivation and communication
- g) Emergency response

- h) Safety function
- i) Accident investigating and reporting
- j) Personal protective equipment
- k) Environment
- I) Waste management

The Contractor shall avail personnel to be present for MAKHADO Local Municipality Safety Training / Induction. The Contractor shall at all times ensure the following:

- All personnel on site shall at all times have the required personal safety equipment
- The Contractor shall at all times limit access to the site to only the Contractor's personnel and the Employer representatives
- The Contractor shall ensure adequate access control measures are in place
- The Contractor shall have a safety representative present on site at all times. The safety representative shall be a trained Safety, Health, Risk, Environment and Quality (SHREQ) Officer, with experience in enforcing SHREQ requirements on construction sites.
- The Contractor shall provide all equipment required for the safe execution of the works. The Contractor shall ensure that all such equipment supplied is in good working order.

Should there be any details regarding safety which have not been referred to in the Specification, but the necessity for which are usual or essential to the completion of all works in all trades, the same shall be deemed to be included in the Contract Price. Failure to adhere to the safety requirements shall result in the stoppage of works. All additional costs incurred as a result of such delays, to ensure timely completion of the milestones, shall be borne by the Contractor.

The Contractor shall ensure the security of all equipment and personnel on site at all times until the station is formally handed over to the Employer.

#### 5.4 Progress Reporting

The Contractor shall submit a weekly progress report detailing the progress of all works during the execution of the works. The reports shall show clearly and accurately the position of all activities associated with engineering, material procurement, works tests, shipping, site erection, testing and commissioning with regard to the agreed project schedule. The progress reports shall contain photographic documentation.

Each section of the site works shall be monitored giving the percentage completion and the estimated completion date in accordance with the project schedule. The number of men working on site, both labour and supervisory staff, shall be reported together with any incidents or events that may affect the progress of site works.

Any delays which may affect any milestone or final completion dates shall be detailed by the Contractor who shall state the action taken to effect project completion in accordance with the project schedule.

#### 5.4.1 Standards

Except otherwise specified or implied, the Project Works shall comply with SABS 1200.

Reference to a particular standard or recommendation in this Terms of Reference does not relieve the Contractor of the necessity of providing the Project Works complying with other relevant standards or recommendations.

#### 5.4.2 Language and system of units

The English language shall be used in all written communications between the Employer and the Contractor with respect to the services to be rendered and with respect to all documents and drawings procured or prepared by the Contractor pertaining to the work, unless otherwise agreed by the Employer.

The design features of all equipment shall be based on the SI system of units.

#### 5.4.3 Drawings

Construction drawings will be issued to the Contractor timeously.

#### 5.4.4 CIVIL WORKS

#### 5.4.4.1 Geotechnical Investigations

The geotechnical investigation for assessing suitable type and size of foundations for structures and equipment included bore holes, plate load tests and trial pits. Laboratory tests on soil and water samples were carried out to establish type of cement to be used in the works and suitability of water for construction.

The geotechnical investigations were carried out under the direction, control and supervision of a qualified and experienced geotechnical specialist. The report from the geotechnical specialist formed the basis for the detailed structural designs of the works. A copy of the report is appended to this report and details the following:

- Geological information of the region
- Past observations and historical data, if available, for the area or for other areas with similar profile or for similar structures in the nearby area.
- Procedure of investigations employed, field test results and laboratory test results.
- Net safe bearing capacity and settlement computation for different types of foundations for various widths and depths.
- Shallow foundations for transformers, sub-station structures and other buildings etc.
- Recommendation regarding roads.

- Recommendations regarding stability of slopes, during excavations, etc.
- Selection of foundation types for transformer, buildings etc.
- Borehole and trial pit logs on standard proforma showing the depths, extent of various soil strata etc.
- Depth of ground water table and its effect on foundation design parameters.
- Recommendations for the type of cement to be used and any treatment to the underground concrete structures based on chemical composition of soil and subsoil water.

#### 5.4.4.2 Earth Works

This section covers the general requirements of earthwork in excavation in different soils and strata including rock, site grading, filling in areas, including importing excavated approved material from borrow pits, filling back around foundations and in plinths including consolidation, conveyance and disposal of surplus unwanted spoils.

The Contractor shall carry out the survey of the site before excavation and set properly all lines and establish levels for various works such as earthworks in excavation for grading, foundations, plinth filling, access roads, drains, cable trenches, etc. Such survey shall be carried out by taking accurate cross sections of the area perpendicular to established reference/ grid lines at 5m intervals or nearer based on ground profile. The excavation shall be done to correct lines and levels in all types of strata such as soil, soft murrum, hard murrum, soft rock, hard rock etc. This shall also include, where required, proper shoring to maintain excavations and also the furnishing, erecting and maintaining of adequate barricades around excavated areas and warning lamps at night for ensuring safety.

The following earth works/ clearance activities shall be carried out as per the Civil and Structural Specifications.

- Site clearance
- Excavation
- Removal of small trees, shrubs, hedges and roots
- Stripping/handling topsoil
- Trench fill foundations
- Unstable ground.

#### 5.4.4.3 Concrete and Allied Works

All concrete works shall be done in accordance with the Civil and Structural Specifications. If any deviations are required from this, this must be discussed with the Employer or the approved Employer's representative.

#### 5.4.4.4 Formwork

All concrete works shall be done in accordance with the Civil and Structural Specifications. If any deviations are required from this, this must be discussed with the Employer or the approved Employer representative.



# GEOTECHNICAL INVESTIGATION REPORT FOR THE PROPOSED UPGRADING OF PRETORIUS STREET IN LOUIS TRICHARDT, LIMPOPO PROVINCE

FINAL REPORT MAY 2022

**Prepared By:** 

Georevelations Consulting cc 2 Xewani Place 115 Magazyn street Polokwane 0699 Cell No: 072 505 5418 Email: khathu@georevelations.co.za

**Prepared For:** 

**SA Quest Consulting Engineers** 

1 Louis Trichardt, Pretorius street : Geotechnical investigation

### **Document Properties**

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Prepared by	Georevelations Consulting cc 2 Xewani place 115 Magazyn street POLOKWANE 0699 Cell No: 072 505 5418 Email: khathu@georevelations.co.za
Prepared for	SA Quest consulting Engineers
Author Signature	<u>Senior Engineering Geologist</u> K.V Radzhadzhi Pr.Sci.Nat

#### **EXECUTIVE SUMMARY**

Georevelations consulting was requested by SA Quest consulting engineers to conduct a geotechnical engineering investigation on the centerline of Pretorius street in Louis Trichardt town within the Makhado local Municipality in Limpopo province in order to determine the suitability of the site with regards to the proposed upgrading of the road.

The investigation was aimed to determine the suitability of the in-situ material for use in road construction to provide information suitable for use in detailed design.

Four (04) test pits were excavated on the centerline of Pretorius street at an average of 200m interval and Four (04) DCP tests were conducted in between the test pit positions along the road alignment to obtain an indication of the in-situ CBR values for the subsoil.

According to the 2328 Pietersburg 1:250 000-scale Geological Map published by the Geological Survey of South Africa now Council for Geosciences the study area is underlain by basic lava (basalt), clastic and pyroclastic sedimentary rocks (conglomerate) of the Dominion Reef System.

The road is generally covered a layer of engineered fill material which was found to be slightly moist, light brown, medium dense, sandy gravel material extending to an average depth of 0.3 m. Residual basalt material was intersected in all test pits and is characterised by Slightly moist, reddish brown, Medium dense silty sand, extending down to an average of 1.3 m.

Materials on site was classified in terms of their suitability for use in earthworks and construction fill based on field observations and laboratory testing.

A layer of engineered fill ranging from 0.0 m to 0.3 m was encountered in all excavated test pits on the road alignment. Fill material along the road was tested and found to be ranging from G5 to G7 quality material according to the TRH 14 guidelines (CSIR, 1987) and is considered suitable for use as engineered fill. Subgrade material found in all test pits from LT 01 to LT 04 to average depth 1.3 m was tested and classified as G10 and <G10 quality material according to TRH classification and it is considered not suitable for construction as fill material.

No geological conditions or any other adverse conditions prohibiting the construction of the roads were encountered at the site. The site is developable providing cognisance is taken of the findings included herein.

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# 1 INTRODUCTION

A geotechnical engineering investigation was conducted on the centerline of Pretorius street in Louis Trichardt town within the Makhado local Municipality in Limpopo province in order to determine the suitability of the site with regards to the proposed upgrading of the road. The objective of the investigation was to determine the mechanical properties of the soils underlying the site. The investigations conclude with the compilation of a technical report detailing all methodology utilised during the study and all results obtained. The report includes all the results obtained from the laboratory as stated under laboratory tests in Section 3.4.

The study area is located on the following co-ordinate: Latitude: 23° 3'17.65"S Longitude: 29°54'29.45"E

#### **1.1 Terms of reference**

The investigation was undertaken by Georevelations consulting at the request of SA Quest consulting Engineers.

#### **1.2 Scope of Investigation**

The investigation had the following aims:

- To provide suitable foundation recommendations for the proposed development
- To determine the mechanical properties of the soil underlying the area
- To determine and evaluate the regional geological character of the study area
- To determine regional soil suitability covering the site
- To recommend necessary precautionary measures

# 2. SITE DESCRIPTION

# 2.1 Site location and Discription

Pretorius street is situated in Louis Trichardt within Makhado Local Municipality located 1 km south of Louis Trichardt CBD. Louis Trichardt is located on a terrain that is characterised by rolling (irregular) plains with high hills (ridges) and a mountain on the north of site. Drainage on site is through sheetwash, with storm water collecting in the south into an unnamed non perennial stream. No rock outcrops were observed on site.

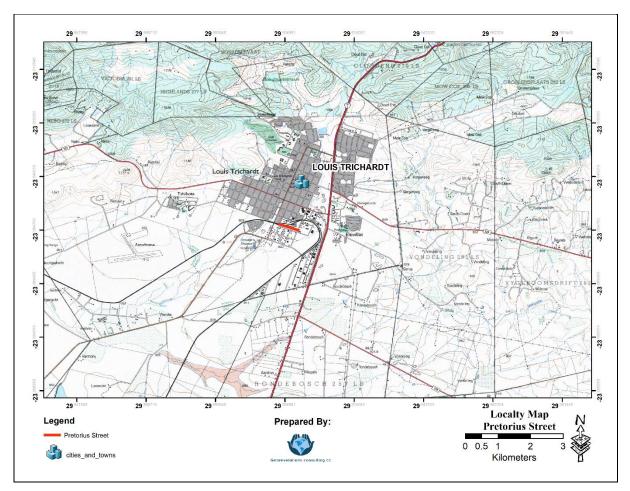


Figure 1:Locality map

# 2.2 climate and weathering

The study area is situated on an area that has an average annual rainfall of 500 mm falling predominantly in the summer between the months of October and April. Annual temperatures vary from an average summer maximum of  $36^{\circ}$  C to an average winter minimum of  $15^{\circ}$  C. Weinert's climatic N-value for this area is between 3 and 5 (N<5) which indicates that chemical decomposition is the dominant form of weathering resulting in the

formation of thick soils (Weinert, 1980). The relatively semi-arid climate is reflected in the prevailing vegetation of the area, fairly distinctive in its own right and characterized by Acocks (1988) as Sourish Mixed Bushveld.

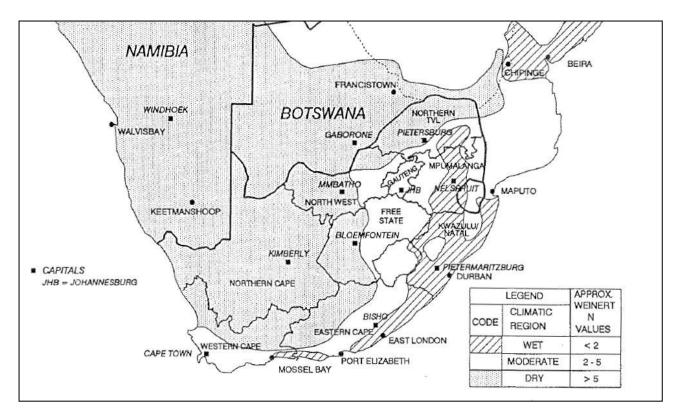


Figure 2: Macro-climatic regions of Southern Africa(TRH 4,1996 ADAPTED FROM WEINERT, 1980

### 2.3 Geology

### 2.3.1 Regional geology

According to the 2328 Pietersburg 1:250 000-scale Geological Map published by the Geological Survey of South Africa now Council for Geosciences the study area is underlain by basic lava (basalt), clastic and pyroclastic sedimentary rocks (conglomerate) of the Dominion Reef System.

### 2.3.2 Site geology

The road is generally covered a layer of engineered fill material which was found to be slightly moist, light brown, medium dense, sandy gravel material extending to an average depth of 0.3 m.

Residual basalt material was intersected in all test pits and is characterised by Slightly moist, reddish brown, Medium dense silty sand, extending down to an average of 1.3 m. The main engineering problems associated with these is dispersion.

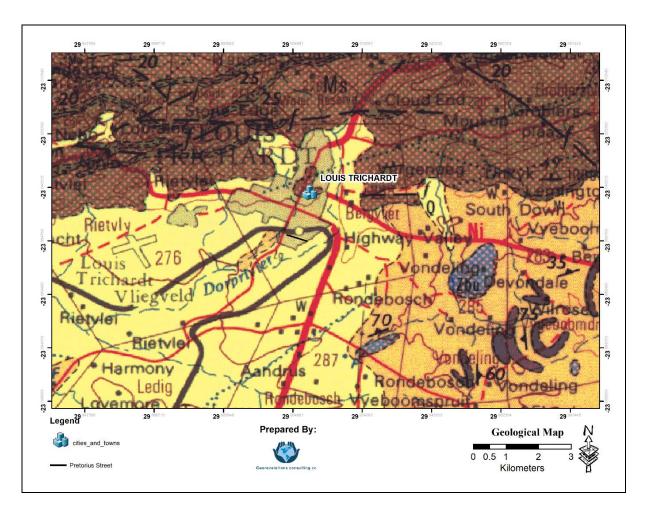


Figure 3: Map showing geology of the study area

# 3. INVESTIGATION METHODOLOGY

# 3.1 Walk over survey

This stage of the investigation involved aerial photographic analysis, using 1:10 000-scale ortho-photographs and 1:50 000 scale aerial photographs from which landforms were identified. Collected information was used firstly to assess the potential engineering geological problems that can be expected on the site and secondly, to assist with the siting of trial pits. The information gathered was checked and edited during field work.

# 3.2 Fieldwork

Field work was undertaken on 10 May 2022. During the field investigation Four (04) test pits at an average interval of 200m were excavated along the road centreline. The testpits were excavated using Tractor Loader Backhoe (TLB) fitted with a 600mm wide bucket and were excavated to a maximum of 1.4m. or to refusal of the TLB. The testpits were positioned using a hand held GPS on predetermined coordinates.

Test pits were profiled using the methods advocated by ABA Brink & RMH Bruin 2002. Representative bulk soil samples were taken where necessary for testing at the laboratory and the holes then backfilled and compacted using the TLB. The testpit soil profiles are included in Appendix C, while the test pit photographs are included in Appendix A. Table 1 below shows the coordinates of the testpit carried out and figure 3 shows the location of the testpits and Dynamic cone penetrometer tests relative to the proposed road upgrading.

Test pit ID	X	Y	Comments
LT 1	23° 3'11.90"S	29°54'13.43"E	No groundwater encountered
LT 2	23° 3'13.80"S	29°54'18.71"E	No groundwater encountered
LT 3	23° 3'15.91"S	29°54'24.54"E	No groundwater encountered
LT 4	23° 3'17.65"S	29°54'29.45"E	No groundwater encountered

Table 1: Test pits Co-ordinates



Figure 4: Aerial photographic map showing study area

## 3.3 DCP Tests

A total of Four (04) DCP tests were conducted between the test pit positions along the road alignment to obtain an indication of the in-situ CBR values for the subsoil.

The DCP or dynamic cone penetrometer in which a 60° cone with diameter of 20mm is driven into the soil by a 7.815kg weight dropped through 575mm. The results are expressed as millimetres penetrated per blow and refusal is achieved when 1mm penetration is recorded after 5 blows. The DCP is most useful for estimating consistencies or for assessing subgrade soils for road design. A crude approximation of the consistency and strength as well as the in-situ inferred CBR values can also be obtained.

DCP tests indicate very low values on the existing Engineering fill layer from the ground to an average depth of 0.3 m and generally shows refusal at that depth. The DCP profile indicate that the soil profile existing fill layer is very dense. Based on the analysis carried out, the majority of the DCP profiles at different positions represent areas of intermediate excavation on the fill layer. *(See appendix B)* 

DCP ID	х	Y
DCP1 LT	23° 3'12.69"S	29°54'15.66"E
DCP2 LT	23° 3'14.67"S	29°54'20.90"E
DCP3 LT	23° 3'16.87"S	29°54'26.63"E
DCP4 LT	23° 3'17.98"S	29°54'29.82"E

Table 2: DCP tests Co-ordinates

# 3.4 Laboratory Tests

The following tests were carried out by the SANAS accredited laboratory in order to assess the geotechnical properties of the founding soil strata and their suitability for reuse as backfill in construction:

- grading
- Atterberg Limits
- moisture content
- CBR
- Mod AASHTO

# 3.4.1 Road Centerline

The tested soils samples along the road proposed for upgrading generally classified as sandy gravel, silty sand and clayey sand. The liquid limit for this material ranged from 25 % to 48 %. The plasticity index for this material ranged from Non plastic (NP) to 16 %, linear shrinkage ranged from 1.5 % to 8.5 %, suggesting low to medium potential of expansiveness. A grading modulus of between 0.50 to 1.88. The maximum dry density for the tested soil varied between 1707kg/m3 and 2122 kg\m3 at an optimum moisture content of between 7.6 and 17.5 %; In terms of the TRH14 (1985) material classification, material on-site (along the road centreline) classified between G5 and <G10 quality soil mixtures(Table 3 & Appendix D)

					Indicator tests							CBR. Mod AASHTO		
Testpit ID	Origin	Material type	Sample depth(m)	Passing 0,075	Grading modulus	Liquid limit	Plasticity limit	Linear Shrinkage	H.R.B	T.R.H	Expansiveness	MOD AASHTO(Kg/m3)	O.MC(%)	CBR.UCS Value at 95%,93% & 90%
LT 01	Fill	Sandy Gravel	0.0-0.3	14	1.88	26	3	1.5	A-1-B(0)	G7	Low	2122	7.6	28, 21 & 11
LT02	Fill	Sandy Gravel	0.0-0.3	10	2.09	25	NP	_	A-1-B(0)	G5	Low	2085	8.3	50, 37 &17
LT 02	Residual	Silty sand	0.3-1.3	70	0.50	42	12	6.9	A-7-5(9)		Low	1707	17.5	4,3&2
LT 03	Residual	Sandy Gravel	0.2 - 1.3	9	1.21	48	15	8.2	A-7-6(6)	G10	Low	1843		19, 13 & 4
LT 04			0.3 - 1.3		0.87	44	16	8.5	A-7-5(6)					2,1&1

Table 3: Summary of laboratory analysis results

# 3.5 Reporting

All utilized methodology and obtained results were collated and compiled into a detailed technical report, which detailed potential evaluation of the area and recommendations regarding foundation designs of the road.

# 4. EVALUATION AND RECOMMENDATIONS

### 4.1 Site Access

At the time of the investigation, the road was easily accessible with 2-wheel drive vehicles and the road is currently in use. All test pits were accessible for sampling.

# 4.2 Groundwater

Groundwater seepage was not encountered in any of the test pits profiled and no signs of temporary perched water tables, such as ferruginization of the soil profile were noted. Problems due to ground water seepage may therefore not be expected at the site.

### 4.3 Site Drainage

The control of surface and potential sub-surface seepage is required to protect layer works from ingress of water leading to continued weathering of material and consequently, settlement of layer works. It is therefore recommended that surface drainage is such that it directs water away from the road reserve and collected in open or piped drains.

#### 4.4 Stability of Excavation

It is recommended that all excavations in soils be adequately battered to safe angles and/or shored in order to safeguard construction personnel working in trenches. A slightly steeper batter angle of 1 vertical: 1 horizontal could be accommodated in the sand horizon. All the test pits excavated along the roads remained stable during the time of the investigation.

#### 4.5. Excavation Characteristics

Soft excavation conditions are anticipated within the transported soils and residual soils (up to 1.4 m) along the road alignment using a TLB similar to the one used during the investigation i.e. CAT 428F.

Excavation Class	Description
Soft	Excavation in material that can be efficiently removed by a back-acting
	excavator of flywheel power approximately 0.1 Kw per millimeter of tined
	bucket width, without the use of pneumatic tools such as paving breakers.
Intermediate	Excavation in material that requires a back-acting excavator of flywheel
	power excavating 0.1 kW per millimeter of tined-bucket width or the use of
	pneumatic tools such as paving breakers.
Hard	Hard rock excavation shall be excavation in material (excluding boulder
	excavation) that cannot be efficiently removed without blasting or wedging
	and splitting.
Boulder	Excavation in material containing more than 40% by volume of boulders of
	size in the range of 0.03-20m <sup>3.</sup> In a matrix of soft or smaller boulders.

Table 4 : Excavation Classification

# 4.6 Material classification and usage

## 4.6.1 Road Centreline

# 4.6.1.1 Existing fill material

Materials on site may be classified in terms of their suitability for use in earthworks and construction fill based on field observations and laboratory testing. A layer of engineered fill ranging from 0.0 m to 0.3 m was encountered in all excavated test pits on the road alignment. Fill material along the road was tested and found to be ranging from G5 to G7 quality material according to the TRH 14 guidelines (CSIR, 1987) and is considered suitable for use as engineered fill. These material should be stripped and stockpiled for later re-use during construction of the road.

## 4.6.1.2 Sub-grade layers

The road generally shows one type of soil profile from test pit LT 01 to LT 03, with silty sand residual basalt material below the existing fill material and at LT 04 the material underlying the fill is clayey sand which shows a medium potential of expansiveness.

Subgrade material found in all test pits from LT 01 to LT 04 was tested and classified as G10 and <G10 quality material according to TRH classification and it is considered not suitable for construction as fill material.

On those parts of the road that requires widening, topsoil containing organic material, vegetation, including roots, seeds, and/or termites will be encountered and shall be stripped, usually by bull-dozing, and stockpiled alongside the construction site for later use as general fill and during rehabilitation. Additional suitable Fill material can be acquired from the commercial sources or borrow pits.

# 4.7 Earthworks

It is recommended that all earthworks be carried out in accordance with SANS 1200 D. Layer works should be designed following an analysis of the expected volume and type of traffic that will use the roads. However, for costing purposes considering light to medium traffic, the following design would be applicable for surfaced roads:

• Construct the engineered fill layer using G7 or better quality material in 150 mm thick layers and compacted to 95% of Mod AASHTO maximum dry density at +/- 2% OMC.

- Rip the in-situ formation to a depth of at least 300 mm and wet to -1 to +1 of optimum moisture content and compact to a density of at least 90% Mod AASHTO to form the subgrade. Solids larger than 2/3 of the final layer thickness after compaction should not be included in the material.
- Place layer works at 150 mm layers as described above using suitable imported materials for sub-grade and sub-base layers or to design engineer's specification. The design engineer to decide/modified the above layer thicknesses.

# 5. CONCLUSIONS

Georevelations consulting was requested by SA Quest consulting engineers to conduct a geotechnical engineering investigation on the centerline of Pretorius street in Louis Trichardt town within the Makhado local Municipality in Limpopo province in order to determine the suitability of the site with regards to the proposed upgrading of the road.

The investigation was aimed to determine the suitability of the in-situ material for use in road construction to provide information suitable for use in detailed design.

Four (04) test pits were excavated on the centerline of Pretorius street at an average of 200m interval and Four (04) DCP tests were conducted in between the test pit positions along the road alignment to obtain an indication of the in-situ CBR values for the subsoil.

Materials on site was classified in terms of their suitability for use in earthworks and construction fill based on field observations and laboratory testing.

A layer of engineered fill ranging from 0.0 m to 0.3 m was encountered in all excavated test pits on the road alignment. Fill material along the road was tested and found to be ranging from G5 to G7 quality material according to the TRH 14 guidelines (CSIR, 1987) and is considered suitable for use as engineered fill.

Subgrade material found in all test pits from LT 01 to LT 04 to average depth 1.3 m was tested and classified as G10 and <G10 quality material according to TRH classification and it is considered **not** suitable for construction as fill material.

No geological conditions or any other adverse conditions prohibiting the construction of the roads were encountered at the site. The site is developable providing cognisance is taken of the findings included herein.

### 5.1 Suggested follow up work

The extent of the investigation undertaken is deemed adequate, to present an overview of the geotechnical conditions in the study area. It must be borne in mind that the geotechnical conditions is based upon point information derived from the respected test positions and that conditions intermediate to those have been inferred by interpolation, extrapolation and professional judgement.

It is therefore recommended that all excavation and trenches be inspected by a geotechnical specialist or engineering geologist during construction to verify that the founding conditions are not at variance with those described herein.

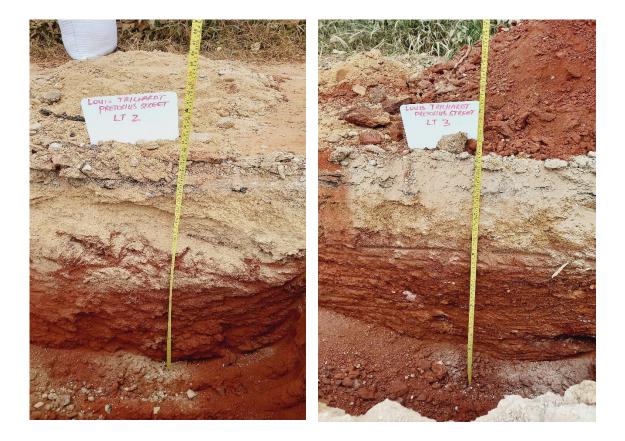
# 6. Bibliography

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**APPENDIX A** 

PHOTOGRAPHS







**APPENDIX B** 

# **DYNAMIC CONE PENETROMETER TESTS**

			DYNAMI	C CONE P	ENETRAT	ION TEST			
PENETROME Project: Site: Date: Done by: Client :	ETER RESULTS: DCP1LT Geotechnical investigation for Pretorius street Louis Trichardt 10/05/2022 Radzhadzhi K SA Quest Consulting Engineers							is consulting cc	
Co-ordinates	23° 3'12.69"S	29°54'15.66	"E						
NUMBER	PENETRATION	DEPTH	PENETRATION	BLOWS/	ALLOWABLE				
OF	DEPTH	FROM N.G.L.	RATE	100 mm	BEARING		GRA	РН	
BLOWS	[ mm ]	[m]	[mm/blow]	PENETRATION	PRESSURE**				
0	0	0,000	0	0	0				
5	10	-0,010	2	50	1080	0	1 1	ON RATE (mm/blow) 2 2	3
10	20	-0,020	2	50	1080	0,00	1 1	Z Z	3
15	30	-0,030	2	50	1080	0,00		-	
20	30,1	-0,030	0	5000	108000	ľ			
25	30,2	-0,030	0	5000	108000				
						-0,10			
						-0,20			
						-0,20			
						-0,30			
						<b>•</b>			
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						Ž			
						ŇO			
						J -0,70			
						<b>m</b> <sup>-0,70</sup>			
						DEPTH BELOW NATURAL GROUND LEVEL (m) 0000-00000000000000000000000000000000			
						<b>-</b> 0,80			
						0.00			
						-0,90			
						-1,00			
L				1		,			

#### DYNAMIC CONE PENETRATION TEST

Г

#### DYNAMIC CONE PENETRATION TEST

PENETROMETER RESULTS: DCP 2 LT Project: Geotechnical investigation for Pretorius street Site: Louis Trichardt 10/05/2022 Date: Radzhadzhi K Done by: Client : SA Quest Consulting Engineers

-0.520

-0,550

-0,590

-0,620

-0,670

-0,720

-0,760

-0,800

-0,850

-0,900

-0.960

-1,000



Georevelations consulting cc

Co-ordinates 23° 3'14.67"S 29°54'20.90"E PENETRATION DEPTH PENETRATION BLOWS/ ALLOWABLE NUMBER OF DEPTH FROM N.G.L RATE 100 mm BEARING GRAPH BLOWS [mm] [m] [mm/blow] PENETRATION PRESSURE\*\* 0,000 PENETRATION RATE (mm/blow) -0,020 -0,040 0,00 -0.050 -0,060 ě -0,070 -0,080 -0,10 -0,100 2 -0.110-0.120 2 2 -0,20 -0,130-0,140 -0,150 2 2 2 2 -0,160 -0,30 75 -0 170 -0,180ε -0,190 **GROUND LEVEL** -0,200 -0,40 -0,210 2 2 -0,220 -0.230 -0,50 -0,270 -0,310 DEPTH BELOW NATURAL -0,340 -0,360 -0,60 -0,370 -0,390 -0,400 -0,420 -0,70 -0,440 -0,460 -0.490 

### Louis Trichardt, Pretorius street : Geotechnical investigation

-0,80

-0,90

-1,00

#### DYNAMIC CONE PENETRATION TEST



PENETROMETER RESULTS: DCP 3 LT Project: Geotechnical investigation for Pretorius street Site: Louis Trichardt Date: Done by: Client : 10/05/2022 Radzhadzhi K SA Quest Consulting Engineers

Georevelations consulting cc

o-ordinates	23° 3'16.87"S	29°54'26.63	"E									
NUMBER	PENETRATION	DEPTH	PENETRATION	BLOWS/	ALLOWABLE							
OF	DEPTH	FROM N.G.L.	RATE	100 mm	BEARING				GRAPH			
BLOWS	[ mm ]	[m]	[mm/blow]	PENETRATION								
0	0	0,000	0	0	0			DENETO		<b>TE</b> (	-1	
5	20	-0,020	4	25	540		•		ENETRATION RATE (mm/blow)			
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						Ľ.	-0,60					
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						Ш	0.70					
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						L 🕂						
						DEPTH BELOWNATURAL GROUND LEVEL ( m )						
						<sup>.</sup> .	-0,80					
							0.00					
						-	-0,90					1
							-1,00 🖵					J

DYNAMIC CONE PENETRATION TEST											
Project: Site:	TER RESULTS: Geotechnical in Louis Trichardt	vestigation fo	or Pretorius str	eet							
	10/05/2022										
	Radzhadzhi K							Georevelations consulting cc			
	SA Quest Cons										
	23° 3'17.98"S										
NUMBER	PENETRATION	DEPTH	PENETRATION		ALLOWABLE						
OF BLOWS	DEPTH [mm]	FROM N.G.L.	RATE [mm/blow]	100 mm PENETRATION	BEARING PRESSURE**			GRAPH			
0	0	0,000	0	0	0						
5	40	-0,040	8	13	270			PENETRATION RATE (mm/blow)			
10	50	-0,050	2	50	1080			0 2 4 6 8 10			
15	60	-0,060	2	50	1080		0,00				
20	70	-0,070	2	50	1080			•			
25	80	-0,080	2	50	1080						
30	80,1	-0,080	0	5000	108000		-0,10	······			
35	80,2	-0,080	0	5000	108000						
							-0,20 -				
						(	-0,30 -				
						LEVEL ( n	-0,40 -				
						GROUND	-0,50 -				
						DEPTH BELOW NATURAL GROUND LEVEL ( m )	-0,60 -				
						H BELOW	-0,70 -				
						DEPT	-0,80 -				
							-0,90 -				
							-1,00 -				

#### 27 Louis Trichardt, Pretorius street : Geotechnical investigation

**APPENDIX C** 

**SOIL PROFILES** 

	Job title: Geotechnical	Client: SA Quest Consulting Engineers lob title: Geotechnical investigation					
Georevelations consulting cc scrutinizing the earth	Site: Pretorius street, Lo	Site: Pretorius street, Louis Trichardt					
Scale 1:20 0.4 0.4	Fill (Engineered fi	it brown, <u>medium dense</u> <b>II)</b> ish brown, <u>medium dense</u> ,					
	<ul> <li>1.4 NOTES</li> <li>1) Walls stable.</li> <li>2) No groundwater enc</li> <li>3) Sampled at (0.0 m- 0</li> </ul>						
	4) Terminated at the rec	quired depth					
CONTRACTOR : MACHINE : TLB DRILLED BY :		: : 10/05/2022	ELEVATION : X-COORD : Y-COORD :				
PROFILED BY : PROFILED BY : Radzhadzh TYPE SET BY : SETUP FILE : STANDARD.SI	K DATE DATE	: 10/05/2022 : 11/05/2022 : 11/05/2022 17:11 :aSoilprofileswordpad.txt	<i>HOLE No:</i> LT 01				

	Job title: Geo	est Consulting Engineers technical investigation		HOLE No: LT 02 Sheet 1 of 1
Georevelations consulting cc scrutinizing the earth	Site: Pretorius	s Street, Louis Trichardt		JOB NUMBER: 000
Scale 0 0 0 1:20 0 0 0 0 0 0 0		moist, light brown, <u>medium dei</u> i <b>neered fill)</b>	<u>nse</u> , i	ntact, sandy gravel,
	0.30 slightly m <b>Residual</b>	oist, reddish brown, <u>medium dens</u> Basalt	<u>se</u> , inta	act, silty sand,
	1.30			
	NOTES 1) Walls stat	ble.		
	2) No ground	dwater encountered.		
	3) Sampled	at (0.0 m -0.3 m) and (0.3 m -1.3 n	ר)	
	4) Terminate	ed at required depth		
CONTRACTOR : MACHINE : TLB DRILLED BY :		NCLINATION : DIAM : DATE : 10/05/2022		ELEVATION : X-COORD : Y-COORD :
PROFILED BY : Radzhadz TYPE SET BY : SETUP FILE : STANDARD.S		DATE : 10/05/2022 DATE : 11/05/2022 17:11 TEXT :aSoilprofileswordpad.txt		HOLE <b>NO:</b> LT 02
GET OF TILL . STANDARD.	,	1 EXT		dotPLOT 7022

	Client: SA Quest Consulting Eng Job title: Geotechnical investig	ation	HOLE No: LT 03 Sheet 1 of 1
Georevelations consulting cc scrutinizing the earth	Site: Pretorius street, Louis Tric	hardt	JOB NUMBER: 000
Scale 0 0 0 1:20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<ul> <li>0.00 slightly moist, light brown Fill (Engineered fill)</li> <li>0.20</li></ul>		
	<ul> <li>1.30 NOTES</li> <li>1) Walls stable.</li> <li>2) No groundwater encountered</li> <li>3) Sampled at (0.2 m- 1.3 m)</li> </ul>	1	
	4) Terminated at the required de	epth	
CONTRACTOR : MACHINE : TLB DRILLED BY : PPOPULED BY : PPOPULED BY :	INCLINATION : DIAM : DATE : 10/05/2 K		ELEVATION : X-COORD : Y-COORD :
PROFILED BY : Radzhadzhi TYPE SET BY : SETUP FILE : STANDARD.SE	DATE : 11/05/202	2 17:11	HOLE No: LT 03

	Client: SA Quest Consulting Engineers Job title: Geotechnical investigation	HOLE No: LT 04 Sheet 1 of 1
Georevelations consulting cc scrutinizing the earth	Site: Pretorius Street, Louis Trichardt	JOB NUMBER: 000
Scale 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	slightly moist, light brown, <u>medium dense,</u> ir Fill (Engineered fill)	ntact, sandy gravel,
	30	ct, clayey sand,
1.:		
	NOTES 1) Walls stable.	
	2) No groundwater encountered.	
	3) Sampled at (0.3 m -1.3 m)	
	4) Terminated at required depth	
CONTRACTOR : MACHINE : TLB DRILLED BY : PROFILED BY : Radzhadzhi K	DIAM : DATE : 10/05/2022 DATE : 10/05/2022	ELEVATION : X-COORD : Y-COORD : HOLE <b>No:</b> LT 04
TYPE SET BY : SETUP FILE : STANDARD.SET	DATE : 11/05/2022_17:11 TEXT :aSoilprofileswordpad.txt	dotPLOT 7022

**APPENDIX D** 

LABORATORY TEST RESULTS



#### EARTH INVESTIGATION LABORATORIES Plot 209 Tienie Street, Andeon AH, Zandfontein, 0183 P.O. Box 2856, Rosslyn, 0200 Tel: +27 (0)12 372 3023 Fax: +27 (0)86 241 3304 e-mail: admin@earthinv.co.za



	CLIENT INFORMATION							
Client Name:	Geo-Revelation Consulting	Client Number:	191					
Address: 68 Water Ridge, 4Th Ave, WaterFall East, Rustenburg, 0299		Project Name:	Louis Trichardt					
Primary Contact Person:	Khathutshelo Radzhadzhi	Telephone Number:	072 505 5418					
Primary Contact email:	khathu@georevelation.co.za	Fax Number:	086 558 5632					

	SAMPLES/JOB INFORMATION						
Date Sampled:	11-May-22	Date Received:	12-May-11				
Sampler:	Client	Date Tested:	13-May-11				
Sample Location:	Louis Trichardt	Date Reported:	20-May-22				
Sample Method:	-	Tests Conducted At:	Earthinv Main Lab				
Sample Condition:		Report Status:	Final				

	TEST RESULTS SUMMARY		
Test (s) Methods References	Test Method(s) Description (s)	Qty	Test Conducted by.
SANS 3001 - GR 1:2013	Wet preparation & particle size analysis	5	Earthinv Main Lab
SANS 3001 - GR 10:2013	Determination of the one-point liquid limit, plastic limit, plasticity index & linear shrinkage	5	Earthinv Main Lab
SANS 3001 - GR 30:2013	Determination of the max. dry density & opt. MC	5	Earthinv Main Lab
SANS 3001 - GR 40:2013	Determination of the CBR	5	Earthinv Main Lab
-			-
-			-
-			-
			-

TEST RESULTS NOTES
Fests Deviations and Subcontracting - Test deviations indicated if any on the report and clearly communicated to Client.
Documents Reproduction - If a report is published or reproduced by the client, it will be done in full, without any omittance.
Report Status - Only final statı Dublication.
e to sample received and to conditions thereof on receipt
Samples Retainment - If not specified by the Client, samples will be disposed off as per the Laboratories discretion
Opinions & Recommendations: Opinions & recommendations do not form part of the Labs accreditation schedule
SANAS accreditation - Tests results marked # in this report are not included in the SANAS schedule of Accreditation for the Lab

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EARTH <b>INV</b> LAB	Louis Trichardt			<b>(GRA</b> Louis Trichardt	D, ATT, MDD	,CBR)	Louis Trichardt				
PROJECT:											
REPORT #	EIL-191-12-01						EIL-191-12-01				
SAMPLE #	10427 10429						10425				
POSITION:	LT01			LTP02			LT02				
DEPTH:	0.0-0.3-m			0.0-0.3			0,3-1,3 m				
DATE:	13-May-22			13-May-22			13-May-22				
Description of Material		Light brown			Light brown		redo	dish brown silty s	and		
SIEVE ANALYSIS											
SIEVE SIZE (mm)											
100.0		100			100			100			
% 75.0		100 100			100 100			100 100			
63.0 50.0		100			100			100			
P 37.5		100			100			100			
A 28.0		100			100			100			
s 20.0		100			100			100			
14.0		90			93			100			
N 5.0		75			71			100			
G 2.0		62			53			97			
0.425		36 14			28 10			83 70			
Grading Modulus (GM)		14			2.09			0.50			
SOIL MOTAR		1.00			2.05			0.50			
2.0 - 0.425		41			47			14			
0.425 - 0.250		11			13			4			
0.250 - 0.150		12			13		5				
0.150 - 0.075		11			8		3				
< 0.075		35			34		14				
ATTERBERG CONSTANTS											
Plasticity Index (PI)		3			NP			12			
Linear Shrinkage (LS)		1.5			-		6.9				
Liquid Limit (LL) AASHTO Soil Classification		26 A-1-b (0)			25 A-1-b (0)			42 A-7-5 (9)			
TRH 14 Classification		G7			G5			-			
COLTO Classification											
MDD DATA											
	2130 2120 2110 2080 2070 2060 2070 2060 4 5 6 9 9 9	MDD 6.9, 249 5.8, 2087 6 7 8 % Moisture content	6,2122 6,3,2087 9,792065 3 9 10	2100 2080 2040 2020 2020 2020 1980 6 7 6 8 90 6 7	1.2, 2010	-9,2, 2053 -•••0.4, 2028 10 11	1710 1700 1630 1660 1660 8 8 9 000	MDD 15.5, 16 13 1 % Moisture content	8 23		
Wet Density (kg/m <sup>3</sup> )	2285 2272	2246 2208	2265	2257 2243	2193 2130	2238	2006 2015	2021 1971	1921		
Dry Density(kg/m <sup>3</sup> )	2122 2087	2101 2087	2065	2085 2053	2046 2002	2028	1707 1701	1690 1692	1663		
Moisture Content (%) MDD (kg/m <sup>3</sup> )	7.6 8.9 2122	6.9 5.8 OMC %	9.7 7.6	8.3 9.2 2085	7.2 6.4 OMC %	10.4 8.3	17.5 18.5 1707	19.6 16.5 OMC%	15.5 17.5		
CBR DATA		2		2000			2.07	5	27.5		
Specimen	Specimen A	Specimen B	Specimen C	Specimen A	Specimen B	Specimen C	Specimen A	Specimen B	Specimen C		
Wet Density (kg/m <sup>3</sup> )	2288	2180	2060	2267	2147	2032	2004	1905	1805		
Dry Density(kg/m <sup>3</sup> )	2129	2024	1916	2091	1984	1876	1704	1620	1535		
Moisture Content (%)	7.5	7.7	7.5	8.4	8.2	8.3	17.6	17.6	17.6		
% Compaction Calculated	100.3	95.4	90.3	100.3	95.2	90	99.8	94.9	89.9		
CBR %	43.6	29.0	12.0	97.7	51.4	17.4	10.1	4.4	1.5		
% Swell Calculate Compaction %	K	0.07 97 95	0.14 93 90	0.01 100 98	0.04 97 95	0.07 93 90	0.17 100 98	0.28 97 95	0.38		
CBR Values	A.	34 28	21 11	95 77	68 50	37 17	100 98	7 4	3 2		
Remarks:		20	**	''		· -· · · · ·					
								Page 2 d	of 3		

								E	arth Ir	nv La	b							
EARTHINVLAB	FINAL REPORT (GRAD, ATT, MDD,CBR)																	
PROJECT:	Louis Tr	ichardt					Louis Tr		<u>, , , , , , , , , , , , , , , , , , , </u>	, 1100	,conj		Louis Tr	ichardt				
REPORT #	EIL-191	-12-01		EIL-191-12-01				EIL-191-12-01										
SAMPLE #	10427	-					10429	-					10425	-				
POSITION:	LT01						LTP02						LT02					
DEPTH:	0.0-0.3-	m					0.0-0.3						0,3-1,3	m				
DATE:	13-May							-22										
Description of Material			Light b	orown				13-May-22 Light brown					13-May-22 reddish brown silty sand					
SIEVE ANALYSIS																		
SIEVE SIZE (mm)																		
100.0	_			00					10							00		
% 75.0	-			00					10							00		
63.0	-			00					10							00		
P 50.0 37.5	-			00 00					10 10							00 00		
A 28.0	1			00 00					10							00		
S 20.0	1			00					10							00		
s 14.0	1			0					93							00		
N 5.0			7	5					71	1					10	00		
G 2.0	4			2					53							)7		
0.425	4			6					28							3		
0.075	<u> </u>			.4					10							'0 .50		
Grading Modulus (GM) SOIL MOTAR			1.8	88					2.0	)9					0.	50		
2.0 - 0.425			4	1					47	7					1	4		
0.425 - 0.250			4						13							4		
0.250 - 0.150				2					13							5		
0.150 - 0.075			1	1					8							3		
< 0.075			3	5					34	4					1	4		
ATTERBERG CONSTANTS																		
Plasticity Index (PI)				3					N							12		
	1								-									
			1.						21	-						.9		
Linear Shrinkage (LS) Liquid Limit (LL) AASHTO Soil Classification			2	6					25 A-1-k						4	12		
Liquid Limit (LL) AASHTO Soil Classification				.6 <b>b (0)</b>					25 A-1-b	o (0)					4			
Liquid Limit (LL) AASHTO Soil Classification TRH 14 Classification			2 <b>A-1-</b>	.6 <b>b (0)</b>					A-1-k	o (0)					4	12		
Liquid Limit (LL) AASHTO Soil Classification TRH 14 Classification			2 <b>A-1-</b>	.6 <b>b (0)</b>					A-1-k	o (0)					4	12		
Liquid Limit (LL) AASHTO Soil Classification TRH 14 Classification COLTO Classification			2 <b>A-1-</b>	6 b (0) ;7			2400		A-1-k	o (0) 5			1710		4 A-7-	12 -5 (9) -		
Liquid Limit (LL) AASHTO Soil Classification TRH 14 Classification COLTO Classification			2 A-1- G	6 b (0) 57	.6, 2122		2100		A-1-k G!	o (0) 5			1710 1700		4 A-7-	12 -5 (9) - DD	17.5, 1707 18.5, 17	
Liquid Limit (LL) AASHTO Soil Classification TRH 14 Classification COLTO Classification	2130 2120 2110 2110		2 A-1- G MI	6 b (0) 7 DD 6.9, 210		0 2007	2080 2060 2040		A-1-k G!	D 20(0) 5 D 2085	9.2, 2053		1700 — 1690 —		4 A-7-	12 -5 (9) - DD	17.5, 1707 18.5, 17 	'01 6, 1690-
Liquid Limit (LL) AASHTO Soil Classification TRH 14 Classification COLTO Classification	2130 2120 2110 2100 2090 2080		2 A-1- G Mt	6 b (0) 7 DD 6.9, 210		.9, 2087	2080 2060 —	- 6.4, 2002	A-1-k G! MD 7.2, 2046	D 20(0) 5 D 2085		10.4, 2028	1700 — 1690 — 1680 — 1670 —		4 A-7-	12 -5 (9) - DD	.8, 1892 <sub>19.</sub>	-01 6, 1690
Liquid Limit (LL) AASHTO Soil Classification TRH 14 Classification COLTO Classification	2130 2120 2110 2100 2090 2080 2070 2060	5	2 A-1- G MI	6 b (0) i7 DD 6.9, 210		9.792087	2080 2060 2040 2020 2000 1980		A-1-k G! MD 7.2, 2046	D 20(0) 5 D 2085			1700 1690 1680 1670 1660		4 A-7-	+2 -5 (9) - DD 16 + 15.5, 16	.8, 1892 <sub>19.</sub>	6, 1690
iquid Limit (LL) AASHTO Soil Classification IRH 14 Classification COLTO Classification	2130 2120 2110 2100 2090 2090 2080 2070 2060	5	2 A-1-I G MI • 5.8, 200 6	6 b (0) i7 DD 6.9, 210	3 9	9.7.2065	2080 2060 2040 2020 2020	<ul> <li>6.4, 2002</li> </ul>	A-1-k G! MD 7.2, 2046 2	D D 8,3,2085 9	10	₩0.4, 2028 11	1700 1690 1680 1670 1660		4 A-7- MI	+2 -5 (9) - DD 16 + 15.5, 16	.8, 1892 <sub>19.</sub> 63 8	6, 1690
iquid Limit (LL) AASHTO Soil Classification TRH 14 Classification COLTO Classification MDD DATA	2130 2120 2110 2080 2070 2080 2070 2080 2070 2080 2070 2080 2070 2080 2070 2080 2070 2080 2070 2080 2070 2080 208	2272	2 A-1 G Mu • 5.8, 208 6 % Moistur 2246	6 b (0) i7 DD 6.9, 210 37 7 & re content 2208	<sup>3</sup> 9 2265	9.7.2065	2080 2060 2040 2020 2000 1980 	<ul> <li>6.4, 2002</li> <li>7</li> <li>2243</li> </ul>	A-1-t G 72.2046 2 8 % Moistur 2193	2 (0) 5 0 9 9 e content 2130	10		1700 1690 1680 1670 1660 8 9 9 9 9 9 9 9 9 9 9 9 9 9	2015	4 A-7- Mi 13 % Moistu 2021	12 -5 (9) - DD 15.5, 16 1 1971	.8, 1892 19. 63 8 1921	6, 1690
iquid Limit (LL) AASHTO Soil Classification TRH 14 Classification COLTO Classification MDD DATA Wet Density (kg/m <sup>3</sup> ) Dry Density(kg/m <sup>3</sup> )	2130 2120 2110 2080 2070 2080 2070 2080 2070 2080 2070 2080 2070 2080 2070 2080 2070 2080 2070 2080 2070 2080 2090 2090 2090 2090 2090 2090 209	2272 2087	2 A-1 G Mu • 5.8, 206 6 % Moistur 2246 2101	6 b (0) 7 7 6.9, 210 37 7 8 re content 2208 2087	2265 2065	9.7.2065	2080 2060 2040 2020 2020 1980 6 2257 2085	<ul> <li>6.4, 2002</li> <li>7</li> <li>2243</li> <li>2053</li> </ul>	A-1-t G MD 7.2.2046 2 8 % Moistur 2193 2046	9 9 2130 2002	10 2238 2028		1700 1690 1680 1670 1660 8 9 9 9 9 9 9 9 9 9 9 9 9 9	1701	4 A-7- Mi 13 % Moistu 1690	12 - - DD 15.5, 16 1 1971 1692	1921 1663	6, 1690
Liquid Limit (LL) AASHTO Soil Classification TRH 14 Classification COLTO Classification MDD DATA Wet Density (kg/m <sup>3</sup> ) Dry Density(kg/m <sup>3</sup> ) Moisture Content (%)	2130 2120 2110 2090 2080 2070 2070 2070 2060 2070 2060 2070 2060 2070 2060 2070 207	2272 2087 8.9	2 A-1 G Mt 58, 208 6 % Moistur 2246 2101 6.9	6 b (0) 7 6.9, 210 7 7 8 re content 2208 2087 5.8	2265 2065 9.7	<u>9.7920</u> 65 10	2080 2060 2040 2020 1980 2000 1980 2257 2085 8.3	<ul> <li>6.4, 2002</li> <li>7</li> <li>2243</li> <li>2053</li> <li>9.2</li> </ul>	A-1-t G! 72.2046 2 % Moistur 2193 2046 7.2	9 e content 2130 2002 6.4	10 2238 2028 10.4	11	1700 1690 1680 1670 1660 1660 2006 1707 17.5	1701 18.5	4 A-7- Mi 13 % Moistu 2021 1690 19.6	12 5 (9) - - 15.5, 16 1 100 100 100 100 100 100 100 100 100	.8, 1822 19. 663 8 1921 1663 15.5	23
Liquid Limit (LL) AASHTO Soil Classification TRH 14 Classification COLTO Classification MDD DATA Wet Density (kg/m <sup>3</sup> ) Dry Density(kg/m <sup>3</sup> ) Moisture Content (%) MDD (kg/m <sup>3</sup> )	2130 2120 2110 2090 2080 2070 2070 2070 2060 2070 2060 2070 2060 2070 2060 2070 207	2272 2087	2 A-1 G Mt 58, 208 6 % Moistur 2246 2101 6.9	6 b (0) 7 7 6.9, 210 37 7 8 re content 2208 2087	2265 2065	<u>9.7920</u> 65 10	2080 2060 2040 2020 1980 2000 1980 2257 2085 8.3	<ul> <li>6.4, 2002</li> <li>7</li> <li>2243</li> <li>2053</li> </ul>	A-1-t G MD 7.2.2046 2 8 % Moistur 2193 2046	9 e content 2130 2002 6.4	10 2238 2028	11	1700 1690 1680 1670 1660 8 9 9 9 9 9 9 9 9 9 9 9 9 9	1701 18.5	4 A-7- Mi 13 % Moistu 2021 1690 19.6	12 - - - - - - - - - - - - -	.8, 1822 19. 663 8 1921 1663 15.5	6, 1690
iquid Limit (LL) AASHTO Soil Classification TRH 14 Classification COLTO Classification MDD DATA Wet Density (kg/m <sup>3</sup> ) Dry Density(kg/m <sup>3</sup> ) Moisture Content (%) MDD (kg/m <sup>3</sup> ) CBR DATA	2130 2120 2110 2090 2080 2070 2060 2070 2060 4 9 9 2285 2122 7.6 2122	2272 2087 8.9 22	2 A-1 G Mt 58, 208 6 % Moistur 2246 2101 6.9 OM	6 b (0) 7 6.9, 210 7 7 8 re content 2208 2087 5.8 IC %	2265 2065 9.7 7.	<u>9.7920</u> 65 10 .6	2080 2040 2020 2020 2020 2020 2000 1980 6 2257 2085 8.3 200 200 2000	<ul> <li>6.4, 2002</li> <li>7</li> <li>2243</li> <li>2053</li> <li>9.2</li> <li>85</li> </ul>	A-1-E G 7.2.2046 2 8 % Moistur 2193 2046 7.2 OM0	9 e content 2130 2002 6.4 C %	10 2238 2028 10.4 8.	.3	1700 1690 1680 1670 1660 1670 1660 1600 1600 1600 1000 1000 1707 17.5 17	1701 18.5 07	4 A-7- Mi 13 % Moistu 2021 1690 19.6 ON	12 5 (9) - - DD 15.5, 16 1 ure content 1971 1692 16.5 1C%	8. 1922 19. 63 8 1921 1663 15.5 17	6, 1690 23 23 7.5
iquid Limit (LL) AASHTO Soil Classification TRH 14 Classification COLTO Classification MDD DATA Wet Density (kg/m <sup>3</sup> ) Dry Density(kg/m <sup>3</sup> ) Moisture Content (%) MDD (kg/m <sup>3</sup> ) CBR DATA Specimen	2130 2120 2110 2090 2080 2070 2070 2060 2070 2060 2070 2060 2080 2070 2060 2070 2060 2080 2070 2060 2070 2060 2070 2070 2070 207	2272 2087 8.9 22 men A	2 A-1 G Mu 6 % Moistur 2246 2101 6.9 OM	6 b (0) 7 6.9, 210 7 7 8 7 7 8 7 7 8 7 7 8 7 7 8 7 7 8 7 7 8 7 7 8 7 7 8 7 7 8 7 7 8 7 7 8 7 7 7 8 7	2265 2065 9.7 7. Specir	9.702065 10 .6 men C	2080 2040 2020 2020 1980 8 8 2257 2085 8.3 200 2257 2085 8.3 200 2000 1980 8 8 2257 2085 8.3 200 2000 1980 8 8 205 205 205 205 205 205 205 205 205 205	<ul> <li>6.4, 2002</li> <li>7</li> <li>2243</li> <li>2053</li> <li>9.2</li> <li>85</li> <li>men A</li> </ul>	A-1-Ł G: 7.2. 2046 2 8 % Moistur 2193 2046 7.2 OM0 Specin	2 (0) 5 9 e content 2130 2002 6.4 C %	10 10 2238 2028 10.4 8 Specir	11 11 .3 men C	1700 1690 1680 1670 1660 8 8 2006 1707 17.5 17 Specir	1701 18.5 07 men A	4 A-7- 13 % Moistu 2021 1690 19.6 ON Speci	12 5 (9) - - 155, 16 1 10 10 10 10 10 10 10 10 10 10 10 10 1	.8. 1922 19. 63 8 1921 1663 15.5 17 Speci	6, 1690 23 7.5 men C
iquid Limit (LL) AASHTO Soil Classification TRH 14 Classification COLTO Classification MDD DATA Wet Density (kg/m <sup>3</sup> ) Dry Density(kg/m <sup>3</sup> ) Moisture Content (%) MDD (kg/m <sup>3</sup> ) CBR DATA Specimen Wet Density (kg/m <sup>3</sup> )	2130 2120 2110 2090 2080 2070 2060 2070 2060 2070 2060 2070 2060 2070 2060 2070 2060 2070 2060 2070 2060 2070 207	2272 2087 8.9 22	2 A-1 G Mu • 58, 200 6 % Moistur 2246 2101 6.9 OM Specir 21	6 b (0) 7 6.9, 210 7 7 8 re content 2208 2087 5.8 IC %	2265 2065 9.7 7.	9.792065 10 .6 men C 60	2080 2040 2020 2020 1980 <b>2257</b> 2085 8.3 200 <b>2257</b> 2085 8.3 200 <b>2257</b> 2085 8.3 200 <b>2000</b> 1980 <b>2257</b>	<ul> <li>6.4, 2002</li> <li>7</li> <li>2243</li> <li>2053</li> <li>9.2</li> <li>85</li> </ul>	A-1-E G 7.2.2046 2 8 % Moistur 2193 2046 7.2 OM0	9 e content 2130 2002 6.4 C %	10 10 2238 2028 10.4 8 Specin 20	.3	1700 1690 1680 1670 1660 2006 1707 17.5 17 Specir 20	1701 18.5 07	4 A-7- 13 % Moistu 2021 1690 19.6 ON Speci 19	12 5 (9) - - DD 15.5, 16 1 ure content 1971 1692 16.5 1C%	8. 192 19 63 8 1921 1663 15.5 17 Speci 18	6, 1690 23 23 7.5
iquid Limit (LL) AASHTO Soil Classification TRH 14 Classification COLTO Classification MDD DATA MDD DATA Ory Density (kg/m <sup>3</sup> ) Moisture Content (%) MDD (kg/m <sup>3</sup> ) CBR DATA Specimen Wet Density (kg/m <sup>3</sup> ) Dry Density (kg/m <sup>3</sup> )	2130 2120 2110 2090 2080 2070 2060 2070 2060 2070 2060 2070 2060 2070 2060 2080 2070 2060 2070 2060 2080 2070 2060 2070 2060 2080 2070 2080 2090 2090 2090 2090 2090 2090 209	2272 2087 8.9 22 men A 88	2 A-1 G Mu 58, 208 6 % Moistur 2246 2101 6.9 OM Specir 21 20	6 b (0) 7 c (0) 7 c (0) 7 c (0) 7 c (0) 7 c (0) 7 c (0) 7 c (0) 7 c (0) 7 c (0) 7 c ()	2265 2065 9.7 7. Specir 20	9.792065 10 .6 men C 60 16	2080 2040 2020 2000 1980 2020 2000 2000 2000 2000 2000 2000 2	<ul> <li>6.4, 2002</li> <li>7</li> <li>2243</li> <li>2053</li> <li>9.2</li> <li>85</li> <li>men A</li> <li>67</li> </ul>	A-1-E G MD 7.2.2046 2 8 % Moistur 2193 2046 7.2 OM0 Specin 214	2 (0) 5 9 e content 2130 2002 6.4 C % men B 47 84	10 10 2238 2028 10.4 8 Specin 20 18	.3 men C 32	1700 1690 1690 1670 1660 2006 1707 17.5 17 Specin 200 17	1701 18.5 07 men A 04	4 A-7- Mi 13 % Moistu 2021 1690 19.6 OM Speci 19 6	12 5 (9) - - 100 15.5, 16 1 107 1 1692 16.5 1C% 105	1921 1663 15.5 17 Speci 18 15	6, 1690 23 7.5 men C
iquid Limit (LL) AASHTO Soil Classification TRH 14 Classification COLTO Classification MDD DATA MDD DATA Ory Density (kg/m <sup>3</sup> ) Moisture Content (%) MDD (kg/m <sup>3</sup> ) CBR DATA Specimen Wet Density (kg/m <sup>3</sup> ) Dry Density (kg/m <sup>3</sup> ) Moisture Content (%)	2130 2120 2100 2090 2080 2000 2000 2000 2000 2000 20	2272 2087 8.9 22 men A 88 29 .5 0.3	2 A-1 G Mu 58, 208 6 % Moistur 2246 2101 6.9 OM Specir 211 200 7 7 95	6 b (0) 7 c ()	22265 2065 9.7 7, 5pecir 200 19 7, 90	9.7#2065 10 .6 .6 .6 .6 .6 .5 .3	2080 2040 2000 2000 2000 2000 2000 2000	7 2243 2053 9.2 85 men A 67 91 .4 0.3	A-1-t G: 72.2046 2 8 % Moistur 2193 2046 7.2 0M0 5pecin 214 198	2 (0) 5 9 e content 2130 2002 6.4 C % men B 47 84 2	10 10 2238 2028 10.4 8 Specir 20 18 8 8	.3 men C 32 76	1700 1690 1690 1670 1660 2006 1707 17.5 17 200 17 200 17 17 17 17 17 17 17 17 17 17	1701 18.5 07 men A 04 04	4 A-7- Mi 13 % Moistu 2021 1690 19.6 ON Speci 19 6 11 19 4	12 5 (9) - - DD 15.5, 16 1 1071 1692 16.5 10% 10% 10% 10% 10% 10% 10% 10%	8. 1921 1663 15.5 17 Speci 18 15 17 8 15 17 8 15 17 18 15 17 18 15 17 17 18 15 17 18 15 17 18 19 19 19 19 19 19 19 19 19 19	23 23 23 23 23 7.5 005 335 7.6 9.9
Liquid Limit (LL) AASHTO Soil Classification TRH 14 Classification COLTO Classification MDD DATA Wet Density (kg/m <sup>3</sup> ) Dry Density(kg/m <sup>3</sup> ) Moisture Content (%) MDD (kg/m <sup>3</sup> ) CBR DATA Specimen Wet Density (kg/m <sup>3</sup> ) Dry Density(kg/m <sup>3</sup> ) Moisture Content (%) % Compaction Calculated CBR %	2130 2120 2110 2090 2080 2070 2060 2070 2060 2080 2070 2060 2080 2070 2060 2080 2090 2080 2090 2080 2090 2080 2090 209	2272 2087 8.9 22 men A 88 29 .5 0.3 3.6	2 A-1 G Mu 58, 208 6 % Moistur 2246 2101 6.9 OM Specir 210 200 7 7 95 229	6 b (0) 7 c ()	2265 2065 9.7 7, 5pecir 20 19 7, 90 12	9.792085 10 .6 men C 60 16 .5 .3 2.0	2080 2040 2000 2000 1980 2257 2085 8.3 200 5pecie 222 200 5pecie 200 8.3 200 5pecie 200 97	2243 2053 9.2 85 men A 67 91 .4 0.3 7.7	A-1-t G MD 7.2.2046 2 8 % Moistur 2193 2046 7.2 OM0 Specin 214 198 8 95 51	2 (0) 5 9 9 e content 2130 2002 6.4 C % 47 84 2 .2 .4	10 2238 2028 10.4 8 Specir 20 18 8 8 9 9 17	11 11 .3 .3 .3 .3 .3 .3 .3 .3 .76 .3 .0 .7,4	1700 1690 1690 1670 1670 1670 1670 1707 1775 177 2006 1707 17.5 177 95 107 177 175 177 177 177 177 177 17	1701 18.5 07 04 04 04 7.6 0.8 0.1	4 A-7- Mi 13 % Moistu 2021 1690 19.6 OM 5peci 15 16 0 19.6 0 M	12 5 (9) - - DD 15.5, 16 1 1071 1692 16.5 10% 10% 10% 10% 10% 10% 10% 10%	1921 1663 15.5 17 Speci 18 15 17 8 17 8 9 17 17 18 17 17 17 17 17 17 17 17 17 17 17 17 17	6, 1699 233 23 7.5 7.5 7.5 7.6 9.9 5.5
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(II)												
EARTH <b>INV</b> LAB					FINAL REPOR D, ATT, MDD							
PROJECT:	Louis Trichardt			Louis Trichardt								
REPORT #	EIL-191-12-01			EIL-191-12-01								
SAMPLE #	10426			10428								
POSITION:	LT03			LT04								
DEPTH:	0,2-1,3 m			0,3-1,3 m								
DATE:	13-May-22			14-May-22								
Description of Material	Re	eddish brown gra	vel		silty clay sand							
SIEVE ANALYSIS												
SIEVE SIZE (mm)							1					
100.0		100			100							
% 75.0	_	100			100							
63.0	_	100			100							
P 50.0 37.5	-1	100 100			100 100							
A 28.0	-	100			100							
S 20.0	-1	100			100							
S 14.0	-	96			99							
N 5.0		83			96							
G 2.0		69			87							
0.425	_	58			75							
0.075		52			52							
Grading Modulus (GM)		1.21			0.87							
SOIL MOTAR		15			14							
2.0 - 0.425 0.425 - 0.250		3			6							
0.250 - 0.150		3			10							
0.150 - 0.075		3										
< 0.075		9			27							
ATTERBERG CONSTANTS	5											
Plasticity Index (PI)		15			16							
Linear Shrinkage (LS)		8.2			8.5							
Liquid Limit (LL)	-	48 <b>A-7-6 (6)</b>			44 A-7-5 (6)							
AASHTO Soil Classificatio TRH 14 Classification	n	G10										
COLTO Classification												
MDD DATA												
		MDD			MDD				MDD	)		
	1850		16.1, 1843	1780		1760	0.8					
	1830 1820 1810	15 1, 1	822 17.2, 1823	1740 1720 1700	14.1, 1749 14.1, 1749	16.3, 1747 7.3, 1729	0.6 0.4 0.2					
	1800 <sup>1</sup> 10 12	14.1, 1807	18.1, 1806 18 20	1680	13.4, 1691 14 15 1	6 17 18	0 لــــــــــــــــــــــــــــــــــــ	10	12	2	14	16
	<sub>ື E</sub> 10 12	% Moisture content		ալ 12 13 Թ 000	% Moisture content		MDD kg/m		% Moisture			-
Wet Density (kg/m <sup>3</sup> )	2097 2139	2136 2132	2062	≥ 1918 1996	2028 2032	2028	-					
Dry Density(kg/m <sup>3</sup> )	1822 1843	1823 1806	1807	1691 1749	1760 1747	1729						
Moisture Content (%)	15.1 16.1	17.2 18.1	14.1	13.4 14.1	15.2 16.3	17.3						
MDD (kg/m <sup>3</sup> )	1843	OMC %	16.1	1760	OMC %	15.2			OMC	:%		
CBR DATA Specimen	Specimen A	Specimen B	Specimen C	Specimen A	Specimen B	Specimen C						
Wet Density (kg/m <sup>3</sup> )	2140	2036	1930	2023	1922	1823						
Dry Density(kg/m <sup>3</sup> )	1842	1753	1661	1756	1922	1584						
Moisture Content (%)	16.2	16.1	16.2	15.2	15.1	15.1						
% Compaction Calculated	99.9	95.1	90.1	99.8	94.9	90						
CBR %	39.8	19.7	4.5	3.7	1.6	0.5						
% Swell Calculated	0.13	0.24	0.34	1.08	1.46	1.88	100	00	07	05	02	00
Compaction % CBR Values	100 98 40 32	97 95 28 19	93 90 13 4	100 98 4 3	97 95 2 2	93 90 1 1	100	98	97	95	93	90
Remarks:	JZ	20 13	12 4									
Signed by:Katlego Fikka Langa Signed at:2022-05-23 14:16:50 + Reason:Technical Signatory	02:00											
									Р	age 3 d	ot 3	

# C6: EPWP GUIDELINES

The Ministerial Determination 4, Expanded Public V\brks Programmes, issued in terms of section 50 of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice R949 in Government Gazette 9745 of 4 May 2012, as reproduced below, shall apply to works described in the scope of work as being labour intensive and which are undertaken by unskilled or semi-skilled workers.

## Introduction

1.1 This document contains the standard terms and conditions for workers employed in elementary occupations on Expanded Public Works Programme (EPWP). These terms and conditions do NOT apply to persons employed in the supervision and management of a EPWP

1.2 In this document -

- (a) "department" means any department of the State, implementing agent or contractor;
- (b) "employer" means any department, implementing agency or contractor that hires workers to work in elementary occupations on a EPWP;
- (c) "worker" means any person working in an elementary occupation on a EPWP;
- (d) "elementary occupation" means any occupation involving unskilled or semi-skilled work;
- (e) "management" means any person employed by a department or implementing agency to administer or execute an EPWP;
- (D "task" means a fixed quantity of work;
- (g) "task-based work" means work in which a worker is paid a fixed rate for performing a task;
- (h) "task-rated worker" means a worker paid on the basis of the number of tasks completed;
- () "time-rated worker" means a worker paid on the basis of the length of time worked.

### C6.1: TERMS OF WORK

6.1.1 Workers on EPWP are employed on a temporary basis or contract basis.

## **C6.2: NORMAL WORKING HOURS**

6.2.1 An employer may not set tasks or hours of work that require a worker to work-

- (a) more than forty hours in any week
  - (b) on more than five days in any we-ek; and
  - (c) for more than eight hours on any day.

6.2.2 An employer and worker may agree that a worker will work four days per week. The worker may then work up to ten hours per day.

6.2.3 A task-rated worker may not work more than a total of 55 hours in any week to complete the tasks allocated (based on a 40-hour week) to that worker.

# C6.3: MEAL BREAKS

6.3.1 A worker may not work for more than five hours without taking a meal break of at least thirty minutes duration.

6.3.2 An employer and worker may agree on longer meal breaks.

6.3.3 A worker may not work during a meal break. However, an employer may require a worker to perform duties during a meal break if those duties cannot be left unattended and cannot be performed by another worker. An employer must take reasonable steps to ensure that a worker is relieved of his or her duties during the meal break.

6.3.4 A worker is not entitled to payment for the period of a meal break. However, a worker who is paid on the basis of time worked must be paid if the worker is required to work or to be available for work during the meal break.

#### C6.4: SPECIAL CONDITIONS FOR SECURITY GUARDS

6.4.1 A security may work up to 55 hours per week and up to eleven hours per day.

6.4.2. A security guard who works more than ten hours per day must have a meal break of at least one hour or two breaks of at least 30 minutes each.

#### C6.5: DAILY REST PERIOD

Every worker is entitled to a daily rest period of at least twelve consecutive hours. The daily rest period is measured from the time the worker ends work on one day until the time the worker starts work on the next day.

#### C6.6: WEEKLY REST PERIOD

Every worker must have two days off every week. A worker may only work on their day off to perform work which must be done without delay and cannot be performed by workers during their ordinary hours of work ("emergency work").

C6.7: WORK ON SUNDAYS & PUBLIC HOLIDAYS

6.7.1 A worker may only work on a Sunday or public holiday to perform emergency or security work.

6.7.2 A task-rated worker who works on a public holiday/Sunday must be paid -

(a) the worker's daily task rate, if the worker works for less than four hours;

(b) double the worker's daily task rate, if the worker works for more than four hours.

6.7.3 A time-rated worker who works on a public holiday/Sunday must be paid -

(a) the worker's daily rate of pay, if the worker works for less than four hours on the public holiday;

(b) double the worker's daily rate of pay, if the worker works for more than four hours on the public holiday

#### C6.8: SICK LEAVE

6.8.1 Only workers who work four or more days per week have the right to claim sick-pay in terms

of this clause.

6.8.2 A worker who is unable to work on account of illness or injury is entitled to claim one day's paid sick leave for every full month that the worker has worked in terms of a contract.

6.8.3 A worker may accumulate a maximum of twelve days' sick leave in a year.

6.8.4 Accumulated sick-leave may not be transferred from one contract to another contract.

6.8.5 An employer must pay a task-rated worker the worker's daily task rate for a day's sick leave.

6.8.6 An employer must pay a time-rated worker the worker's daily rate of pay for a day's sick leave.

6.8.7 An employer must pay a worker sick pay on the worker's usual payday.

6.8.8 Before paying sick-pay, an employer may require a worker to produce a certificate stating that the worker was unable to work on account of sickness or injury if the worker is -

(a) absent from work for more than two consecutive days; or

(b) absent from work on more than two occasions in any eightweek period.

6.8.9 A medical certificate must be issued and signed by a medical practitioner, a qualified nurse or a clinic staff member authorized to issue medical certificates indicating the duration and reason for incapacity.

6.8.10 A worker is not entitled to paid sick-leave for a work-related injury or occupational disease for which the worker can claim compensation under the Compensation for Occupational Injuries and Diseases Act.

## C6.9: MATERNITY LEAVE

- 6.9.1 A worker may take up to four consecutive months' unpaid maternity leave.
- 6.9.2 A worker is not entitled to any payment or employment-related benefits during maternity leave.
- 6.9.3 A worker must give her employer reasonable notice of when she will start maternity leave and when she will return to work.
- 6.9.4 A worker is not required to take the full period of maternity leave. However, a worker may not work for four weeks before the expected date of birth of her child or for six weeks after the birth of her child, unless a medical practitioner, midwife or qualified nurse certifies that she is fit to do so.
- 6.9.5 A worker may begin maternity leave-
  - (a) four weeks before the expected date of birth; or
  - (b) on an earlier date -
    - () if a medical practitioner, midwife or certified nurse certifies that it is necessary for the health of the worker or that of her unborn child; or
    - (ii) if agreed to between employer and worker; or
  - (c) on a later date, if a medical practitioner, midwife or certified nurse has certified that the worker is able to continue to work without endangering her health.
- 6.9.6 A worker who has a miscarriage during the third trimester of pregnancy or bears a stillborn child may take maternity leave for up to six weeks after the miscarriage or stillbirth.

# C6.10: FAMILY RESPONSIBILITY

- 6.10.1 Workers, who work for at least four days per week, are entitled to three days paid family responsibility leave each year in the following circumstances -
  - (a) When the employee's child is born;
  - (b) when the employee's child is sick;
  - (c) in the event of a death of -
    - (i) the employee's spouse or life partner;
    - (ii) the employee's parent, adoptive parent, grandparent, child, adopted child, grandchild or sibling.

# C6.11: STATEMENT OF CONDITIONS

- 6.11.1 An employer must give a worker a statement containing the following details at the start of employment -
  - (a) The employer's name and address and the name of the EPWP;
  - (b) the tasks or job that the worker is to perform; and
  - (c) the period for which the worker is hired or, if this is not certain, the expected duration of the contract
  - (d) The worker's rate of pay and how this is to be calculated;
  - (e) the training that the worker will receive during the EPWP.
- 6.11.2 An employer must ensure that these terms are explained in a suitable language to any employee who is unable to read the statement.
- 6.11.3 An employer must supply each worker with a copy of these conditions of employment.

# C6.12: KEEPING RECORDS

6.12.1 Every employer must keep a written record of at least the following -

(a) the worker's name and position;

- (b) Copy of an acceptable worker identification
  - (c) in the case of a task-rated worker, the number of tasks completed by the worker;
  - (d) in the case of a time-rated worker, the time worked by the worker;
  - (e) Payments made to each worker.
- 6.12.2 The employer must keep this record for a period of at least three years after the completion of the EPWP.

### C6.13: PAYMENT

6.13.1 An employer must pay all wages at least monthly in cash or by cheque or into a bank account.

6.13.2 A worker may not be paid less than the minimum EPWP rate of R70.59 per day or per task. This will be adjusted annually on the 1<sup>st</sup> November in line with inflation (available CPI as provided by Stats SA six (6) weeks before implementation.

- 6.13.3 A task-rated worker will only be paid for tasks that have been completed.
- 6.13.4 An employer must pay a task-rated worker within five weeks of the work being completed and the work having been approved by the manager or the contractor having submitted an invoice to the employer.
- 6.13.5 A time-rated worker will be paid at the end of each month.
- 6.13.6 Payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.
- 6.13.7 Payment in cash or by cheque must take place -
  - (a) at the workplace or at a place agreed to by the worker;
  - (b) during the worker's working hours or within fifteen minutes of the start or finish of work;
  - (c) in a sealed envelope which becomes the property of the worker.
- 6.13.8 An employer must give a worker the following information in writing -
- (a) the period for which payment is made;
  - (b) the numbers of tasks completed or hours worked;

(c) the worker's earnings;

(d) any money deducted from the

- payment;
- (e) the actual amount paid to the

worker.

- 6.13.9 If the worker is paid in cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it
- 6.13.10 If a worker's employment is terminated, the employer must pay all monies owing to that worker within one month of the termination of employment.

### C6.14: DEDUCTIONS

- 6.14.1 An employer may not deduct money from a worker's payment unless the deduction is required in terms of a law.
- 6.14.2 An employer must deduct and pay to the SA Revenue Services any income tax that the worker is required to pay.
- 6.14.3 An employer who deducts money from a worker's pay for payment to another person must pay the money to that person within the time period and other requirements specified in the agreement law, court order or arbitration award concerned.
- 6.14.4 An employer may not require or allow a worker to -
  - (a) repay any payment except an overpayment previously made by the employer by mistake;
  - (b) state that the worker received a greater amount of money than the employer actually paid to the worker; or
  - (c) pay the employer or any other person for having been employed.

### C6.15: HEALTH AND SAFETY

- 6.15.1 Employers must take all reasonable steps to ensure that the working environment is healthy and safe.
- 6.15.2 A worker must -
  - (a) work in a way that does not endanger his/her health and safety or that of any other person;
  - (b) obey any health and safety instruction;
  - (c) obey all health and safety rules of the EPWP;
  - (d) use any personal protective equipment or clothing issued by the employer;
  - (e) report any accident, near-miss incident or dangerous behaviour by another person to their employer or manager.

# C6.16: COMPESATION FOR INJURIES AND DISEASES

- 6.16.1 It is the responsibility of the employers (other than a contractor) to arrange for all persons employed on a EPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.
- 6.16.2 A worker must report any work-related injury or occupational disease to their employer or manager.
- 6.16.3 The employer must report the accident or disease to the Compensation Commissioner.
- 6.16.4 An employer must pay a worker who is unable to work because of an injury caused by an accident at work 75% of their earnings for up to three months. The employer will be refunded this amount by the Compensation Commissioner. This does NOT apply to injuries caused by accidents outside the workplace such as road accidents or accidents at home.

# **C6.17: TERMINATION**

- 6.17.1 The employer may terminate the employment of a worker for good cause after following a fair procedure.
- 6.17.2 A worker will not receive severance pay on termination.
- 6.17.3 A worker is not required to give notice to terminate employment. However, a worker who wishes to resign should advise the employer in advance to allow the employer to find a replacement.
- 6.17.4 A worker who is absent for more than three consecutive days without informing the employer of an intention to return to work will have terminated the contract. However, the worker may be re-engaged if a position becomes available.
- 6.17.5. A worker who does not attend required training events, without good reason, will have terminated the contract. However, the worker may be re-engaged if a position is available.

# C6.18: CERTIFICATE OF SERVICE

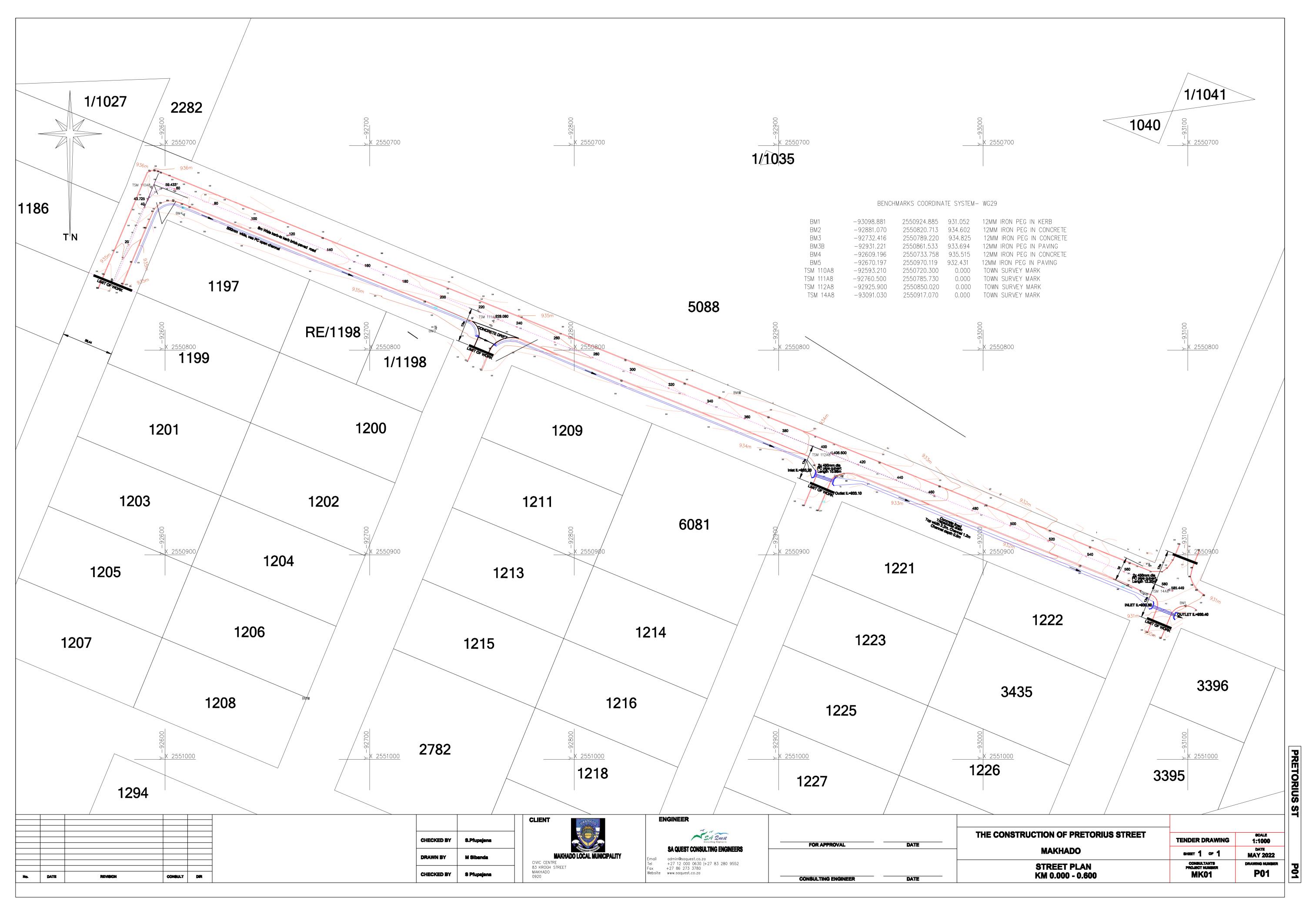
6.18.1 On termination of employment, a worker is entitled to a certificate stating -(a) the worker's full name;

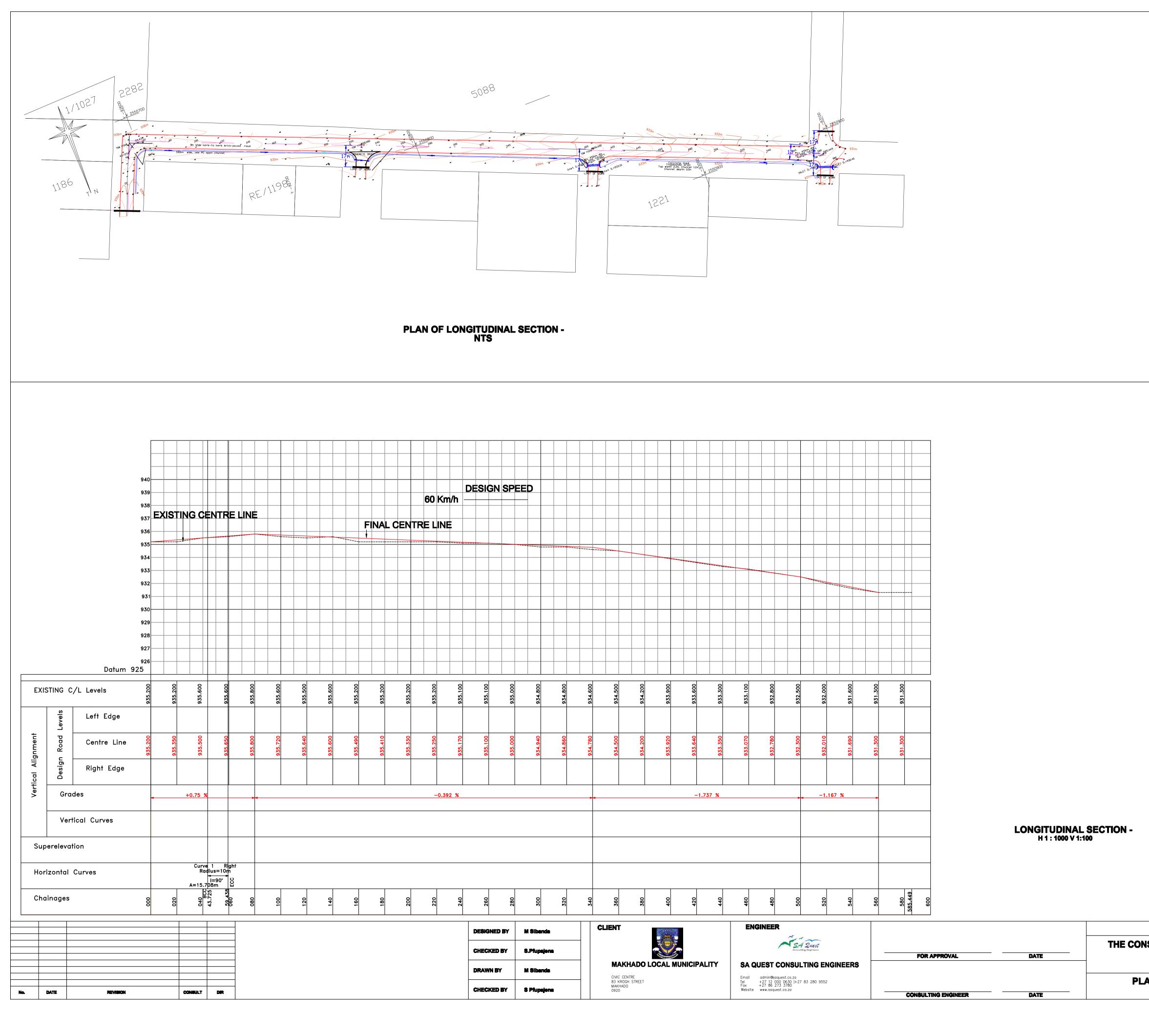
- - (b) the name and address of the employer; (c) the EPWP on which the worker worked;
  - (d) the work performed by the worker;
  - (e) any training received by the worker as part of the EPWP;

  - (f) the period for which the worker worked on the EPWP;(g) any other information agreed on by the employer and worker.

Contract No. 57/2022

C6.19: DESIGN RAWINGS





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