



KGETLENGRIVIER LOCAL MUNICIPALITY

TENDER DOCUMENT

**REFURBISHMENT OF BOREHOLES AND INSTALLATION OF A NEW WATER TREATMENT PLANT IN
REDIRILE, DERBY**

BID NUMBER: KRLMTEC/BID:10/2023-24

A Tender for Category 6 CE or higher CIDB Registered Contractors

Name of Tenderer	:	_____
Address	:	_____ _____
Tel. Number	:	_____
Cell number	:	_____
Fax number	:	_____
E-mail	:	_____
CSD Number	:	_____
CIDB Registration number	:	_____
Tender Amount (VAT incl)	:	_____

ISSUED BY:

Kgetlengrivier Local Municipality
Cnr Smuts and De Wet Street
Koster

Tel: 014 543 2004



PROCUREMENT DOCUMENT FOR CONSTRUCTION WORKS

GENERAL CONDITIONS OF CONTRACT (GCC) FOR CONSTRUCTION WORKS (2015) (Third Edition)

**REFURBISHMENT OF BOREHOLES AND INSTALLATION OF A NEW WATER TREATMENT PLANT IN
REDIRILE, DERBY**

BID NUMBER: KRLMTEC/BID: 10/2023-24

PLEASE NOTE: TENDERS MUST BE SUBMITTED ON THE TENDER DOCUMENTATION ISSUED. TENDER DOCUMENTATION MUST NOT BE REPRODUCED OR REARRANGED.

Kgetlerivier Local Municipality**REFURBISHMENT OF BOREHOLES AND INSTALLATION OF A NEW WATER TREATMENT PLANT IN REDIRILE, DERBY.****BID NUMBER: KRLMTEC/BID:10/2023-24****Contents**

NUMBER	HEADING	PAGE
Volume 1	Tender Document	
Portion 1:	Tender	
Part T1:	Tendering procedures	
T1.1	Tender Notice and Invitation to Tender	T1-4
T1.2	Tender Data	T1.2-2
T1.3	Standard Conditions of Tender	T1.3-16
Part T2:	Returnable documents and schedules	
T2.1	MBD Forms	T2.1-3
T2.2	Returnable Documents	T2.1-6
T2.3	Returnable Schedules.....	T2.2-21
T2.4	Checklist.....	T2.3-46
Portion 2:	Contract	
Part C1:	Agreements and Contract Data	
C1.1	Form of Offer and Acceptance	C1.1-4
C1.2	Contract Data	C1.2-8
C1.3	Form of Guarantee.....	C1.3-23
C1.4	Ministerial Determination	C1.4-27
C1.5	Health & Safety Specifications by Employer.....	C1.5-38
Part C2:	Pricing Data	
C2.1	Pricing Instructions.....	C2.1-4
C2.2	Bill of Quantities	C2.1-7
C2.3	Summary of Bill of Quantities.....	C2.1-7
Part C3:	Scope of Work	
C3.1	Description of the Works.....	C3.1-3
C3.2	Engineering	C3.2-6
C3.3	Procurement.....	C3.3-9
C3.4	Construction	C3.4-15
C3.5	Specifications	C3.5-18
Part C4:	Site Information	
C4.1	Scope of Site Information	C4-1-4
C4.2	Subsoil Investigation	C4.2-5
C4.3	Existing Services	C4.3-6
C4.4	Existing Buildings & Structures	C4.4-7
C4.5	Atmospheric & Environmental Criteria	C4.5-8

Part C5:	Annexures
C5.1	Tender Drawings

TABLE OF CONTENTS

CONTENTS	PAGE NUMBERS
Annexure A	TENDER DOCUMENT
Annexure B	CSD SUMMARY REPORT
Annexure C	MUNICIPAL RATES & TAXES 1. COMPANY 2. DIRECTORS/TRUSTEES/MEMBERS/SHAREHOLDERS
Annexure D	OTHER CERTIFICATES (CIDB, BBBEE etc.)
Annexure E	FUNCTIONALITY DOCUMENTS 1. Signed appointment letters and Completion Certificates or lesser on projects of similar scope & scale under public sector 2. Plant and machinery schedule 3. Key company staff 4. Safety plan

TENDER DOCUMENT CHECKLIST

Tenderers must complete this document checklist to ensure that all information is completed in the Tender Document.

ITEMS	CHECKED	
	Contractor	Project Manager
1. Correct Tender offer carried forward to the Cover Page and also the Form of Offer and Acceptance in Part C1.1	☐	☐
2. Tenderer's signature on the offer	☐	☐
3. Bill of Quantities	☐	☐
i Completed	☐	☐
ii Corrections crossed out and initialled	☐	☐
4. Returnable Schedules	☐	☐
i Compulsory Enterprise Questionnaire	☐	☐
ii Record of Addenda to Tender Documents	☐	☐
iii Schedule of Completed Contracts	☐	☐
iv Schedule of Current Contracts	☐	☐
v Schedule of Construction Plant and Equipment	☐	☐
vi Schedule of Proposed Subcontractors	☐	☐
vii Schedule of Proposed Key Personnel	☐	☐
viii Banking Details	☐	☐
ix Original and valid B-BBEE status level verification certificate or a certified copy thereof, substantiating the B-BBEE rating	☐	☐
x Proposed Amendments and Qualifications (if any)	☐	☐
xi Certificate of Authority for Joint Venture (if applicable)	☐	☐
xii MBD 1: Invitation to Bid	☐	☐
xiii MBD 4: Declaration of Interest	☐	☐
xiv MBD 5: Declaration for Procurement Above R10 million	☐	☐
xv MBD 6.1: Preference Points Claim Form in terms of the Preferential Procurement Regulations 2017	☐	☐
xvi MBD 8: Declaration of Bidder's Past Supply Chain Management Practices	☐	☐
xvii MBD 9: Certificate of Independent Bid Determination	☐	☐
xviii Particulars of any contracts awarded by an organ of state during the last 5 years	☐	☐
xix Estimated Monthly Expenditure	☐	☐
xx Fulfilment of the Construction Regulations	☐	☐

xxi	Questionnaire on tenderer's procedures with respect to OHSA and Construction Regulations	☐	☐
5.	Returnable Documents	☐	☐
i	Latest Municipal rates and taxes account (not more than 3 months) which is not in arrears for more than 3 months for the company and directors/trustees/members/shareholders.	☐	☐
ii	In the event of a tenant (renting) a copy of a valid signed lease agreement for the company & directors/trustees/members/Shareholders	☐	☐
iii	CSD summary report or CSD number	☐	☐

**PART T1
TENDERING
PROCEDURES**

PART T1: TENDERING PROCEDURES**T1.1: Notice and Invitation to Tender****BID NUMBER: KRLMTEC/BID: 10/2023-24****REFURBISHMENT OF BOREHOLES AND INSTALLATION OF A NEW WATER TREATMENT PLANT IN REDIRILE, DERBY.**

The Kgetlerivier Local Municipality invites tenders for REFURBISHMENT OF BOREHOLES AND INSTALLATION OF A NEW WATER TREATMENT PLANT IN REDIRILE, DERBY. The scope of works entails construction of water purification plant with a capacity of 350 meter cube/day, pumps houses, fencing, installation of pumps and all related works, electrical works and pipe works etc.

The Kgetlerivier Local Municipality invites tenders for REFURBISHMENT OF BOREHOLES AND INSTALLATION OF A NEW WATER TREATMENT PLANT IN REDIRILE, DERBY.

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

Joint ventures are eligible to submit tenders provided that they satisfy criteria stated in the Tender Data.

The physical address for collection of tender documents is:

**KGETLERIVIER LOCAL MUNICIPALITY
Cnr Smuts and De Wet Street
Koster**

Tender documents will be available at the SCM Office, Kgetlerivier Local Municipality, Cnr Smuts and De Wet Street, Koster.

Non-refundable tender document fee of **R 1000** is payable in cash between 07:30am and 15:30pm at the cashiers in the Kgetlerivier Local Municipality, Cnr Smuts and De Wet Street, Koster, 0348.

TENDER DOCUMENTS CAN ALSO BE DOWNLOADED ON E-TENDER @www.etenders.gov.za

Proof of payment is required on collection of the tender documents.

Queries relating to the issue of these documents may be addressed to:

Mr. Lebogang Rantho, Email address: lebohangrantho@gmail.com or Tel: 073 409 4255
Or Mr. Otsile Madisa, Tel: 072 574 0321

A compulsory Site Clarification Meeting will be held as follows:

The compulsory briefing session will be held on the 21st of June 2024 at 12:00, Venue Koster Town Hall-Municipal Building. The closing time for receipt of tenders is 10H00 on the 27th June 2024. Telegraphic, telephonic, telex, facsimile, e-mail and late tenders will not be accepted.

Tenders must only be submitted on the tender documentation that is issued. The retyping of the tender document is not permitted.

Requirements for sealing, addressing, delivery, opening and assessment of tenders are stated in the Tender Data.

The Municipalities selection of qualifying tenders will be at their sole discretion and will be final. The Kgetlerivier Local Municipality does not bind itself to accept any particular tender. Correspondence will be entered into with the successful tenderer.

PART T1: TENDERING PROCEDURES

T1.2

Tender Data

The Conditions of Tender are the Standard Conditions of Tender as contained in Annex F of the CIDB Standard for Uniformity in Construction Procurement, (May 2010) as published in Government Gazette No 33239, Board Notice 86 of 2010 of 28 May 2010. (See www.cidb.org.za).

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

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

Clause Number	Clause Heading	Data / Wording
F.1.1	The Employer	KGETLERIVIER LOCAL MUNICIPALITY Cnr Smuts and De Wet Street Koster
F.1.2	The Tender	PART T1: TENDERING PROCEDURES T1.1 Tender Notice and Invitation to Tender T1.2 Tender Data PART T2: RETURNABLE DOCUMENTS T2.1 List of Returnable Schedules and Documents T2.2 Returnable Schedules and Documents
	The Contract	PART C1: AGREEMENT AND CONTRACT DATA C1.1 Form of Offer and Acceptance C1.2 Contract Data C1.3 Construction Guarantee C1.4 Occupational Health and Safety Agreement
		PART C2: PRICING DATA C2.1 Pricing Instructions C2.2 Bill of Quantities
		PART C3: SCOPE OF WORK
		PART C4: SITE INFORMATION
		PART C5: TENDER DRAWINGS
		(a) "General Conditions of Contract for Construction Works – 3 rd Edition 2015" This document is issued by the South African Institution of Civil Engineering. (Short title "General Conditions of Contract 2015"), and is obtainable

		separately. Tenderers shall obtain their own copies.
		(b) "Standard Specifications for Road and Bridge Works for State Road Authorities" as approved by the Committee of Land Transport Officials (COLTO), the 1998 Edition. This document is obtainable separately at the Tenderers own expense.
		(c) "Standard Specifications for Civil Engineering Construction" as approved by the council of the South African Bureau of Standards shall form part of the Contract Documents. These documents are only applicable when dealing with the excavation for, relocation or replacement of existing services and is obtainable separately. Tenderers shall obtain their own copies of these Standard Specifications and their related SABS 0120 Code of Practice (latest edition) which apply equally.
		(d) "The Occupational Health and Safety Act No. 85 of 1993 and Amendment Act No. 181 of 1993, and the Construction Regulations 2003 (Government Gazette No. 25207 of 18 July 2003, Notice No. R1010). This document is obtainable separately. Tenderers shall obtain their own copies.
		(e) "The Occupational Health and Safety Specification in terms of the requirements of Construction Regulations 4(1)(a). This document is contained elsewhere in this Tender.
		(f) In addition, Tenderers are advised in their own interest, to obtain their own copies of the following acts, regulations and standards referred to in this document, together with any gazetted amendments thereto, as they are essential for the Tenderer to get acquainted with the basics of construction and management requirements: (i) The Construction Industry Development Board Act No. 38 of 2000 and the Regulations in terms of the CIDB Act 38 of 2000, Government Notice No. 692 of 9 June 2004, as amended. (ii) SANS 1921-1: 2004 Construction and Management requirements for Works Contracts - Part 1: General Engineering and Construction Works; - Part 6: HIV/AIDS Awareness The Tender Document and the drawings shall be obtained from the Employer or his authorised representative at the physical address stated in the Tender Notice. The Tender Document will be issued as bound paper documents.
F.1.4	Contract duration	The project duration is twenty-four (24) months
F.1.6.3	Proposal procedure using the two stage-system	The two stage-system will not be followed.
F.2.1	Eligibility	Only those tenderers who are registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, are eligible to have their tenders evaluated. Joint ventures are eligible to submit tenders provided that: 1. every member of the joint venture is registered with the CIDB;

		2. the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a 6CE or higher class of construction work.
F.2.7	Clarification Meeting	Compulsory clarification meeting is not applicable to this bid.
F.2.12	Alternative tender offers	No alternative tender offers will be considered
F.2.13.2		All returnable documents to the employer as defined in F.1.2 of the Tender Data shall be returned in legible writing in non-erasable ink.
F.2.13.3	Number of copies of tender offers to be submitted to the Employer	Parts of each tender offer communicated on paper shall be submitted as an original.
F.2.13.5 F.2.15.1	Sealing and Delivery of tender offers	The Employer's details and address for delivery of tender offers and identification details that are to be shown on each tender offer package are: Location of tender box: Reception Desk of the Kgetlerivier Local Municipality Physical address: KGETLERIVIER LOCAL MUNICIPALITY Cnr Smuts and De Wet Street, Koster Identification details: Tender reference number: BID NUMBER: KRLM/TEC/BID: 10/2023-24 Title of Tender: REFURBISHMENT OF BOREHOLES AND INSTALLATION OF A NEW WATER TREATMENT PLANT IN REDIRILE, DERBY. Tender closing date: 27/06/2024 Tender closing time: 10H00
F.2.13.9	Telephonic	Telephonic, telegraphic, telex, facsimile or e-mailed tender offers will not be accepted.
F.2.15	Closing time of tender offers	The closing time for submission of tender offers is as stated in the Tender Notice and Invitation to Tender.
F.2.16	Tender offer validity	The tender offer validity period is twelve (12) weeks.
F.2.16.3		Should a tenderer amend or withdraw his or her tender after the closing date and time, but prior to him or her being notified of the acceptance thereof, or should a tenderer after having been notified that his or her tender has been accepted – 1. give notice of his or her inability to execute the Contract in accordance with his or her tender; 0 2. 3 3. 3or 4. fail to sign a contract within the period stipulated in the tender requirements or any extended period determined by the employer; or 5. fail to execute the Contract.

		he or she shall pay all additional expenses which the employer has to incur in inviting new tenders and pay the difference between his or her tender and any less favourable tender accepted, as well as any consequential loss which may arise as a result of his/her non-fulfilment of his/her obligations: Provided that the employer may exempt a tenderer from the provisions of this sub-regulation if he is of the opinion that such non-performance is justifiable. When during the above-mentioned circumstances it is not deemed expedient to invite new tenders, the employer may entertain a recommendation for acceptance of a tender from those already received."
F2.17	Clarification of tender after submission	"The tenderer is to provide clarification with regards to a request for clarification from the employer, within 48 hours of the employer making the request, failing which, the tender offer will be considered non-responsive."
F.2.20	Letter of Intent	The tenderer is required to submit with his tender a letter of intent from an approved financial institution undertaking to provide the Construction Guarantee in the format included in Part C1.3 of this procurement document.
F.2.21	Financial viability	The municipality reserves the right to conduct a financial assessment of the tenderer prior to appointment
F.2.23	Returnables	The tenderer is required to submit with his tender: SCM RETURNABLES A. Joint Venture agreement (if applicable). B. CIDB Registration Certificate (6 CE or higher). C. Latest municipal rates and taxes account (not older than three months) which is not in areas for more than three months for the company AND directors/trustees/members/shareholders. In the event of a tenant (renting) a copy of a valid signed lease agreement for the company AND directors/trustees/members/shareholders be attached. D. Completed and signed MBD forms E. Three (3) Year financial statements if bid amount is above R 10 million (submit audited financial statements for the past three years or since the date of establishment if established during the past three years). F. Sworn Affidavit or a certified copy of SANAS Accredited B-BBEE certificate G. CK Documents with full details of directors and addresses.

F.3.4	Opening of tender submissions	Tender will be opened immediately after the closing time for tenders.																	
F.3.11.3	Evaluation of Tender Offers	Functionality Points will be spread as follows (100 points maximum). A Tenderer who scores less than 75% for Functionality, that is, less than 75 points will automatically be disqualified. <table><tr><th>Description of functionality criteria and sub-criteria</th><th>Minimum number of bid evaluation</th><th>Maximum number of bid evaluation</th></tr><tr><td>QUALIFICATIONS: Director of the company - B-Tech degree/ similar in Civil Engineering = 15 Points Manager/Site Agent - National Diploma/or similar in Civil Engineering = 5 Points Electrician - Wireman's Licence (Master Electrician) = 10 Points EPWP – Labour Intensive Certificates 1-2 personnel = 5 points 3-4 personnel = 10 points <i>Attach original certified copies not older than 3 months.</i></td><td>35</td><td>40</td></tr><tr><td>EXPERIENCE: Similar contract with any organ of state or private sector of a minimum value of R 10 000 000 per project 1 Previous Contract = 15 points 2 Previous contract = 35 points 3 Or more contract = 45 points <i>Attach References- Appointment Letters with Completion Certificates</i></td><td>35</td><td>45</td></tr><tr><td>LOCALITY: Within Kgetlengrivier Local Municipality = 15 North West (Bojanala) = 10 Provincial (North West) = 8 National = 5 <i>A bidder must provide a proof of residence (Municipal account / Lease agreement with 3 months rental proof of payment)</i></td><td>5</td><td>15</td></tr><tr><td>Total evaluation points for functionality (WQ)</td><td>75</td><td>100</td></tr></table> Bidders must obtain a minimum of 75 points for functionality for further evaluation. N.B The Municipality reserves the right to verify the submitted functionality documents.			Description of functionality criteria and sub-criteria	Minimum number of bid evaluation	Maximum number of bid evaluation	QUALIFICATIONS: Director of the company - B-Tech degree/ similar in Civil Engineering = 15 Points Manager/Site Agent - National Diploma/or similar in Civil Engineering = 5 Points Electrician - Wireman's Licence (Master Electrician) = 10 Points EPWP – Labour Intensive Certificates 1-2 personnel = 5 points 3-4 personnel = 10 points <i>Attach original certified copies not older than 3 months.</i>	35	40	EXPERIENCE: Similar contract with any organ of state or private sector of a minimum value of R 10 000 000 per project 1 Previous Contract = 15 points 2 Previous contract = 35 points 3 Or more contract = 45 points <i>Attach References- Appointment Letters with Completion Certificates</i>	35	45	LOCALITY: Within Kgetlengrivier Local Municipality = 15 North West (Bojanala) = 10 Provincial (North West) = 8 National = 5 <i>A bidder must provide a proof of residence (Municipal account / Lease agreement with 3 months rental proof of payment)</i>	5	15	Total evaluation points for functionality (WQ)	75	100
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Total evaluation points for functionality (WQ)	75	100																	

		Notes : 1. "B-BBEE status level of contributor" means the B-BBEE status received by a measured entity based on its overall performance using the relevant scorecard contained in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act (Act No.53 of 2003). 2. Tenderers must submit their certified copy of SANAS only accredited BBEE certificate OR certified copy of BBEE Sworn Affidavit must be attached. (Failure to submit valid certificate will result in your bid not being allocated Points for BBEE) 3. An EME must submit a sworn affidavit confirming the following: • Annual Turnover Revenue of R10 million or less; and • Level of Black ownership • Any misrepresentation in terms of the above constitutes a criminal offence as set out in the B- BBEE Act as amended. 4. The submission of such certificates must comply with the requirements of instructions and guidelines issued by the National Treasury and be in accordance with notices published by the Department of Trade and Industry in the Government Gazette. 5. A trust, consortium or joint venture will qualify for points for their B-BBEE status level as a legal entity, provided that the entity submits their B-BBEE status level certificate. 6. A trust, consortium or joint venture will qualify for points for their B-BBEE status level as an unincorporated entity, provided that the entity submits their consolidated B-BBEE scorecard as if they were a group structure and that such a consolidated B-BBEE scorecard is prepared for every separate tender. 7. A person will not be awarded points for B-BBEE status level if it is indicated in the tender documents that such a tenderer intends sub-contracting more than 25% of the value of the contract to any other enterprise that does not qualify for at least the points that such a tenderer qualifies for. 8. A person awarded a contract will not be permitted to sub-contract more than 25% of the value of the contract to any other enterprise that does not have an equal or higher B-BBEE status level than the person concerned. TOTAL PREFERENCE POINTS The total preference points for a tender are calculated with the formula PP = P_s + P_{bee} where PP is the total number of preference points scored by the tenderer P_s is the points scored for the comparative price of the tenderer, and P_{bee} is the number of points awarded to the tenderer based on his certified B-BBEE status level.
F.3.13	Acceptance of tender offer	Tender offers will only be accepted if: a) the tenderer submits a letter of intent from an approved financial institution undertaking to provide the Construction Guarantee in the format included in Part C1.3 of this procurement document; b) the tenderer is registered with the Construction Industry Development Board in an appropriate contractor grading designation; c) the tenderer or any of its directors/shareholders is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; d) the tenderer has not:

		i) abused the Employer's Supply Chain Management System; or ii) failed to perform on any previous contract and has been given a written notice to this effect; e) the tenderer has completed the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the employer or potentially compromise the tender process. f) the tenderer is registered and in good standing with the compensation fund or with a licensed compensation insurer; g) the employer is reasonably satisfied that the tenderer has in terms of the Construction Regulations, 2003, issued in terms of the Occupational Health and Safety Act, 1993, the necessary competencies and resources to carry out the work safely. h) The tendering entity or the directors/partners of the tendering entity are in good standing with the local authority/municipality i) The tenderer has duly completed Form B (where required) that includes for any addenda that may have been issued, where such addenda has a material effect on the pricing of the contract.
F.3.17	Number of Paper Copies	The number of paper copies of the signed contract to be provided by the employer is 1 (one).

PART T2**RETURNABLE
DOCUMENTS**

PART T2: RETURNABLE DOCUMENTS**T2.1 SCM RETURNABLES**

- A. Joint Venture agreement (if applicable).
- B. CIDB Registration Certificate (6 CE or higher).
- C. Latest municipal rates and taxes account (not older than three months) which is not in areas for more than three months for the company AND directors/trustees/members/shareholders. In the event of a tenant (renting) a copy of a valid signed lease agreement for the company AND directors/trustees/members/shareholders be attached.
- D. Completed and signed MBD forms
- E. Three (3) Year financial statements if bid amount is above R 10 million (submit audited financial statements for the past three years or since the date of establishment if established during the past three years).
- F. Sworn Affidavit or a certified copy of SANAS Accredited B-BBEE certificate
- G. CK Documents with full details of directors and addresses.

FUNCTIONALITY RETURNABLES

- A. Signed appointment letters and Completion Certificates or lesser on projects of similar scope & scale under public sector
- B. Plant and machinery schedule
- C. Key company staff
- D. Safety plan

PART T2: RETURNABLE DOCUMENTS**T2.2 RETURNABLE SCHEDULES AND DOCUMENTS****T2.2.1 Returnable Schedules and Documents**

MBD 1:	Invitation to Bid
MBD 4:	Declaration of Interest
MBD 5:	Declaration for Procurement above R10 Million (All Applicable Taxes Included)
MBD 6.1:	Preference Points Claim Form in Terms of the Preferential Procurement Regulations 2017
MBD 8:	Declaration of Bidder's Past Supply Chain Management Practices
MBD 9:	Certificate of Independent Bid Determination
Form A:	Record of Addenda to Tender Documents
Form B:	Schedule of Recent Documents
Form C:	Schedule of Current Contracts
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Form E:	Schedule of Proposed Subcontractors
Form F:	Schedule of Proposed Key Personnel
Form G:	Banking Details
Form H:	Proposed Amendments and Qualifications (if any)
Form I:	Certificate of Authority for Joint Venture (if applicable)
Form J:	Particulars of any contracts awarded by an organ of state during the last 5 years
Form K:	Estimated Monthly Expenditure
Form L:	Fulfillment of the Construction Regulations
Form M:	Questionnaire on tenderer's procedures with respect to OHSA and Construction Regulations
Form N:	Business Declaration form

**PART A
INVITATION TO BID**

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE KGETLERIVIER LOCAL MUNICIPALITY

BID NUMBER:		CLOSING DATE:		CLOSING TIME:	
DESCRIPTION					
THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (MBD7).					

BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN
THE BID BOX SITUATED AT (STREET ADDRESS

SUPPLIER INFORMATION					
NAME OF BIDDER					
POSTAL ADDRESS					
STREET ADDRESS					
TELEPHONE NUMBER	CODE		NUMBER		
CELLPHONE NUMBER					
FACSIMILE NUMBER	CODE		NUMBER		
E-MAIL ADDRESS					
VAT REGISTRATION NUMBER					
TAX COMPLIANCE STATUS	TCS PIN:		OR	CSD No:	
B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE [TICK APPLICABLE BOX]	☐ Yes ☐ No		B-BBEE STATUS LEVEL SWORN AFFIDAVIT		☐ Yes ☐ No
[A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE/ SWORN AFFIDAVIT (FOR EMES & QSEs) MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE]					

ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	☐ Yes ☐ No [IF YES ENCLOSE PROOF]	ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED?	☐ Yes ☐ No [IF YES, ANSWER PART B:3]
TOTAL NUMBER OF ITEMS OFFERED		TOTAL BID PRICE	R
SIGNATURE OF BIDDER		DATE	
CAPACITY UNDER WHICH THIS BID IS SIGNED			
BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO:		TECHNICAL INFORMATION MAY BE DIRECTED TO:	
DEPARTMENT		CONTACT PERSON	
CONTACT PERSON		TELEPHONE NUMBER	
TELEPHONE NUMBER		FACSIMILE NUMBER	
FACSIMILE NUMBER		E-MAIL ADDRESS	
E-MAIL ADDRESS			

MBD 4**DECLARATION OF INTEREST**

1. No bid will be accepted from persons in the service of the state¹.
2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority.
3. In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.
 - 3.1 Full Name of bidder or his or her representative:.....
 - 3.2 Identity Number:
 - 3.3 Position occupied in the Company (director, trustees, hareholder²):.....
 - 3.4 Company Registration Number:
 - 3.5 Tax Reference Number:.....
 - 3.6 VAT Registration Number:
 - 3.7 The names of all directors/trustees/shareholders/members, their individual identity numbers and state employee numbers must be indicated in paragraph 4 below.
 - 3.8 Are you presently in the service of the state? **YES / NO**
If yes, furnish particulars
.....
.....
.....
.....

- 3.9 Have you been in the service of the state for the past twelve months? **YES / NO**
If yes, furnish particulars.....
.....
- 3.10 Do you have any relationship (family, friend, other) with persons in the service of the state and who may be involved with the evaluation and or adjudication of this bid?
YES / NO
If yes, furnish particulars
.....
- 3.11 Are you, aware of any relationship (family, friend, other) between any other bidder and any persons in the service of the state who may be involved with the evaluation and or adjudication of this bid?
YES / NO
If yes, furnish particulars.....
.....
- 3.12 Are any of the company's directors, trustees, managers, principle shareholders or stakeholders in service of the state?
YES / NO
If yes, furnish particulars.....
.....
- 3.13 Are any spouse, child or parent of the company's directors, trustees, managers, principle shareholders or stakeholders in service of the state?
YES / NO
If yes, furnish particulars.....
.....
- 3.14 Do you or any of the directors, trustees, managers, principle shareholders, or stakeholders of this company have any interest in any other related companies or business whether or not they are bidding for this contract.
YES / NO
If yes, furnish particulars.....
.....

4. Full details of directors / trustees / members / shareholders.

FULL NAME	IDENTITY NUMBER	STATE EMPLOYEE NUMBER

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

.....
Position

.....
Name of Bidder

.....
Date

* MSCM Regulations: "in the service of the state" means to be –

(a) a member of –

(i) any municipal council;

(ii) any provincial legislature; or

(iii) the national Assembly or the national Council of provinces;

(b) a member of the board of directors of any municipal entity;

(c) an official of any municipality or municipal entity;

(d) an employee of 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);

(e) a member of the accounting authority of any national or provincial public entity; or

(f) an employee of Parliament or a provincial legislature.

** "Stakeholder" means a person who owns shares in the company and is actively involved in the management of the company or business and exercises control over the company.

DECLARATION FOR PROCUREMENT ABOVE R10 MILLION (ALL APPLICABLE TAXES INCLUDED)

For all procurement expected to exceed R10 million (all applicable taxes included), bidders must complete the following questionnaire:

1 Are you by law required to prepare annual financial statements for auditing?

YES / NO

If yes, submit audited annual financial statements for the past three years or since the date of establishment if established during the past three years.

.....

.....

Do you have any outstanding undisputed commitments for municipal services towards a municipality or any other service provider in respect of which payment is overdue for more than 30 days?

YES / NO

If no, this serves to certify that the bidder has no undisputed commitments for municipal services towards a municipality or other service provider in respect of which payment is overdue for more than 30 days.

If yes, provide particulars.

.....

.....

.....

.....

Has any contract been awarded to you by an organ of state during the past five years, including particulars of any material non-compliance or dispute concerning the execution of such contract?

YES / NO

If yes, furnish particulars

.....

.....

Will any portion of goods or services be sourced from outside YES / NO the Republic, and, if so, what portion and whether any portion of payment from the municipality / municipal entity is expected to be transferred out of the Republic?

YES / NO

If yes, furnish particulars

.....

.....

CERTIFICATION

I, THE UNDERSIGNED (NAME)

CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS CORRECT.

I ACCEPT THAT THE STATE MAY ACT AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....

Signature

.....

Date

.....

Position

.....

Name of Bidder

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

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

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

1. GENERAL CONDITIONS

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

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

1.2

- a) The value of this bid is estimated to exceed/not exceed R50 000 000 (all applicable taxes included) and therefore the preference point system shall be applicable; or
- b) Either the 80/20 or 90/10 preference point system will be applicable to this tender (*delete whichever is not applicable for this tender*).

1.3 Points for this bid shall be awarded for:

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

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

	POINTS
PRICE	
B-BBEE STATUS LEVEL OF CONTRIBUTOR	
Total points for Price and B-BBEE must not exceed	100

1.5 Failure on the part of a bidder to submit proof of B-BBEE Status level of contributor together with the bid, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.

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

2. DEFINITIONS

- (a) **“B-BBEE”** means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;
- (b) **“B-BBEE status level of contributor”** means the B-BBEE status of an entity in terms of a code of good practice on black economic empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;

- (c) **“bid”** means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of goods or services, through price quotations, advertised competitive bidding processes or proposals;
- (d) **“Broad-Based Black Economic Empowerment Act”** means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- (e) **“EME”** means an Exempted Micro Enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (f) **“functionality”** means the ability of a tenderer to provide goods or services in accordance with specifications as set out in the tender documents.
- (g) **“prices”** includes all applicable taxes less all unconditional discounts;
- (h) **“proof of B-BBEE status level of contributor”** means:
 - 1) B-BBEE Status level certificate issued by an authorized body or person;
 - 2) A sworn affidavit as prescribed by the B-BBEE Codes of Good Practice;
 - 3) Any other requirement prescribed in terms of the B-BBEE Act;
- (i) **“QSE”** means a qualifying small business enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (j) **“rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;

3. POINTS AWARDED FOR PRICE

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

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

$$P_s = 80 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right) \quad \text{or} \quad P_s = 90 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$$

Where

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

4. POINTS AWARDED FOR B-BBEE STATUS LEVEL OF CONTRIBUTOR

- 4.1 In terms of Regulation 6 (2) and 7 (2) of the Preferential Procurement Regulations, preference points must be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

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

6	3	6
7	2	4
8	1	2
Non-compliant contributor	0	0

5. BID DECLARATION

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

6. B-BBEE STATUS LEVEL OF CONTRIBUTOR CLAIMED IN TERMS OF PARAGRAPHS 1.4 AND 4.1

- 6.1 B-BBEE Status Level of Contributor: . =(maximum of 10 or 20 points)

(Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 4.1 and must be substantiated by relevant proof of B-BBEE status level of contributor.

7. SUB-CONTRACTING

- 7.1 Will any portion of the contract be sub-contracted?

(Tick applicable box)

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

- 7.1.1 If yes, indicate:

- i) What percentage of the contract will be subcontracted.....%
- ii) The name of the sub-contractor.....
- iii) The B-BBEE status level of the sub-contractor.....
- iv) Whether the sub-contractor is an EME or QSE

(Tick applicable box)

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

- v) Specify, by ticking the appropriate box, if subcontracting with an enterprise in terms of Preferential Procurement Regulations,2017:

Designated Group: An EME or QSE which is at last 51% owned by:	EME √	QSE √
Black people		
Black people who are youth		
Black people who are women		
Black people with disabilities		
Black people living in rural or underdeveloped areas or townships		
Cooperative owned by black people		
Black people who are military veterans		
OR		
Any EME		
Any QSE		

8. DECLARATION WITH REGARD TO COMPANY/FIRM

- 8.1 Name of company/firm:.....

- 8.2 VAT registration number:.....

- 8.3 Company registration number:.....

- 8.4 TYPE OF COMPANY/ FIRM

- ☐ Partnership/Joint Venture / Consortium
- ☐ One person business/sole propriety

- ☐ Close corporation
☐ Company
☐ (Pty) Limited
 [TICK APPLICABLE BOX]

8.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES

.....

.....

.....

.....

8.6 COMPANY CLASSIFICATION

- ☐ Manufacturer
☐ Supplier
☐ Professional service provider
☐ Other service providers, e.g. transporter, etc.
 [TICK APPLICABLE BOX]

8.7 MUNICIPAL INFORMATION

Municipality where business is situated:

Registered Account Number:

Stand Number:.....

8.8 Total number of years the company/firm has been in business:.....

8.9 I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBE status level of contributor indicated in paragraphs 1.4 and 6.1 of the foregoing certificate, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:

- i) The information furnished is true and correct;
- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 6.1, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct;
- iv) If the B-BBEE status level of contributor has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –
 - (a) disqualify the person from the bidding process;
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
 - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
 - (d) recommend that the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted by the National Treasury from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
 - (e) forward the matter for criminal prosecution.

WITNESSES 1. 2.	 SIGNATURE(S) OF BIDDERS(S) DATE: ADDRESS
--	--

MBD 8

DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

- 1 This Municipal Bidding Document must form part of all bids invited.
- 2 It serves as a declaration to be used by municipalities and municipal entities 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 rejected if that bidder, or any of its directors have:
 - a. abused the municipality's / municipal entity's supply chain management system or committed any improper conduct in relation to such system;
 - b. been convicted for fraud or corruption during the past five years;
 - c. willfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
 - d. been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004).
- 4 In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

Item	Question	Yes	No
4.1	Is the bidder or any of its directors listed on the National Treasury's Database 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). The Database of Restricted Suppliers now resides on the National Treasury's website(www.treasury.gov.za) and can be accessed by clicking on its link at the bottom of the home page.	Yes ☐	No ☐

4.1.1	If so, furnish particulars:		
4.2	Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)? The Register 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 of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes ☐	No ☐
4.3.1	If so, furnish particulars:		
Item	Question	Yes	No
4.4	Does the bidder or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?	Yes ☐	No ☐
4.4.1	If so, furnish particulars:		

4.5	Was any contract between the bidder and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes ☐	No ☐
4.7.1	If so, furnish particulars:		

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME)CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM 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

CERTIFICATE OF INDEPENDENT BID DETERMINATION

- 1 This Municipal Bidding Document (MBD) must form part of all bids¹ invited.
- 2 Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).² Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.
- 3 Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:
 - a. takes all reasonable steps to prevent such abuse;
 - b. rejects the bid of any bidder if that bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
 - c. cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the 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.
- 5 In order to give effect to the above, the attached Certificate of Bid Determination (MBD 9) must be completed and submitted with the bid:

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

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

(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.

(Bid Number and Description)

in response to the invitation for the bid made by:

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
6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or consortium³ 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;

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

.....

Signature

.....

Date

.....

Position

.....

Name of Bidder

FORM A: RECORD OF ADDENDA TO TENDER DOCUMENTS

We confirm that the following communications received from the Principal Agent before the submission of this tender offer, amending the tender documents, have been taken into account in this tender offer:

	Date	Title or Details
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

SIGNATURE:
(of person authorised to sign on behalf of the Tenderer)

DATE:

The Tenderer shall list below the last five roads construction contracts of a **similar nature** awarded to the Tenderer. This information is material to the award of the Contract.

[illegible]

38

The Tenderer shall list below the contracts not yet completed. This information is material to the award of the Contract.

[illegible]

(of person authorised to sign on behalf of the Tenderer)

FORM D: SCHEDULE OF CONSTRUCTION PLANT & EQUIPMENT

The following are lists of Construction Plant and Equipment that I / We presently own or lease and will have available for this contract if my / our tender is accepted.

(a) Details of Equipment that is owned by me / us and immediately available for this contract.

DESCRIPTION	QUANTITY	YEAR ACQUIRED

Attach additional pages if more space is required

(b) Details of Plant & Equipment that will be hired, or acquired for this contract if my / our tender is accepted

DESCRIPTION (type, size, capacity etc.)	QUANTITY	HOW ACQUIRED	
		HIRE/ BUY	SOURCE

Attach additional pages if more space is required

SIGNATURE: **DATE:**

(of person authorised to sign on behalf of the Tenderer)

Local Contractor Development

I/We hereby notify you that it is my/our intention to employ the following Sub-Contractors for work in this contract.

NAMES AND ADDRESSES OF PROPOSED SUBCONTRACTORS	NATURE AND EXTENT OF WORK TO BE SUBCONTRACTED	PREVIOUS EXPERIENCE WITH SUBCONTRACTOR OR RECENT WORK EXECUTED BY THE SUB-CONTRACTOR

DATE:

FORM F: PROPOSED KEY PERSONNEL

The Tenderer shall list below the key personnel (including first nominee and the second choice alternate), whom he proposes to employ on the contract should his offer be accepted, both at his headquarters and on the site, together with their qualifications, experience, positions held and their nationalities. Full CV"s of key personnel to be included with Tender submission.

LOCATION	DESIGNATION	NAME AND NATIONALITY OF PROPOSED CANDIDATE	SUMMARY OF QUALIFICATIONS & EXPERIENCE
HEAD OFFICE	Partner/director		
	Project manager		
	Other key staff (give designation)		
SITE OFFICE	Site Agent		
	Site Engineer		
	Construction Supervisor (Give Designation)		
	Other Key Staff (Give Designation)		

--	--	--	--

SIGNATURE:
(of person authorised to sign on behalf of the Tenderer)

DATE:

FORM G: BANKING DETAILS

I/We hereby authorise the Employer to approach the following bank for the purposes of obtaining a financial reference:

DESCRIPTION OF BANK DETAIL	BANK DETAILS APPLICABLE TO TENDERER'S HEAD OFFICE
Name of Bank	
Branch Name	
Branch Code	
Street Address	
Postal Address	
Name of Manager	
Telephone Number	()
Fax Number	()
Account Number	

SIGNATURE:
(of person authorised to sign on behalf of the Tenderer)

DATE:

Proposed amendments and qualifications

The Tenderer's attention is drawn to clause F.3.8 of the Standard Conditions of Tender referenced in the Tender Data regarding the employer's handling of material deviations and qualifications.

[illegible]

DATE:

45

FORM I: CERTIFICATE OF AUTHORITY FOR JOINT VENTURE (if applicable)**Certificate of Authority for Joint Ventures**

This Returnable Schedule is to be completed by joint ventures.

We, the undersigned, are submitting this tender offer in Joint Venture and hereby authorise Mr/Ms
 , authorised signatory of the company
 , acting in the capacity of
 lead partner, to sign all documents in connection with the tender offer and any contract resulting from it on our behalf.

NAME OF FIRM	PERCENTAGE PARTICIPATION	ADDRESS	DULY AUTHORISED SIGNATORY
Lead partner CIDB registration No			Signature Name Designation
CIDB registration No			Signature Name Designation
CIDB registration No			Signature Name Designation

SIGNATURE:
(of person authorised to sign on behalf of the Tenderer)

DATE:

(In the event of insufficient space, kindly attach documentation)

[illegible]

SIGNATURE: **DATE:**
(of person authorised to sign on behalf of the Tenderer)

Organ of State means-

- a) a national or provincial department;
- b) a municipality;
- c) a constitutional institution defined in the Public Finance Management Act, 1999 (Act No. 1 of 1999);
- d) Parliament;
- e) a provincial legislature;
- f) any other institution or category of institutions included in the definition of “organ of state” in section 239 of the Constitution and recognised by the [Minister](#) by notice in the *Government Gazette* as an institution or category of institutions to which [this Act](#) applies;

FORM K: ESTIMATED MONTHLY EXPENDITURE

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

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

MONTH	VALUE *
1	R
2	R
3	R
4	R
5	R
6	R
7	R
8	R
9	R
10	R
11	R
12	R
13	R
	COMPLETION OF CONTRACT
TOTAL	R

SIGNATURE:
(of person authorised to sign on behalf of the Tenderer)

DATE:

FORM L: FULFILMENT OF THE CONSTRUCTION REGULATIONS, 2003

In terms of regulation 4(3) of the Construction Regulations, 2003 (hereinafter referred to as the Regulations), promulgated on 18 July 2003 in terms of Section 43 of the Occupational Health and Safety Act, 1993 (Act No 85 of 1993) the Employer shall not appoint a contractor to perform construction work unless the Contractor can satisfy the Employer that his/her firm has the necessary competencies and resources to carry out the work safely and has allowed adequately in his/her tender for the due fulfilment of all the applicable requirements of the Act and the Regulations.

- 1 I confirm that I am fully conversant with the Regulations and that my company has (or will acquire/procure) the necessary competencies and resources to timeously, safely and successfully comply with all of the requirements of the Regulations.

(Tick)

YES	
NO	

- 2 Proposed approach to achieve compliance with the Regulations

(Tick)

Own resources, competent in terms of the Regulations (refer to 3 below)	
Own resources, still to be hired and/or trained (until competency is achieved)	
Specialist subcontract resources (competent) - specify:	

- 3 Provide details of proposed key persons, competent in terms of the Regulations, who will form part of the Contract team as specified in the Regulations (CVs to be attached):

.....
.....
.....
.....

- 4 Provide details of proposed training (if any) that will be undergone:

.....
.....
.....
.....

- 5 Potential key risks identified and measures for addressing risks:

.....
.....
.....
.....

- 6 I have fully included in my tendered rates and prices (in the appropriate payment items provided in the Schedule of Quantities) for all resources, actions, training and any other costs required for the due fulfilment of the Regulations for the duration of the construction and defects repair period.

YES	(Tick)
NO	

SIGNATURE:**DATE:**
(of person authorised to sign on behalf of the Tenderer)

FORM M: QUESTIONNAIRE ON TENDERER'S PROCEDURES WITH RESPECT TO THE OCCUPATIONAL HEALTH AND SAFETY ACT (OHSACT) AND CONSTRUCTION REGULATIONS.

1. Name of the employee to be appointed as Construction Supervisor [Construction Regulation 6 (1)]
.....
2. Names of the competent employees to assist the Construction Supervisor [Construction Regulation 6 (2)]
.....
3. Name of the person to be appointed to conduct base line and ongoing risk assessments [Construction Regulation 7 (1)]
.....
4. Name of competent person to be appointed as occupational health and safety officer [Construction Regulation 6 (6)]
.....
5. Will the employees to be appointed on the project be in possession of proof of health and safety induction training that will address the project specific risks and exposures [Construction Regulation 7 (9) (a)]?Yes / No.
If no, what are the tenderer's proposals for such training?
.....
6. Are the tenderer's tools, plant and equipment tested and inspected regularly i.e. daily for vehicles and equipment and at least weekly for other tools and hand tools in terms of safety compliance?Yes/No
o
If no, what are the tenderer's proposals for such testing?
.....
7. Will a dedicated supervisor be designated to manage the process to test and inspect all tools, plant and equipment?Yes/No
o
If no, what are the tenderer's proposals for such designation?
.....
.....
8. Will the tenderer take to comply with other requirements of the OHSACT and the Construction Regulations?Yes/No
If no, what are the tenderer's proposals to comply with this requirement?
.....
.....

9. Is the tenderer registered and in good standing with the Compensation Commissioner or duly approved compensation insurer?.....Yes/No

SIGNATURE: **DATE:**
(of person authorised to sign on behalf of the Tenderer)

FORM N: BUSINESS DECLARATION

Tender/RFP Number :

Tender/RFP Description:

Name of Company :

Postal Address :

Physical Address :

Telephone :

Fax :

Contact Person :

Cell Phone Number :

E-Mail Address :

Company/enterprise Income

Tax Reference Number ** :

(Insert personal income tax number if a one person business and personal income tax numbers of all partners if a partnership)

VAT Registration Number :

Company Registration Number:

1. Type of Firm

- ☐ Partnership
- ☐ One person business/sole trader
- ☐ Close corporation
- ☐ Public company
- ☐ Private company

(Tick One Box)

2. Principal Business Activities

.....

.....

.....

3. Total number of years firm has been in business:

4. Detail all trade associations/professional bodies in which you have membership.

.....

.....

5. Did the firm exist under a previous name?

☐ Yes☐ No

(Tick one box)

If yes, what was its previous name?.....

6. How many permanent staff members are employed by the firm:

Full Time:

Part Time:

7. What is the enterprise's latest annual turnover (excl. VAT): R.....

8. List the personnel or firms who provide the following services:

SERVICE	NAME	CONTACT PERSON	TELEPHONE
ACCOUNTING			
LEGAL			
AUDITING			
BANKING			
INSURANCE			

BANK DETAILS

I/We hereby request and authorize you to pay any amounts which may accrue to me/us to the credit of my/our account with the mentioned bank.

I/We understand that the credit transfers hereby authorized will be processed by computer through a system known as the "ACB Electronic Fund Transfer Service" and

I/We also understand that no additional advice of payment will be provided by my/our bank, but details of each payment will be printed on my/our bank statement or any accompanying voucher.

This authority may be cancelled by me/us giving 30 days' notice in writing.

BANK:

BRANCH:

BRANCH CODE:

ACCOUNT NUMBER:

ACCOUNT HOLDER:

TYPE OF ACCOUNT:

PLEASE INCLUDE ORIGINAL SIGNED AND STAMPED LETTER FROM THE BANK CONFIRMING THE COMPANY'S BANKING DETAILS, PHOTOSTAT COPIES AND LETTERS BEARING ELECTRONIC SIGNATURES WILL NOT BE ACCEPTABLE.

The undersigned, who warrants that he/she is duly authorised to do so on behalf of the company, affirms that the information furnished in response to this request for proposal is true and correct:

SIGNATURE :

NAME IN FULL :

CAPACITY :

DULY AUTHORIZED TO SIGN ON BEHALF OF:

DATE :

**PART C1
AGREEMENT AND CONTRACT DATA**

PART C1: AGREEMENT AND CONTRACT DATA**C1.1 FORM OF OFFER AND ACCEPTANCE****Offer**

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract in respect of the following works:

REFURBISHMENT OF BOREHOLES AND INSTALLATION OF A NEW WATER TREATMENT PLANT IN REDIRILE, DERBY (TWO FINANCIAL YEARS PROJECT).

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

THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF VALUE ADDED TAX IS:

.....

.....Rand (in words); R.....(in figures)

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

FOR THE TENDERER:**WITNESS:**

_____ Signature _____

_____ Name _____

_____ Capacity _____

_____ Date _____

Name and address of organisation:

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
Part C5	Drawings

and documents (or parts thereof), which may be incorporated by reference into the above listed Parts 1 to 4 above.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Returnable 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, which must be duly signed by the authorised representative(s) of both parties.

The Tenderer shall within fourteen days of 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 securities, bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data at, or just after, the date this Agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this Agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the tenderer receives one fully completed 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.

FOR THE EMPLOYER:**WITNESS:**

_____	Signature	_____
_____	Name	_____
_____	Capacity	_____
_____	Date	_____

Name and address of organisation:

KGETLERIVIER LOCAL MUNICIPALITY
Cnr Smuts and De Wet Street
Koster

Schedule of Deviations**Notes:**

1. The extent of deviations from the tender documents issued by the Employer prior to the tender closing date is limited to those permitted in terms of the Conditions of Tender ,
2. A Tenderer's covering letter shall not be included in the final contract document. Should any matter in such letter which constitutes a deviation as aforesaid become the subject of agreements reached during the process of offer and acceptance the outcome of such agreement shall be recorded here,
3. Any other matter arising from the process of offer and acceptance either as a confirmation, clarification or change to the tender documents and which it is agreed by the Parties becomes an obligation of the contract shall also be recorded here,
4. Any change or addition to the tender documents arising from the above agreements and recorded here, shall also be incorporated into the final draft of contract,

Schedule of Deviations

- 1 Subject:
Detail:
.....
.....
- 2 Subject:
Details:
.....
.....
.....
- 3 Subject:
Details:
.....
.....
.....
- 4 Subject:
Details:
.....
.....
.....
- 5 Subject:
Details:
.....
.....
.....

By the duly authorised representatives signing this Schedule of Deviations, the Employer and the Tenderer agree to and accept the foregoing Schedule of Deviations as the only deviations from and amendments to the documents listed in the Tender Data and addenda thereto as listed in the Tender Schedules, as well as any confirmation, clarification or 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.

FOR THE TENDERER:**FOR THE EMPLOYER:**

_____	Signature	_____
_____	Name	_____
_____	Capacity	_____
Name and address of organisation:		Name and address of organisation:
_____		_____
_____		_____
_____		_____
_____	Witness	_____
Signature		Signature
_____	Witness	_____
Name		Name
_____	Date	_____

CONFIRMATION OF RECEIPT

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

the _____(day)

of _____(month)

20____(year)

at _____(place)

FOR THE CONTRACTOR:**WITNESS:**

_____ Signature _____

_____ Name _____

_____ Capacity _____

_____ Date _____

C.1.2 CONTRACT DATA**PART 1: DATA PROVIDED BY THE EMPLOYER****CONDITIONS OF CONTRACT**

The General Conditions of Contract for Construction Works, Third Edition 2015, published by the South African Institute of Civil Engineering, Private Bag X200, Halfway House, 1685, is applicable to this Contract and is obtainable from www.saice.org.za.

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

CONTRACT SPECIFIC DATA

The following contract specific data, referring to the General Conditions of Contract for Construction Works, Third Edition, 2015, are applicable to this Contract:

Clause	Data
1.1.1.13	The Defects Liability period is Twelve (12) months
1.1.1.14	The time for achieving Practical Completion is 24 months; the project will be implemented in three (3) financial years.
1.1.1.15	The name of the Employer is KGETLERIVIER LOCAL MUNICIPALITY(PTY) LIMITED
1.1.1.26	Contract Price Adjustment is applicable to this contract. The value of payment certificates is to be adjusted in accordance with the Contract Price Adjustment (CPA) schedule for civil works only, where the value of "x" is 0.1 (as per GCC 2015)
1.2.1.2	The address of the Employer is: Address (physical): Cnr Smuts and De Wet Street, Koster Address (postal): PO Box 66, Koster, 0348 Contact person: Mr Lebohang Rantho Telephone: 073 409 4255 e-mail: lebohangrantho@gmail.com
3.1.3	The Engineer shall obtain the specific approval of the Employer before executing any of his functions or duties according to the following clauses of the General Conditions of Contract. Clause 6.3.2 Issue of Variation Orders exceeding R10 000.

5.3.1	The documentation required before commencement with Works execution are: Health and Safety Plan (Refer to clause 4.3) Initial Programme (Refer to clause 5.6) Initial Cash flow projection linked to the programme Security (Refer to clause 6.2) Insurance (refer to clause 8.6)
5.3.2	The time to submit the documentation required before commencement with Works execution is 14 days.
5.4.2	The access and possession of Site shall not be exclusive to the Contractor but as set out in the Scope of Work and Site Information.
5.6.1	The programme shall make allowance for anticipated activities with durations per line item of no longer than twenty eight (28). Several line items shall comprise an activity of duration in excess of twenty eight (28) days.
5.6.2	The programme shall contain the following activities and or items as a minimum requirement: a) Testing and acceptance control. b) As-built levels and drawings. c) Date for Practical Completion. d) Date for Completion. e) Health & Safety Compliance. f) Environmental Compliance.
5.8.1	The non-working days are Sundays. The special non-working days are the official public holidays of the Republic of South Africa (which shall include public holidays set aside for voting purposes) and the industry year-end break approximately commencing on 14 December 2018 and ending on 11 January 2019.
5.13.1	The penalty for failing to complete the Works is R5 000 per day.
5.16.3	The latent defect period is 1 year.
6.2.1	The security to be provided by the Contractor shall be a Performance Guarantee of 10% of the Contract Sum and 10% Retention up to a limit of 5% of the Contract Sum. The Performance Guarantee is to be worded as per the document included in C1.3.
6.5.1.2.3	The percentage allowance to cover overhead charges and profit shall not exceed 10%.
6.8.2	The tenderer is to submit a fixed price tender (not subject to contract price adjustment)
6.8.3	Price adjustments for variations in the costs of special materials are NOT allowed
6.10.1.5	The percentage advance on materials not yet built into the Permanent Works is 80% .
6.10.3	The limit of retention money is 10%
8.6.1	The Employer will provide the insurances required in terms of clauses 8.6.1.1, 8.6.1.2 and 8.6.1.3 of the General Conditions of Contract for projects with a value of less than R50 million. The contractor is responsible for all insurances required in terms of clauses 8.6.1.1, 8.6.1.2 and 8.6.1.3 of the General Conditions of Contract for projects with a value greater than R50 million.
8.6.1.1.3	The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is 20% of the Contract Sum.
10.5.3	The number of Adjudication Board Members to be appointed is ONE.
10.7.1	The determination of disputes shall be by arbitration.
10.7.2	Arbitration shall take place in accordance with the Summary Procedure Rules of the 6 th edition of the Rules for the Conduct of Arbitrations published by the Association of Arbitrators, South Africa and by a single Arbitrator.

5.12.2.2	A delay caused by inclement weather conditions will be regarded as a delay only if, in the opinion of the Engineer, all progress on an item or items of work on the critical path of the working programme of the contractor has been brought to a halt. Delays on working days only (based on a five-day working week) will be taken into account for the extension of time, but the Contractor shall make provision in his programme of work for an expected delay of "n" working days caused by normal rainy weather, for which he will not receive any extension of time, where "n" equals 20 days. Extension of time during working days will be granted to the degree to which actual delays, as defined above, exceed the number of "n" working days.
5.12.2.3	Contractors will waive their right of builders lien upon signing of the contract document. The contractor will possess site during construction however upon dispute of claims or termination of contract, the appointed contractor shall not use their right of builders lien in that case. The 28 days for payment of claims shall take into effect once the client receives the claims certificate and not when the Engineer approves the claim.

C.1.2 CONTRACT DATA**PART 2: DATA PROVIDED BY THE CONTRACTOR**

Clause	Data
1.1.1.9	The name of the Contractor is:
1.2.1.2	The address and contact details of the Contractor are:
	Address (physical):
	Address (postal):
	Contact person:
	Telephone:
	Facsimile:
	e-mail:

PART C1: AGREEMENT AND CONTRACT DATA**C1.3 PERFORMANCE GUARANTEE****GUARANTOR DETAILS AND DEFINITIONS**

"Guarantor" means:

Physical address:

"Employer" means:

"Contractor" means:

"Engineer" means:

"Works" means:

"Site" means:

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

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

Amount in words:

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

Amount in words:

"Expiry Date" means: Date of issue of certificate of completion.....

CONTRACT DETAILS

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

PERFORMANCE GUARANTEE

1. The Guarantor's liability shall be limited to the amount of the Guaranteed Sum.
2. The Guarantor's period of liability shall be from and including the date of issue of this Performance Guarantee and up to and including the Expiry Date or the date of issue by the Engineer of the Certificate of Completion of the Works or the date of payment in full of the Guaranteed Sum, whichever occurs first. The Engineer and/or the Employer shall advise the Guarantor in writing of the date on which the Certificate of Completion of the Works has been issued.
3. The Guarantor hereby 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 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 to the Employer the Guaranteed Sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address calling up this Performance Guarantee, such demand stating that:
 - 5.1 the Contract has been terminated due to the Contractor's default and that this Performance Guarantee is called up in terms of 5; or
 - 5.2 a provisional or final sequestration or liquidation court order has been granted against the Contractor and that the Performance Guarantee is called up in terms of 5; and
 - 5.3 the aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional/final sequestration and/or the provisional liquidation court order.
6. It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4 and 5 shall not exceed the Guarantor's maximum liability in terms of 1.
7. Where the Guarantor has made payment in terms of 5, the Employer shall upon the date of issue of the Final Payment Certificate submit an expense account to the Guarantor showing how all monies received in terms of this Performance Guarantee have been expended and shall refund to the Guarantor any resulting surplus. All monies refunded to the Guarantor in terms of this Performance Guarantee shall bear interest at the prime overdraft rate of the Employer's bank compounded monthly and calculated from the date payment was made by the Guarantor to the Employer until the date of refund.
8. Payment by the Guarantor in terms of 4 or 5 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.
9. Payment by the Guarantor in terms of 5 will only be made against the return of the original Performance Guarantee by the Employer.
10. The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may deem fit and the Guarantor shall not have the right to claim his release from this Performance Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.

11. The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.
12. This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 2, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.
13. This Performance Guarantee, with the required demand notices in terms of 4 or 5, shall be regarded as a liquid document for the purposes of obtaining a court order.
14. Where this Performance Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Signed at:

Date.....

Guarantor's signatory (1).....

Capacity.....

Guarantor's signatory (2).....

Capacity.....

Witness signatory (1).....

Witness signatory (2).....

PART C1: AGREEMENT AND CONTRACT DATA**C1.4 OCCUPATIONAL HEALTH AND SAFETY AGREEMENT**

THIS AGREEMENT between Kgetlerivier Local Municipality (hereinafter called “the Employer”) on 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

WHEREAS the Employer is desirous that certain works be constructed, being contract:

CONTRACT No. KRLMTEC/BID:10/2023-24

REFURBISHMENT OF BOREHOLES AND INSTALLATION OF A NEW WATER TREATMENT PLANT IN REDIRILE, DERBY (TWO FINANCIAL YEARS PROJECT) and has accepted a tender by the Contractor for the construction, completion and maintenance of such works and whereas the Employer and the Contractor have agreed to certain arrangements and procedures to be followed in order to ensure compliance by the Contractor with the provisions of the Occupational Health and Safety Act 1993 (Act 85 of 1993).

NOW THEREFORE THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. The Contractor shall execute the work in accordance with the contract documents pertaining to this contract.
2. This Agreement shall hold good for the duration of construction, commencing from the handover of the site up to the end of the defects liability period.
3. Should the contract be terminated for any reason, this agreement shall lapse upon the date of termination.
4. The Contractor declares himself to be conversant with the following:
 - (a) All the requirements, regulations and standards of the Occupational Health and Safety Act (Act 85 of 1993), hereinafter referred to as “the Act”, together with its amendments thereto.
 - (b) All the requirements of the Construction Regulations hereinafter referred to as the “Regulations”, together with any amendments thereto.
 - (c) The Health and Safety Specification of the Employer as pertaining to the Contractor and to all his subcontractors.
5. In addition to the requirements of the contract, the Contractor agrees to execute all the works forming part of this contract and to operate and utilise all machinery, plant and equipment in accordance with the Act and the Regulations.
6. The Contractor is responsible for the compliance with the Act and the Regulations by all his subcontractors, whether or not selected or nominated and/or approved by the Employer.
7. The Contractor warrants that all his and his subcontractors’ workmen are covered in terms of the Compensation for Occupational Injuries and Diseases Act 1993 which cover shall remain in force whilst any such workmen are present on site. A letter of good standing from the Compensation Commissioner to this effect must be produced to the Employer upon signature of the agreement.
8. The Contractor undertakes to ensure that he and/or his subcontractors and/or their respective employees will at all times comply with the following conditions:

- (a) The Contractor undertakes to comply with all provisions of the Act and its Regulations.
- (b) The Contractor will be obliged to report to the Employer on a regular basis regarding compliance by the Contractor with the Act and its Regulations.
- (c) All incidents referred to in the Occupational Health and Safety Act shall be reported by the Contractor to the Department of Labour as well as to the Employer. The Employer will further be provided with copies of all written documentation relating to any incident.
- (d) The Employer hereby records an interest in the issue of any formal enquiry conducted in terms of Section 32 of the Occupational Health and Safety Act into any incident involving the Contractor and/or his employees and/or his subcontractors.

In witness thereof the parties hereto have set their signatures hereon in the presence of the subscribing witnesses:

.....

for and on behalf of the Contractor who warrants to be duly authorised to do so

Name:.....

Designation:.....

As witnesses:

1.

.....

for and on behalf of the Employer who warrants to be duly authorised to do so

Name:

Designation:

As witnesses:

1.

PART C1: AGREEMENT AND CONTRACT DATA**C1.5 AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT NO. 85 OF 1993**

THIS AGREEMENT is made between the Kgetlerivier Local Municipality represented by the(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:

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

BID NO. KRLMTEC/BID: 10/2023-24

REFURBISHMENT OF BOREHOLES AND INSTALLATION OF A NEW WATER TREATMENT PLANT IN REDIRILE, DERBY 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 OHS Act 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 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 **CONTRACTOR**
on this the day of 20.....

SIGNATURE:

NAME AND SURNAME:

CAPACITY:

WITNESS:

Thus signed at for and on behalf of the **EMPLOYER** on this
the day of 20.....

SIGNATURE:

NAME AND SURNAME:

CAPACITY:

WITNESS:

**PART C2
PRICING DATA**

PART C2: PRICING DATA**C2.1 PRICING INSTRUCTIONS**

1. The Conditions of Contract, the Contract Data, the Specifications (including the Project Specifications) and the Drawings shall be read in conjunction with the Bill of Quantities. The agreement is based on the General Conditions of Contract for Construction Works, prepared by the South African Institution of Civil Engineering, 2015. The additions, deletions and alterations to the General Conditions of Contract for Construction Works as well as the contract specific variables are as stated in the Contract Data. Only the headings and clause numbers for which allowance must be made in the Bills of Quantities are recited.
2. The Bill comprises items covering the Contractor's profit and costs of general liabilities and of the construction of Temporary and Permanent Works.
3. Although the Tenderer is at liberty to insert a rate of his own choosing for each item in the Bill, he should note the fact that the Contractor is entitled, under various circumstances, to payment for additional work carried out and that the Engineer is obliged to base his assessment of the rates to be paid for such additional work on the rates the Contractor inserted in the Bill. Clause 8 of each Standardized Specification, and the measurement and payment clause of each Particular Specification, read together with the relevant clauses of the Project Specifications, all set out which ancillary or associated activities are included in the rates for the specified operations.
4. Descriptions in the Bill of Quantities are abbreviated and may differ from those in the Standardized and Project Specifications. No consideration will be given to any claim by the Contractor submitted on such a basis. The Bill has been drawn up generally in accordance with the latest issue of Civil Engineering Quantities. Should any requirement of the measurement and payment clause of the appropriate Standardized or Project Specification(s) be contrary to the terms of the Bill or, when relevant, to the Civil Engineering Quantities, the requirement of the appropriate Standardized, Project, or Particular Specification as the case may be, shall prevail.
5. Unless stated to the contrary, items are measured net in accordance with the Drawings without any allowance having been made for waste.
6. The amounts and rates to be inserted in the Bill of Quantities shall be the full inclusive amounts to the Employer for the work described under the several items. Such amounts shall cover all the costs and expenses that may be required in and for the construction of the work described, and shall cover the costs of all general risks, profits, taxes (but excluding value-added tax), liabilities and obligations set forth or implied in the documents on which the Tender is based.
7. An amount or rate shall be entered against each item in the Bill of Quantities, whether or not quantities are stated. An item against which no amount or rate is entered will be considered to be covered by the other amounts or rates in the Bill.
8. The Tenderer shall also fill in a rate against the items where the words "rate only" appear in the amount column. Although no work is foreseen under these items and no quantities are consequently given in the quantity column, the tendered rates shall apply should work under these items actually be required.
9. The standard system of measurement of civil engineering quantities published by the South African Institution of Civil Engineers.
10. Should the Tenderer group a number of items together and tender one sum for such group of items, the single tendered sum shall apply to that group of items and not to each individual item, or should he indicate against any item that full compensation for such item has been included in another item, the rate for the item included in another item shall be deemed to be nil. The tendered rates, prices and sums shall, subject only to the provisions of the Conditions of Contract, remain valid irrespective of any change in the quantities during the execution of the Contract.
11. The quantities of work as measured and accepted and certified for payment in accordance with the Conditions of Contract, and not the quantities stated in the Bill of Quantities, will be used to determine payments to the Contractor. The validity of the Contract shall in no way be affected by differences

between the quantities in the Bill of Quantities and the quantities certified for payment. The **Ordering of materials** is not to be based on the Bill of Quantities, but only on information issued for construction purposes.

12. For the purposes of this Bill of Quantities, the following words shall have the meanings hereby assigned to them:

Unit	:	The unit of measurement for each item of work as defined in the Standardized, Project or Particular Specifications
Quantity	:	The number of units of work for each item
Rate	:	The payment per unit of work at which the Tenderer tenders to do the work
Amount	:	The quantity of an item multiplied by the tendered rate of the (same) item
Sum	:	An amount tendered for an item, the extent of which is described in the Bill of Quantities, the Specifications or elsewhere, but of which the quantity of work is not measured in units

13. The units of measurement indicated in the Bill of Quantities are metric units. The following abbreviations may appear in the Bill of Quantities:

mm	=	millimetre
m	=	metre
km	=	kilometre
km-pass	=	kilometre-pass
m ²	=	square metre
m ² -pass	=	square metre-pass
ha	=	hectare
m ³	=	cubic metre
m ³ -km	=	cubic metre-kilometre
kW	=	kilowatt
kN	=	kilonewton
kg	=	kilogram
t	=	ton (1 000 kg)
%	=	per cent
MN	=	meganewton
MN-m	=	meganewton-metre
PC Sum	=	Prime Cost Sum
Prov Sum	=	Provisional Sum

14. Occupational Health and Safety Act and Construction Regulations

A payment item in the schedule of Quantities / Bill of Quantities must allow the tenderers to price for compliance with OHSA and the Construction Regulations. This payment item, must include for the erection of Visitors Indemnity Signs and for ensuring that visitors receive instructions and sign an indemnity declaration.

PART C2: PRICING DATA

C2.2 BILL OF QUANTITIES

PART C3
SCOPE OF WORKS:

TABLE OF CONTENTS – SCOPE OF WORK

C3	SCOPE OF	
WORK		82
GENERAL		82
SCOPE		82
PS1	DESCRIPTION OF THE	
WORKS		82
PS 1.1 Employer's Objectives.....		82
PS 1.2 Overview of the Works.....		82
PS 1.3 Extent of the Works.....		82
PS 1.4 Location of the Works		83
PS 1.5 Temporary Works.....		83
PS2	ENGINEERING	
83		
PS 2.1 Employer's Design		83
PS 2.1.1 Isolation Valves		83
PS 2.1.2 PS 2.1.2 Fittings and Specials		83
PS 2.1.3 Air Valves		83
PS 2.1.4 Hydrants		83
PS 2.1.5 Valve Chambers and Boxes		84
PS3	PROCUREMENT	
84		
PS 3.1 Preferential Procurement Procedures.....		84
PS 3.2 Subcontracting		84
PS4	CONSTRUCTION	
84		
PS 4.1.1 PS 4.1 Applicable Standards		84
PS 4.2 Particular Generic Specifications		86
PS 4.2.1 General.....		86
PS 4.2.2 Applicable labour laws		86
PS 4.3 Plant and materials		91
PS 4.4 Construction equipment		91
PS 4.5 Existing services		91
PS 4.6 Site establishment, facilities available and required		91
PS 4.7 Site usage		92
PS 4.8 Permits and wayleaves		92
PS 4.9 Alterations, additions, extensions and modifications to existing works		92
PS 4.10 Inspection of adjoining properties		92
PS 4.11 Water, sanitation and electricity for construction purposes		92
PS 4.11.1 Water		92
PS 4.11.2 Sewer		93
PS 4.11.3 Power		93
PS 4.12 Survey control and setting out of the works.....		93
PS5	MANAGEMENT OF THE	
WORKS		93
PS 5.1 Applicable SANS 1921 Standards		93
PS 5.1.1 PS 5.2 Planning and Programming.....		93
PS 5.1.2 PS 5.3 Sequence of the works.....		95
PS 5.1.3 PS 5.4 Software application for programming		95
PS 5.1.4 PS 5.5 Methods and procedures		95
PS 5.1.5 PS 5.6 Quality plans and control.....		95
PS 5.1.6 PS 5.7 Accommodation of traffic on public roads occupied by the Contractor.....		95
PS 5.1.7 PS 5.8 Other contractors on site		96

PS 5.1.8 PS 5.9 Testing, completion, commissioning and correction of defects	96
PS 5.1.9 PS 5.11 Format of communications.....	96
PS 5.1.10 PS 5.12 Key personnel.....	96
PS 5.1.11 PS 5.12.1 General.....	96
PS 5.1.12 PS 5.12.2 Labour-intensive competencies of supervisory and management staff.....	97
PS 5.1.13 PS 5.13 Management meetings	98
PS 5.1.14	99
PS 5.1.15 PS 5.14 Forms for contract administration.....	99
PS 5.1.16 PS 5.15 Daily records.....	99
PS 5.1.17 PS 5.16 Bonds and guarantees	99
PS 5.1.18 PS 5.17 Payment certificates	99
PS 5.1.19 PS 5.18 Permits	99
PS6	PS 6 FEATURES REQUIRING SPECIAL
ATTENTION	99
PS 6.1.1	99
PS 6.1.2 PS 6.1 Security	99
PS 6.1.3 PS 6.2 Operation of valves	99
PS 6.1.4 PS 6.3 Work outside normal working hours.....	99
PS 6.1.5 PS 6.4 Sanitary facilities	99
PS 6.1.6 PS 6.5 Community liaison and community relations.....	100
PS 6.1.7 PS 6.6 Notices and warning to consumers	100
PS 6.1.8 PS 6.7 Continuity of water supply to consumers	100
PS 6.1.9 PS 6.8 Conditions and procedures for service agencies	100
PS 6.1.10 PS 6.9 Reinstatement of asphalt by KGETLENGRIVIER LOCAL Municipality ..	100
PS 6.1.11 PS 6.10 Generic labour intensive specifications	100
PS 6.1.12 PS 6.11 Causes for rejection.....	102
PS7	PS 7 HEALTH AND SAFETY SPECIFICATION FOR CONSTRUCTION
WORK	103
PS8	PS 8 ENVIRONMENTAL MANAGEMENT
PLAN	105
PS9	PRELIMINARY AND GENERAL ITEM PAYMENT
LIMITATION	105
PS10	DECOMMISSIONING
PIPELINES	105
PS 10.1.1	105
PS 10.1.2 PS 10.1 Drainage of abandoned secondary mains	105
PS 10.1.3	105
PS11	MARKERS & ERF
CONNECTIONS	105
PS 11.1 Erf and Yard Connections	105
PS 11.1.1 Erf connection provision and installation	105
PS11.2 Markings and marker post.....	106
PS11.2.1 Road crossing markings.....	106
PS11.2.2 Fittings marker posts	106
PS12	TRAINING FOR TARGETED
LABOUR	106
PSPA: FENCING	107
PS13 The tendered rate shall include full compensation for drilling and blasting the holes and for	111
PS14 all other expenses in connection with the provision, storage, transportation and use of	111
PS15	explosives.
111	
PS16	PS PWA: WATERTIGHTNESS TESTING OF
TANKS	111
PS17	Scope
111	
Watertightness	111

General	111	
Disinfection	111	
PS 17.1.1 PWA1.1.3 Initial filling and testing	112	
PS18		MEASUREMENT AND
PAYMENT		112
Watertightness testing Unit : Lump sum	112	
PS19		PS 13 PREFABRICATED
TANK		113
PS20 SANS 1200A: CIVIL ENGINEERING CONSTRUCTION: PRELIMINARY AND		
GENERAL		114
PSAB 1 SCOPE	115	
PSDA 2 INTERPRETATION	117	
PSDA 3 MATERIALS	117	
PSDA 5 CONSTRUCTION	118	
PSDA 5.2.6.1 Freehaul	119	
PSDA 5.2.6.2 Overhaul	119	
PSDA 5.2.7 Backfilling	119	
PSDA 7 TESTING	120	
PSDB 1 MATERIALS	121	
PSDB 4 PLANT	121	
PSDB 5 CONSTRUCTION	122	
PSDB 5.9 Reinstatement of surfaces	122	
PSDB 5.9.1 Reinstatement – private property and commonage	122	
PSDB 7 TESTING	123	

C3 SCOPE OF WORK**GENERAL**

This section specifies and describes the supplies, services and engineering and construction works which are to be provided and any other requirements and constraints relating to the manner in which the contract work is to be performed.

SCOPE

The Scope of the Work is set out in two portions:

Portion 1: PROJECT SPECIFICATION covers a general description of the project, the facilities available and the requirements to be met.

Portion 2: VARIATIONS AND ADDITIONS TO THE STANDARDISED SPECIFICATIONS covers variations to the standardised specifications and particular specifications, which are applicable to the contract.

Should any requirement of the Project Specification conflict with any requirement of the standardised or particular specifications, the requirements of the Project Specifications shall prevail.

PORTION 1: PROJECT SPECIFICATION**PS1 DESCRIPTION OF THE WORKS****PS 1.1 Employer's Objectives**

The Employer's objective, as the water and sanitation service provider for Kgetlengrivier municipality, is to improve water service delivery to Redirile and Derby town, and this would be achieved by rehabilitating all the existing boreholes in Redirile.

PS 1.2 Overview of the Works

The project requires the provision of:

- Drilling of blocked boreholes
- Testing of Boreholes
- Equipping of boreholes
- Electrical works on boreholes
- Installation of borehole valves and all necessary accessories
- Pipe work on boreholes (connecting boreholes to the existing pipeline).
- Building of Pump house
- Construction of water purification system including Tank to cater for the recycling of the backwash water

THIS PROJECT WILL BE IMPLEMENTED IN TWO FINANCIAL YEARS**PS 1.3 Extent of the Works**

Scope of work can be summarised as follows:

- Drilling of blocked boreholes
- Testing of Boreholes
- Equipping of boreholes
- Electrical works on boreholes
- Installation of borehole valves and all necessary accessories
- Pipe work on boreholes (connecting boreholes to the existing pipeline).
- Building of Pump house

- Construction of water purification system including Tank to cater for the recycling of the backwash water

Labour intensive construction methods must be utilised where applicable.

PS 1.4 Location of the Works

Derby falls within the Kgetlengrivier Local Municipality's area. . Access to Derby town is off the provincial road R509 and R30.

Location of Project Site

AREA	LATITUDE	LONGITUDE
Derby/Redirile	25°54'16.86"S	27° 2'36.79"E

PS 1.5 Temporary Works

Temporary works shall:

- include the works required to locate, verify and protect existing services within the works area;
- be such to ensure no or limited interruption to vehicular and pedestrian traffic;
- dewatering of works;
- site offices and facilities

Further the Contractor shall note that no stockpiling of materials, plant, excavated material or any other construction related infrastructure shall be allowed in locations that may interfere with the operations of the Employer and the public in general.

PS2 ENGINEERING

PS 2.1 Employer's Design

The key requirement for this project is that the work are to be executed to KGETLENGRIVIER LOCALMUNICIPALITY specifications and to SANS/SABS requirements and specifications with minimum costs and inconvenience to customers and affected parties. The contractor undertakes only to construct on the basis of full designs as issued by the engineer.

PS 2.1.1 Isolation Valves

In accordance to standard specifications.

PS 2.1.2 PS 2.1.2 Fittings and Specials

Pipe fittings and couplings shall be as specified in SANS 815, Class 16. Flanges shall be in accordance with SANS 1123, Table 1600, suitable for maximum working pressure rating of 1600 kPa. Electrostatic epoxy powder coating, in accordance with SANS 1217, will protect all fittings internally and externally.

PS 2.1.3 Air Valves

Where applicable replace existing air valves with suitable new double acting air release valves.

PS 2.1.4 Hydrants

Hydrants shall be in accordance with the standard drawings and specifications provided.

PS 2.1.5 Valve Chambers and Boxes

Chambers and valve boxes shall be in accordance with the standard drawings and specifications provided.

PS3 PROCUREMENT**PS 3.1 Preferential Procurement Procedures**

The Contractor's attention is drawn to the following returnable schedules contained in Part T2:

- a) Empowerment and Preferential Procurement and
- b) Enterprise Declaration Affidavit

These schedules contain all requirements with regard to preferential procurement.

PS 3.2 Subcontracting

- a) The Contractor is obliged to utilise any subcontractors specifically nominated by the Employer, where in the opinion of the employer the contractor cannot provide a subcontractor that is deemed to be sufficiently experienced and can perform the task at a reasonable market related price.
- b) The Contractor may be required to utilise local subcontractors for the completion of unskilled labour based sections of the works and for the reinstatement of asphalt surfacing within the road reserve.
- c) The Contractor is responsible for work executed by subcontractors on his behalf.
- d) The Engineer will not negotiate directly with subcontractors and all problems relating to payments, programming, workmanship, etc., are matters between the Contractor and his subcontractors.

PS4 CONSTRUCTION**PS 4.1.1 PS 4.1 Applicable Standards**

The Standard Specifications for all associated civil work applicable to this Contract shall be SANS 1200:

SANS 1914-5	:	Participation of Targeted Labour
SANS 1200 A	:	General
SANS 1200 AB	:	Engineer's Office
SANS 1200 C	:	Site clearance
SANS 1200 DA	:	Earthworks (small works)
SANS 1200 DB	:	Earthworks (pipe trenches)
SANS 1200LB	:	Bedding (Pipes)

THIS PROJECT WILL BE IMPLEMENTED IN TWO FINANCIAL YEARS

These Specifications are not issued with this volume but are available at the Contractor's expense from Standards South Africa:

Office Address:

1 Dr Lategan Road

Groenkloof

PRETORIA

Postal Address:

Private Bag X191

PRETORIA

0001

Telephone:

National: (012) 428 7911

International: + 27 12 428 7911

Email: sales@sabs.co.za

Telefax:

National: (012) 3441568

International: + 27 12 344 1568

PS 4.2 Particular Generic Specifications**PS 4.2.1 General**

For the purpose of this Contract:

- a) where gender terms are used, it shall be applicable to both male and female; and
- b) "VAT" shall mean Value Added Tax in terms of the Value Added Tax Act 89 of 1991 as amended.

PS 4.2.2 Applicable labour laws

The Ministerial Determination, Special Public Works Programmes, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice N° R63 of 25 January 2002, 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.

1 Introduction

1.1 This document contains the standard terms and conditions for workers employed in elementary occupations on an Expanded Public Works Programme (EPWP). These terms and conditions do NOT apply to persons employed in the supervision and management of 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 an EPWP;
- (c) "worker" means any person working in an elementary occupation on an 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;
- (f) "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;
- (i) "time-rated worker" means a worker paid on the basis of the length of time worked.

2 Terms of Work

2.1 Workers on an EPWP are employed on a temporary basis.

2.2 A worker may NOT be employed for longer than 24 months in any five-year cycle on an EPWP.

2.3 Employment on an EPWP does not qualify as employment as a contributor for the purposes of the Unemployment Insurance Act 30 of 1966.

3 Normal Hours of Work

3.1 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 week; and
- (c) for more than eight hours on any day.

3.2 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.

3.3 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.

4 Meal Breaks

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

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

4.3 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.

4.4 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.

5 Special Conditions for Security Guards

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

5.2 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.

6 Daily Rest Period

Every worker is entitled to a daily rest period of at least eight 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.

7 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").

8 Work on Sundays and Public Holidays

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

8.2 Work on Sundays is paid at the ordinary rate of pay.

8.3 A task-rated worker who works on a public holiday 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.

8.4 A time-rated worker who works on a public holiday 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.

9 Sick Leave

9.1 Only workers who work four or more days per week have the right to claim sick-pay in terms of this clause.

9.2 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.

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

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

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

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

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

9.8 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 eight-week period.

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

9.10 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.

10 Maternity Leave

10.1 A worker may take up to four consecutive months' unpaid maternity leave.

10.2 A worker is not entitled to any payment or employment-related benefits during maternity leave.

10.3 A worker must give her employer reasonable notice of when she will start maternity leave and when she will return to work.

10.4 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.

10.5 A worker may begin maternity leave –

- (a) four weeks before the expected date of birth; or
- (b) on an earlier date –
 - (i) 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.

10.6 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.

10.7 A worker who returns to work after maternity leave, has the right to start a new cycle of twenty-four months employment, unless the EPWP on which she was employed has ended.

11 Family responsibility leave

11.1 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.

12 Statement of Conditions

12.1 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.

12.2 An employer must ensure that these terms are explained in a suitable language to any employee who is unable to read the statement.

12.3 An employer must supply each worker with a copy of these conditions of employment.

13 Keeping Records

13.1 Every employer must keep a written record of at least the following –

- (a) the worker's name and position;
- (b) in the case of a task-rated worker, the number of tasks completed by the worker;
- (c) in the case of a time-rated worker, the time worked by the worker;
- (d) payments made to each worker.

13.2 The employer must keep this record for a period of at least three years after the completion of the EPWP.

14 Payment

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

14.2 A task-rated worker will only be paid for tasks that have been completed.

14.3 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.

14.4 A time-rated worker will be paid at the end of each month.

14.5 Payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.

14.6 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.

14.7 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.

14.8 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.

14.9 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.

15 Deductions

15.1 An employer may not deduct money from a worker's payment unless the deduction is required in terms of a law.

15.2 An employer must deduct and pay to the SA Revenue Services any income tax that the worker is required to pay.

15.3 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.

15.4 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.

16 Health and Safety

16.1 Employers must take all reasonable steps to ensure that the working environment is healthy and safe.

16.2 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.

17 Compensation for Injuries and Diseases

17.1 It is the responsibility of the employers (other than a contractor) to arrange for all persons employed on an EPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.

17.2 A worker must report any work-related injury or occupational disease to their employer or manager.

17.3 The employer must report the accident or disease to the Compensation Commissioner.

17.4 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.

18 Termination

18.1 The employer may terminate the employment of a worker for good cause after following a fair procedure.

18.2 A worker will not receive severance pay on termination.

18.3 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.

18.4 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 for the balance of the 24-month period.

18.5 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 becomes available for the balance of the 24-month period.

19 Certificate of Service

19.1 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.

PS 4.3 Plant and materials

The Contractor is required to provide all plant and materials necessary to carry out the works as required. No additional allowances other than those already specified in the bill of quantities shall be allowed for with respect to plant and materials.

PS 4.4 Construction equipment

See clause PS4.3.

PS 4.5 Existing services

The Contractor:

- a) must make provision for the possible existence of numerous services (e.g.: Stormwater, Water, Electricity, Gas, Telephone and the like) within and in close proximity to the work areas.
- b) is to obtain way leaves indicating the location of existing services from all affected service providers prior to the commencement of construction. The Contractor is to comply with the conditions of the way leaves received from the various service providers.
- c) is to ensure the protection and integrity of all existing services exposed and encountered through the course of construction activities. Adequacy in terms of protection of existing services shall be at the discretion of the Engineer. The Contractor is to make good the protection of and any breakages to existing services. The Contractor is to record on as built drawings the location of existing services or services which have been relocated during Contract Period. Surveyed coordinates may be required.
- d) must inform the relevant service provider immediately (within 2 hours of incident) such that procedures for the reinstatement of the service can be effected, should he damage or break an existing service (whether known or unknown).
- e) is responsible to provide his own equipment in order to determine the location of existing services.

PS 4.6 Site establishment, facilities available and required

The Contractor will be responsible to locate his own site for the purpose of a construction camp and will be responsible for obtaining all relevant permissions from the relevant authorities. He shall additionally be responsible for the provision (and cost thereof) of the other required facilities as detailed in this document, which includes but is not limited to the items as detailed in the following paragraph.

The Contractor shall provide at the site camp; a meeting room, with adequate seating and table to hold site and other meetings, an office and table with three chairs for the Engineer, sanitary

facilities and water for the Engineer, adequate parking space for the Employer, Engineer and visitors.

PS 4.7 Site usage

Site usage shall be limited to hours as specified in the Contract Data.

PS 4.8 Permits and way-leaves

The Contractor will be required to obtain permits and way-leaves from the entire applicable service provider's within the jurisdiction of Kgetlengrivier Local Municipality.

The Employer will assist the Contractor to obtain clearance from the various departments with services that are likely to be affected by the Contract. It is, however, the Contractor's responsibility to obtain final permit and wayleave approval according to applicable procedures and specifications.

Permits and way leave associated costs shall be deemed to have been included in the scheduled rates for excavation and location of existing services under the relevant section of SANS 1200 A.

PS 4.9 Alterations, additions, extensions and modifications to existing works

The Contractor is required to verify the accuracy of all drawings and levels provided by the Engineer prior to commencing with any construction activities.

PS 4.10 Inspection of adjoining properties

The Contractor shall carry out inspections and evidence collection, as he deems appropriate, of properties adjoining the works to ensure that in the event of a claim arising from any of the owners of the adjoining properties for damage to property and the like, the Contractor has substantial evidence to support or refute such claims. The Contractor accepts full liability and responsibility for damage which he causes to adjoining properties as well as any costs involved in refuting or processing of such claims.

PS 4.11 Water, sanitation and electricity for construction purposes**PS 4.11.1 Water**

The Contractor shall make his own arrangements with the Employer to obtain a potable water metered standpipe connection for which at least 14 days' notice shall be given. The size of the connection provided will be as specified in the Water and Sanitation By-laws.

The Contractor may only draw water from fire hydrants through means of a legal, Employer owned, potable water metered standpipe/ connections. Failure to use such Employer owned potable water metered standpipes/ connections, or using illegal, non-Employer owned equipment for purposes of drawing water from fire hydrants, will result in the Contractor having to pay an account to Employer, for an amount determined by Employer

The potable water metered standpipe(s) must be made available to the Employer's water inspectors for purposes of reading and inspection, and failure to do so, will result in the immediate withdrawal of such potable water metered standpipe(s). The onus is on the Contractor to return such potable water metered standpipe(s) if they are found to be defective (not registering consumption). Failure to do so will result in an account being levied, payable to

and determined by the Employer. Claims for delays caused where standpipe(s) are withdrawn and/or replaced will not be considered.

The current water tariffs applicable to the Contract are available from the Employer.

PS 4.11.2 Sewer

The Contractor shall provide, maintain, move to positions as required and finally remove proper sanitary accommodation at each work front. Sanitary accommodation shall be properly screened and its use strictly enforced. The Contractor shall comply with the Employer's Sanitation General By-Laws Section 19(1) and 19(3).

The situation of sanitary accommodation prescribed in terms of the Sanitary General By-Laws shall be approved by the Engineer as being convenient for the person for whose use it is intended. The sanitary accommodation provided must be adequately ventilated, properly disinfected and kept in a thoroughly clean condition at all times.

The Contractor shall bear all costs associated with the provision of sanitary accommodation. Compensation for these costs will be made under the relevant item in the Schedule of Quantities.

PS 4.11.3 Power

The Contractor shall make arrangements with the relevant authority for the supply and distribution of power for purposes of this Contract, the cost of which shall be deemed to be included in the rates inserted in the Schedule of Quantities.

Power used for carrying out of the works in accordance with these Specifications will not be subject to measurement or payment.

PS 4.12 Survey control and setting out of the works

The Contractor is to confirm the levels and coordinates of all benchmarks prior to commencing with construction.

PS5 MANAGEMENT OF THE WORKS

PS 5.1 Applicable SANS 1921 Standards

SANS 1921-1:2004: Construction and management requirements for works contracts Part 1: General engineering and construction works shall be applicable to this Contract.

PS 5.1.1 PS 5.2 Planning and Programming

a) Planning

The Contractor shall ensure that he:

- 1) is well informed with regard to the Employer's overall implementation programme for the implementation of its prepayment programme and avail resources as required to efficiently complete this Contract; and
- 2) delivers good and services timeously as not to unnecessarily delay any other contractors, service providers and suppliers.

b) Programming

In order to ensure a clear understanding, at the inception of the Contract, of the programming and documentation format requirements, the Contractor shall appoint a project programmer/ planner for liaison during the Contract. The Contractor shall for the Contract Period provide and regularly update (maximum monthly) a Contract Programme.

The programme shall at minimum contain:

- a) Time Scale (minimum):
 - Days, where the period does not exceed three months. Weeks, where the project period exceeds three months.
 - Months, where the period does not exceed one year.
 - Years, where the project period exceeds one year.
- b) Tasks: Where phases or stages are anticipated, this shall be the highest level of division and all tasks related to the successful accomplishment of that phase of the area shall be grouped. Resources allocation and task dependency shall be indicated.
- c) Start and Finish Dates: All tasks shall have specific start and finish dates.
-
- d) Critical Path: All tasks forming the programme line that will establish any delays in the overall Contract Period shall be clearly indicated and an indication of their sensitivity characteristics shall be provided.
- e) Progress Tracking: The Contractor shall be required to periodically indicate progress per task graphically and on a percentage basis.
- f) Non-working Time: All South African public holidays, weekends and the local traditional annual builder's break shall be incorporated in the programme..

No deviation from the approved sequence of construction shall be accepted without prior written approval.

The programme shall not be in the form of a bar chart only, but shall show clearly the anticipated quantities of work to be performed each month, together with the manner in which the listed plant is to be used, as well as the anticipated earnings for the various sections of work.

A Contract programme shall be submitted no later than 7 days after Contract Commencement Date.

The Contractor shall provide the Engineer with a method statement indicating the manner and sequence in which he intends to construct the works, for each work area, with the program. In the method statement the Contractor must address at least the following items:

1. Sequence of the works for the relevant works area.
2. Target dates for the tasks identified in sequence of the works for the relevant works area.
3. Materials requirements.
4. Construction Plant to be used.
5. Services affecting construction
6. Any factors that could affect construction progress after commencement.

The method statement must be approved by the engineer before commencement of construction. In order to minimize the impact on traffic, pedestrians and business the Contractor will be required to segment the works in such a manner that no portion of the works is more than one day ahead of the following position. These segments of the works shall be clearly defined in the Contractor's method statement for each work area.

If, during the progress of the work, the quantities of work performed per month fall below those shown on the program or if the sequence of operations is altered, or if the program is deviated from in any other way, the Contractor shall, within one week after being notified by the Engineer, submit a revised program.

If the program is to be revised by reason of the Contractor falling behind his program, he shall produce a revised program showing the modifications to the original program necessary to ensure completion of the Works or any part thereof within the time for completion. Any proposal to increase the rate of work must be accompanied by positive steps to increase production by providing more labour and plant on the Site, or by using the available labour and plant in a more efficient manner.

Failure on the part of the Contractor to submit or to work according to the program or revised program shall be sufficient reason for the Employer to take steps as provided for in the General Conditions of Contract.

The approval by the Engineer of any program shall have no contractual significance other than that the Engineer would be satisfied if the work is carried out in accordance to such program and that the Contractor undertakes to carry out the work in accordance with the program. It shall not limit the right of the Engineer to instruct the Contractor to vary the program should circumstances make this necessary.

PS 5.1.2 PS 5.3 Sequence of the works

The sequence of works to be executed shall be agreed between the Engineer and the Contractor. It is envisaged that the verification of pipe diameters and material be conducted prior to the commencement of pipe installation.

Contractor shall addresses matters regarding the approval of his Health and Safety Plan, thereafter the works shall commence.

PS 5.1.3 PS 5.4 Software application for programming

The construction programme shall be completed in Microsoft ® Project Standard 2002 or compatible software. The construction programme and updated versions thereof shall be made electronically available to the Engineer.

PS 5.1.4 PS 5.5 Methods and procedures

The methods and procedures for the execution of the works shall be in accordance with the standard specifications and the variations and additions thereto.

PS 5.1.5 PS 5.6 Quality plans and control

The Contractor shall be required to provide and maintain a quality plan to ensure that the quality of all work components is of a high standard.

PS 5.1.6 PS 5.7 Accommodation of traffic on public roads occupied by the Contractor

- a) Accommodation of traffic

The Contractor shall ensure the safe accommodation of traffic at all areas where the work may impact on traffic and shall provide all delineators, watching, lighting, signs and barricades required by the road authorities, and in accordance with the South African Road Traffic Signs Manual.

b) Access to properties

Adequate access shall at all times be maintained to public and private properties unless otherwise arranged and approved. Details of the proposed means of access shall be submitted before any such access is restricted. Claims arising from impeded access shall be the responsibility of the Contractor.

At least 7 days before commencing any work affecting access to a property, the Engineer and the occupier/owner of each such property shall be notified of the Contractor's intention to commence work, the date of commencement, expected duration and arrangements which will be made regarding maintenance of access.

c) Transport Department requirements

The Contractor must provide a bridge with side rails across excavations to allow pedestrians access to the sidewalk. Allowance for the costs associated with providing pedestrian access to sidewalks will be deemed to have been included under Item (Accommodation of Traffic) of the Schedule of Quantities.

PS 5.1.7 PS 5.8 Other contractors on site

There may be other contractors working within the same area. As such, the Contractor is required to make adequate allowances for such possibilities. No claims with respect to works being carried out by other contractors will be entertained by the Employer.

PS 5.1.8 PS 5.9 Testing, completion, commissioning and correction of defects

The onus is on the Contractor to produce goods and services which shall conform in quality and in accuracy of detail to the requirements hereinafter specified. The Contractor must clearly understand that it is not a duty of the Engineer or his representative to act as foreman or surveyor on the Works.

The Contractor shall, at his own expense, provide experienced engineers, foremen and surveyors together with all transport, instruments and equipment for supervising, checking and controlling the work.

The act of passing any completed work for payment by the Engineer shall not be construed as signifying approval or acceptance thereof. Failure on the part of the Engineer to reject any defective work or material shall not in any way relieve the Contractor of his obligations under the Contract, nor prevent later rejection when such work or material is discovered.

The Contractor shall, when submitting any work to the Engineer for examination, satisfy himself by testing, measurement and otherwise as may be necessary that the work does in fact meet with the requirements of the Specifications. This information shall be submitted with the Contractor's request for examination and the Engineer shall be authorised to decide on the number and type of tests, measurements, etc. required to enable him to judge the quality of the work.

The submission of this information shall in no way diminish the authority of the Engineer to conduct such tests as he may consider necessary in order to determine the quality of the work performed by the Contractor, nor will he be bound to take account of the Contractor's tests, measurements, etc. should he consider these to be either incorrect or not representative.

Quality control and completion tests shall be in accordance with the relevant standard and amended specifications and additional specifications.

PS 5.1.9 PS 5.11 Format of communications

All communication shall be in writing and any verbal agreements shall only be binding once confirmed and agreed to in writing. Communication via, registered post, email or facsimile is acceptable.

PS 5.1.10 PS 5.12 Key personnel

PS 5.1.11 PS 5.12.1 General

The Contractor is to provide the Curriculum Vitae's of key personnel to be employed on the project as well as the person's position and responsibilities within the project team. The Contractor shall provide the following minimum key staff:

a) Site Agent;

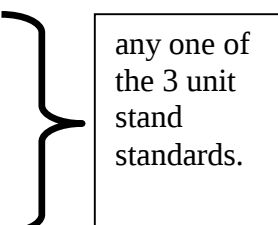
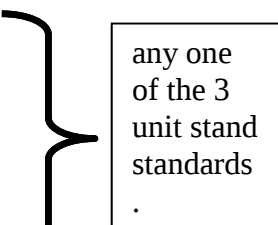
- b) Quality Manager/Auditor/Controller;
- c) Health and Safety Officer/s; and
- d) Foremen.

PS 5.1.12 PS 5.12.2 Labour-intensive competencies of supervisory and management staff

Established contractors shall only engage supervisory and management staff in labour-intensive works who have either completed, or for the period 1 April 2004 to 30 June 2005, are registered for training towards, the skills programme outlined in Table 5.2.

Emerging contractors shall have personally completed, or for the period 1 April 2004 to 30 June 2005 be registered on a skills programme for the NQF level 2 unit standard. All other site supervisory staff in the employ of emerging contractors must have completed, or for the period 1 April 2004 to 30 June 2005 be registered on a skills programme for, the NQF level 2 unit standards or NQF level 4 unit standards.

Table 5.2: Skills programme for supervisory and management staff

Personnel	NQF Level	Unit Standard Titles	Skills programme description
Team Leader / Supervisor	2	Apply Labour Intensive Construction Systems and Techniques to Work Activities	This unit standard must be completed, and
		Use Labour Intensive Construction Methods to Construct and maintain Roads and Stormwater Drainage	
		Use labour Intensive Construction Methods to Construction and Maintain Water and Sanitation Services	
		Use Labour Intensive Construction methods to Construct, Repair and Maintain Structures	
Foreman / Supervisor	4	Implement Labour Intensive Construction Systems and Techniques	This unit standard must be completed, and
		Use labour Intensive Construction Methods to Construction and Maintain Roads and Stormwater Drainage	
		Use Labour Intensive Construction Methods to Construct and Maintain Water and Sanitation Services	
		Use Labour Intensive Construction Methods to Construct, repair and maintain Structures	
Site Agent / Manager (ie. the contractor's most senior representative that is resident on the site)	6	Manage Labour Intensive Construction Processes	Skills Pro against th standard

Details of these skills programmes may be obtained from the CETA ETQA manager (e-mail:gerard@ceta.co.za , tel: 011-265 5900)

PS 5.12.2 Employment of unskilled and semi-skilled workers in labour-intensive works

1.1 Requirements for the sourcing and engagement of labour.

1.1.1 Unskilled and semi-skilled labour required for the execution of all labour-intensive works shall be engaged strictly in accordance with prevailing legislation and SANS 1914-5, Participation of Targeted Labour.

1.1.2 The rate of pay set for the EPWP per task or per day, shall be used.(Insert value determined by public body in terms of clause 2.2 of these Guidelines)

1.1.3 Tasks established by the contractor must be such that:

- a) the average worker completes 5 tasks per week in 40 hours or less; and
- b) the weakest worker completes 5 tasks per week in 55 hours or less.

1.1.4 The Contractor must revise the time taken to complete a task whenever it is established that the time taken to complete a weekly task is not within the requirements of 1.1.3.

1.1.5 The Contractor shall, through all available community structures, inform the local community of the labour-intensive works and the employment opportunities presented thereby. Preference must be given to people with previous practical experience in construction and / or who come from households:

- a) where the head of the household has less than a primary school education;
- b) that have less than one full time person earning an income;
- c) where subsistence agriculture is the source of income; and
- d) those who are not in receipt of any social security pension income.

1.1.6 The Contractor shall endeavour to ensure that the expenditure on the employment of temporary workers is in the following proportions:

- a) 60 % women;
- b) 20% youth who are between the ages of 18 and 25; and
- c) 2% on persons with disabilities.

1.2 Specific provisions pertaining to SANS 1914-5

1.2.1 Definitions

Targeted labour: Unemployed persons who are employed as local labour on the project.

1.2.3 Contract participation goals

1.2.3.1 There is no specified contract participation goal for the contract. The contract participation goal shall be measured in the performance of the contract to enable the employment provided to targeted labour to be quantified.

1.2.3.2 The wages and allowances used to calculate the contract participation goal shall, with respect to both time-rated and task rated workers, comprise all wages paid and any training allowance paid in respect of agreed training programmes.

1.2.4 Terms and conditions for the engagement of targeted labour

Further to the provisions of clause 3.3.2 of SANS 1914-5, written contracts shall be entered into with targeted labour.

1.3 Training of targeted labour

1.3.1 The contractor shall provide all the necessary on-the-job training to targeted labour to enable such labour to master the basic work techniques required to undertake the work in accordance with the requirements of the contract in a manner that does not compromise worker health and safety.

1.3.2 The cost of the formal training of targeted labour, will be funded by the local office of the Department of Labour. This training will take place as close to the project site as practically possible. The Contractor must access this training by informing the relevant regional office of the Department of Labour in writing, within 14 days of being awarded the contract, of the likely number of persons that will undergo training and when such training is required. The Employer and the Department of Public Works (Fax: 012 3258625/ EPWP Unit, Private Bag X65, Pretoria 0001) must be furnished with a copy of this request.

1.3.3 The contractor shall do nothing to dissuade targeted labour from participating in training programmes and shall take all reasonable steps to ensure that each beneficiary is provided with two days of formal training for every 22 days worked.

1.3.4 An allowance equal to 100% of the task rate or daily rate shall be paid by the contractor to workers who attend formal training, in terms of 1.3.3 above.

1.3.5 Proof of compliance with the requirements of 1.3.2 to 1.3.4 must be provided by the Contractor to the Employer prior to submission of the final payment certificate.

PS 5.1.13 PS 5.13 Management meetings

Fortnightly site meetings shall be arranged and facilitated by the Engineer. Senior Contractor management staff attendance shall be compulsory.

The Contractor shall be required to provide reporting with regard to project progress, resources (human, plant and equipment), community issues, environmental and health and safety aspects.

PS 5.1.14**PS 5.1.15 PS 5.14 Forms for contract administration**

The Contractor shall maintain a file which shall contain project information related to project progress, resources (human, plant and equipment), community issues, environmental, health and safety aspects, penalties imposed, claims lodged and outcomes, disputes and resolutions, payment and variations.

PS 5.1.16 PS 5.15 Daily records

The Contractor shall keep daily site records as required by the Employer and as specified herein. Daily records shall include, labour, plant, materials, rainfall, daily diary and the like.

PS 5.1.17 PS 5.16 Bonds and guarantees

The Contractor shall within 21 days from the date of Offer Acceptance by the Employer with a Surety Bond in the form of a Bank Guarantee, Bank Transfer or a Guarantee from an approved Insurance Company to the satisfaction of the Employer in the form included in the Tender Documents. The Bank Guarantee shall be for an amount equal to ten percent (10%) of the Tender Sum, for the due and punctual fulfilment and completion of all the Contractor's obligations under the Contract. No Extension of Time or any variation of the Contract nor the determination of the Contract by the Employer in terms of Clause 58 hereof shall in any way impair or diminish or terminate any liability to the Employer under and by virtue of such Surety Bond. The cost of the Surety Bond to be so entered into shall be at the expense in all respects of the Contractor; the Surety Bond to be released upon issue of the Engineer's Certificate of Completion of the Works.

Should the Contractor, when notified of the acceptance of his offer, fail to provide an approved Surety Bond within 21 days, then the Employer may, at his sole discretion:

- (a) Grant the Contractor a further reasonable period in which to provide the bond; or
- (b) Withdraw his acceptance of the tender in which case the Contract shall be deemed to be void, but without prejudice to the Employer's rights to recover whatever damages he may have suffered by virtue of the Contractor's failure to fulfil his obligations.

PS 5.1.18 PS 5.17 Payment certificates

Payment certificates shall be submitted to the Engineer, in the format required, for approval and final submission to the Employer on a monthly basis.

PS 5.1.19 PS 5.18 Permits

Refer to PS 4.8

PS6 PS 6 FEATURES REQUIRING SPECIAL ATTENTION**PS 6.1.1****PS 6.1.2 PS 6.1 Security**

The Contractor is responsible to provide his own security on site, as he deems necessary. The Employer shall not be held responsible for any loss or damage suffered by the Contractor, his plant, equipment, materials, subcontractors or employees as a result of a security incident of any nature.

PS 6.1.3 PS 6.2 Operation of valves

Only employees of the Employer are permitted to operate water valves.

PS 6.1.4 PS 6.3 Work outside normal working hours

The Contractor is permitted to work outside of normal working hours (07h00 to 18h00) only upon obtaining written permission from the Engineer. It is anticipated that all switch-over work (tying new infrastructure into existing) will be completed during hours that will not affect the supply of water to affected communities.

PS 6.1.5 PS 6.4 Sanitary facilities

The Contractor is required to supply adequate sanitary facilities for employees, visitors and the Engineer.

PS 6.1.6 PS 6.5 Community liaison and community relations

A community liaison officer will be appointed by the contractor on behalf of KGETLENGRIVIER LOCAL MUNICIPALITY to provide a communication link between the construction team and the residents (See PS 6.6)

PS 6.1.7 PS 6.6 Notices and warning to consumers

The Contractor must provide written notice to all consumers affected by the construction activities. The written notice shall outline the:

- a) nature of the works;
- b) expected inconvenience / disruption that the consumers can expect;
- c) timeframes for construction; and
- d) contact details in case of problems encountered.

PS 6.1.8 PS 6.7 Continuity of water supply to consumers

The activities of the Contractor shall not interfere with the supply of water to consumers. Should any claims arise from a lack of water supply as a result of the Contractor's activities, it shall be for the account of the Contractor.

PS 6.1.9 PS 6.8 Conditions and procedures for service agencies

The Contractor shall comply with the conditions and procedures of the various affected service agencies laid out in the relevant way leaves.

PS 6.1.10 PS 6.9 Reinstatement of asphalt by KGETLENGRIVIER LOCAL Municipality

The KGETLENGRIVIER LOCAL Municipality shall be given first option to provide for the reinstatement of asphalt at places where excavation is within the roadway.

PS 6.1.11 PS 6.10 Generic labour intensive specifications

The following sub-clauses shall only be applicable where the project is specifically indicated under clause PS 1, to be executed in terms of the Expanded Public Works Programme Guidelines.

PS 6.10.1 Scope of Generic Specification

This specification establishes general requirements for activities that are to be executed by hand involving the following:

- a) Excavation and backfilling of trenches for reticulation of small bore water pipes (e.g. up to 200mm diameter).
- b) Excavation for shallow valve boxes & manholes.
- c) Installation of small bore water pipes, valves, etc
- d) Construction of brick manholes.
- e) Other suitable work.

PS 6.10. 2 Precedence

Where this specification is in conflict with any other standard or specification referred to in the Scope of Works to this Contract, the requirements of this specification shall prevail.

PS 6.10.3 Hand Excavateable Material

Hand excavateable material is material:

- a) granular materials:
 - i) whose consistency when profiled may in terms of table 1 be classified as very loose, loose, medium dense, or dense; or
 - ii) where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or Isolated boulders, no more than 15 blows of a dynamic cone penetrometer is required to penetrate 100mm;
- b) cohesive materials:
 - i) whose consistency when profiled may in terms of table 1 be classified as very soft, soft, firm, stiff and stiff / very stiff; or

- ii) where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 8 blows of a dynamic cone penetrometer is required to penetrate 100mm;

Note:

- 1) A boulder, a cobble and gravel is material with a particle size greater than 200mm, between 60 and 200mm.
- 2) A dynamic cone penetrometer is an instrument used to measure the in situ shear resistance of a soil comprising a drop weight of approximately 10 kg which falls through a height of 400mm and drives a cone having a maximum diameter of 20mm (cone angle of 60° with respect to the horizontal) into the material being used.

Table 6.1: Consistency of materials when profiled

GRANULAR MATERIALS		COHESIVE MATERIALS	
CONSISTENCY	DESCRIPTION	CONSISTENCY	DESCRIPTION
Very loose	Crumbles very easily when scraped with a geological pick.	Very soft	Geological pick head can easily be pushed in as far as the shaft of the handle.
Loose	Small resistance to penetration by sharp end of a geological pick.	Soft	Easily dented by thumb; sharp end of a geological pick can be pushed in 30-40 mm; can be moulded by fingers with some pressure.
Medium dense	Considerable resistance to penetration by sharp end of a geological pick.	Firm	Indented by thumb with effort; sharp end of geological pick can be pushed in up to 10 mm; very difficult to mould with fingers; can just be penetrated with an ordinary hand spade.
Dense	Very high resistance to penetration by the sharp end of geological pick; requires many blows for excavation.	Stiff	Can be indented by thumbnail; slight indentation produced by pushing geological pick point into soil; cannot be moulded by fingers.
Very dense	High resistance to repeated blows of a geological pick.	Very stiff	Indented by thumb-nail with difficulty; slight indentation produced by blow of a geological pick point.

PS 6.10.4 Trench excavation

All hand excavate able material in trenches having a depth of less than 1,5 metres shall be excavated by hand.

PS 6.10.5 Compaction of backfilling to trenches (areas not subject to traffic)

Backfilling to trenches shall be placed in layers of thickness (before compaction) not exceeding 100mm. Each layer shall be compacted using hand stampers

- a) to 90% Proctor density;
- b) such that in excess of 5 blows of a dynamic cone penetrometer (DCP) is required to penetrate 100 mm of the backfill, provided that backfill does not comprise more than 10% gravel of size less than 10mm and contains no isolated boulders, or
- c) such that the density of the compacted trench backfill is not less than that of the surrounding undisturbed soil when tested comparatively with a DCP.

PS 6.10.6 Excavation

All hand excavate able material including topsoil classified as hand excavate able shall be excavated by hand. Harder material may be loosened by mechanical means prior to excavation by hand.

The excavation of any material, which presents the possibility of danger or injury to workers, shall not be excavated by hand.

PS 6.10.7 Clearing and grubbing

Grass and small bushes shall be cleared by hand.

PS 6.10.8 Shaping

All shaping shall be undertaken by hand.

PS 6.10.9 Loading

All loading shall be done by hand, regardless of the method of haulage.

PS 6.10.10 Haul

Excavation material shall be hauled to its point of placement by means of wheelbarrows where the haul distance is not greater than 150 m.

PS 6.10.11 Offloading

All material, however transported, is to be off-loaded by hand, unless tipper trucks are utilized for haulage.

PS 6.10.12 Spreading

All material shall be spread by hand.

PS 6.10.13 Compaction

Small areas may be compacted by hand provided that the specified compaction is achieved.

PS 6.10.14 Grassing

All grassing shall be undertaken by sprigging, sodding, or seeding by hand.

PS 6.10.15 Stone pitching and rubble concrete masonry

All stone required for stone pitching and rubble concrete masonry, whether grouted or dry, must to be collected, loaded, off loaded and placed by hand.

Sand and stone shall be hauled to its point of placement by means of wheelbarrows where the haul distance is not greater than 150m.

Grout shall be mixed and placed by hand.

PS 6.10.16 Manufactured elements

Elements manufactured or designed by the Contractor, such as manhole rings and cover slabs, precast concrete planks and pipes, masonry units and edge beams shall not individually, have a mass of more than 320kg. In addition the items shall be large enough so that four workers can conveniently and simultaneously acquire a proper handhold on them.

PS 6.1.12 PS 6.11 Causes for rejection

Causes for rejection shall include meter and chamber not complying to the Employer's requirements and/or specifications, thus:

- incorrect class of meter;
- a non-SANS approved meter;
- inaccurate meter readings; and
- meter gauge not operating properly.

Additionally the Employer shall reserve the right to reject works where:

- valves and fittings are not SANS approved; and
- jointing, bolts and welding, is found to be inferior and/or non-compliant to SANS specifications.

PS7 PS 7 HEALTH AND SAFETY SPECIFICATION FOR CONSTRUCTION WORK

Tendering Contractors are to prepare Health and Safety Plans in accordance with Johannesburg Water's Health and Safety Specification (refer to Volume 2: Occupational Health and Safety Specification and Environmental Management Plan for **Capital Investment Projects**). **The legal imperatives for this requirement stem from the Construction Regulations (2003), and more specifically the following:**

- Regulation 4(1)(a): A client shall prepare a documented health and safety specification for the construction work, and provide any principal contractor who is making a bid or appointed to perform construction work for the client with the same
- Regulation 4(1)(d): A client shall take reasonable steps to ensure that each principal contractor's health and safety plan is implemented and maintained on the construction site.
- Regulation 4(2): A client shall discuss and negotiate with the principal contractor the contents of the health and safety plan and thereafter finally approve the health and safety plan for implementation.
- Regulation 5(1): A principal contractor shall provide and demonstrate to the client a suitable and sufficiently documented health and safety plan, based on the client's documented health and safety specification.

PS 7.1 Project-related Occupational Health and Safety Risks

According to the Construction Regulations (2003), a Health and Safety Plan "means a documented plan which addresses hazards identified and includes safe work procedures to mitigate, reduce or control the hazards identified". Apart from complying with the Health and Safety Specification (Volume 2), specific attention is drawn to the identification and assessment of risks. The tendering Contractors are required to consider *inter alia* the following risks (where applicable):

Project- and site-specific risks:

- Working close to traffic;
- Working in deep trenches (i.e. >1.5m);
- Traffic control;
- Excavator;
- Existing services;
- Overhead power lines;
- Digging of trenches;
- Hand tools;
- Laying of pipes;
- Machine operator;
- Third party exposures;
- Use of portable electrical tools;
- Location of site camp;
- Offloading of material;
- Storage and handling of material;
- Storage of hazardous materials;
- Fire prevention and protection;
- Fuel supply;
- Refuelling vehicles/plant;
- Welding;
- Handling of compressed gas cylinders;
- Plant and machinery operation.

Safe work and emergency procedures need to be prepared to address the abovementioned risks.

PS 7.2 Guide to risk assessments

PS 7.2.1 Nine steps to Effective Risk Assessments

- Step 1 Identifying the current as well as emerging hazard, risks or exposures.
 Step 2 Aim to identify major hazards, don't waste time on the minor and detail except if such hazard has the potential be repeat itself on a frequent basis.
 Step 3 Involve as many people as possible in the ongoing risk assessment process especially those at risk.
 Step 4 Gather all the information and analyse it.
 Step 5 Look at what actually could or has occurred including non-routine operations.
 Step 6 Use a systematic approach to ensure all hazards are adequately addressed.
 Step 7 Assess the risks identified or the risk has occurred by taking into account the effectiveness of current as well as controls under consideration.
 Step 8 Ensure the process is practical, realistic, cost and business effective.
 Step 9 Always record the assessment in writing including i.e. assumptions, date and why a particular decision has been made.

PS 7.2.2 How serious is it?**Probability**

- A Common
 B Has Happened
 C Could Happen
 D Not Likely
 E Practically impossible

Consequences

- 1 Fatality or permanent disability.
 2 Major injury.
 3 Average Lost Time Injury.
 4 Minor Injury.
 5 Medical Treatment or less.

		Probability				
		A	B	C	D	E
Consequence	1	1	2	3	4	5
	2	2	3	4	5	6
	3	3	4	5	6	7
	4	4	5	6	7	8
	5	5	6	7	8	9

Risk rating		Action
1 - 3 =	Serious	Immediate (within 1 week).
4 - 5 =	High	Within 1 month.
6 - 7 =	Moderate	> 4 weeks.
8 - 9 =	Acceptable	No action but will consider from time to time.

PS8 PS 8 ENVIRONMENTAL MANAGEMENT PLAN

Tendering Contractors are to adhere to the mitigation measures listed in the Environmental Management Plan (EMP) which will be made available upon request. **Environmental** mitigation measures are actions needed to align a project implementation phase with environmental control principles, where potential impacts to the natural and social environment are prevented, minimised or remediated. Environmental safeguarding is governed by various sets of legislation, with the most noteworthy for this project constituting the National Environmental Management Act (No. 107 of 1998) and the National Water Act (No. 36 of 1998).

PS 8.1 Measurement and payment**Unit: Sum**

The rate shall include the complete cost for the provision of resources (human and equipment), communication, transportation and travelling, documentation of activities and reporting activities required to fully comply with the implementation and maintenance of the Environmental Management Plan contained in Volume 2 for the duration of the Contract. Remuneration shall be on a monthly basis for services rendered, by dividing the total sum tendered by the construction duration.

No payment shall be applicable where equipment is not provided and services are not rendered in terms of the approved Environmental Management Plan.

PS9 PRELIMINARY AND GENERAL ITEM PAYMENT LIMITATION

The gross amount for items 8.3 plus 8.4, as per SANS 1200A, may not exceed more than a maximum of 15% of the total contract amount excluding contingencies and VAT.

PS10 DECOMMISSIONING PIPELINES**PS 10.1.1****PS 10.1.2 PS 10.1 Drainage of abandoned secondary mains**

The Contractor shall be required to drain all abandoned secondary mains, upgraded under this Contract from remaining water after new main reticulation have been connected, tested and commissioned, to all pipe sizes and materials. Draining shall typically be for a group of stands and into natural streams or existing stormwater drainage infrastructure with prior permission obtained from KGETLENGRIVIER LOCAL Municipality. Draining of the system shall be done in a safe and controlled manner to insure public, labour, animal property, roads and surface safety and preservation.

Measurement and payment**Unit: m**

The rate shall include the cost for locating the mains, all types surface removals, excavation in all materials (with no extra-over item for hard and rock excavation), cutting into pipes of all materials and sizes, provision of all drainage equipment (if any), labour to conduct drainage, plugging redundant system, backfilling, compaction and surface reinstatements.

PS 10.1.3**PS11 MARKERS & ERF CONNECTIONS****PS 11.1 Erf and Yard Connections****PS 11.1.1 Erf connection provision and installation**

The Contractor shall be required to provide and install HDPE erf connection as per the current standard detail of the Employer, refer to applicable details drawings herewith attached, for domestic and non-domestic consumers.

Measurement and payment**Unit: m or No.**

The rate shall include the cost for the provision and installation of erf connections, complete as per the applicable detail drawing. Thus, the rate shall cover the cost for the provision of erf connections complete including HDPE pipes, saddles, bends, tees, reducer and adapter connections, connecting to the mains, laying in light sandy material for the approximate pipe length as per item PSLF8.2.2 per erf, the laying of

yard connections complete including supply of pipes, bends, tees, reducer and adapter connection and connecting erf and yard connection. For the following types of connections for specified diameters:

- 1) Domestic erf connection
 - a) Single short erf connections
 - b) Double short erf connections
 - c) Single long erf connections
 - d) Double long erf connections
- 2) Non-domestic erf connections
 - a) Single short erf connections
 - b) Single long erf connections

PS11.2 Markings and marker post

PS11.2.1 Road crossing markings

The Contractor shall labelled with durable paint similar to road marking paint (refer to applicable specification not included in this document), all existing surfaced and kerbed roads where water mains cross directly underneath from one side to the other. Markings shall be as per the applicable detail drawing.

Measurement and payment

Unit: No.

The rate shall include the complete cost to labelled with durable paint similar to road marking paint (refer to applicable specification not included in this document), all existing surfaced and kerbed road crossings as per applicable detail drawing.

PS11.2.2 Fittings marker posts

- a) rectangular in shape with maximum dimensions: width = 250 mm, thickness = 75 mm and length = 1,000 mm.
- b) installed to protrude above the ground no more than 500 mm and grounded no less than 400 mm.
- c) additional to be prescribed road crossing markers for water lines.
- d) positioned clear of traffic (roads and sidewalks, formal or informal) areas.
- e) colour coded (durable paint, similar to road marking paint (refer to applicable specification not included in this document)) as per the Employer's requirements in co-ordination with the applicable fitting chamber cover.
- f) labelled with durable paint (similar to road marking paint (refer to applicable specification not included in this document)), with regards to distance of fitting chamber cover centre.
- g) positioned to face in the direction of the fitting chamber.

Measurement and payment

Unit: No.

The rate shall include the complete cost to provide, transport, handle and install (including excavations in all materials, backfilling and compaction, all types of surface removals and reinstatements and

PS12 TRAINING FOR TARGETED LABOUR

12.1 The contractor shall provide all the necessary on-the-job training to targeted labour to enable such labour to master the basic work techniques required to undertake the work in accordance with the requirements of the contract in a manner that does not compromise worker health and safety.

12.2 The cost of the formal training of targeted labour, will be funded by the local office of the Department of Labour. This training will take place as close to the project site as practically possible. The Contractor must access this training by informing the relevant regional office of the Department of Labour in writing, within 14 days of being awarded the contract, of the likely number of persons that will undergo training and when such training is required. The Employer and the Department of Public

Works (Fax: 012 3258625/ EPWP Unit, Private Bag X65, Pretoria 0001) must be furnished with a copy of this request.

12.3 The contractor shall do nothing to dissuade targeted labour from participating in training programmes and shall take all reasonable steps to ensure that each beneficiary is provided with two days of formal training for every 22 days worked.

12.4 An allowance equal to 100% of the task rate or daily rate shall be paid by the contractor to workers who attend formal training, in terms of 1.3.3 above.

12.5 Proof of compliance with the requirements of 12.2 to 12.4 must be provided by the Contractor to the Employer prior to submission of the final payment certificate.

12.6 The contractor shall provide formal training of targeted labour by an accredited training provider.

PSPA: FENCING

PA 01 : SCOPE

This is a particular specification and covers the erection of new fences.

PA 02: TYPE OF FENCE

The fence shall be a security fence and shall be erected in accordance with the dimensions shown on the drawings.

PA 03: MATERIALS

PA 03.1: Posts, stays and standards

Posts, stays and standards shall be of the type and size indicated on the drawings. Posts shall include gate posts, straining posts and corner posts.

Metal posts, stays and standards shall comply with the requirements of CKS 82 and SABS 280. "Acceptable" in CKS 82 means "acceptable to the engineer".

Tubular posts, standards shall be galvanized in accordance with SABS 763 Table 1 for type B-articles. All rail and Y-section shall be provided with a protective coating of tar or other approved material.

Corner, gate and straining posts shall be suitably drilled for stay bolts or gate fittings as indicated on the drawings.

PA 03.2: Bolts for stays

Bolts shall be of mild steel and galvanized in accordance with SABS 763 Table 1 for type C-article. The length and diameter of the bolts shall be as shown on the drawings. All the necessary bolts, together with nuts and washers, shall be supplied with each post.

PA 03.3: Wire

All wire shall conform to the requirements of SABS 675 and shall be class B galvanized, except where otherwise specified below.

Barbed wire

Barbed wire shall be one or both of the following types:

High-tensile grade, oval shaped, single-strand wire, 2,60 mm x 2, 00 mm.

Mild-steel grade, double strand, uni-directional twist wire, each strand 2,50 mm in diameter.

Barbs shall be spaced at not more than 150 mm intervals.

Smooth wire

Smooth wire shall be of the types specified below:

Straining wire shall be mild-steel wire, 4,00 mm in diameter.

Fencing wire shall be high-tensile-grade 2,24 mm diameter wire.

Tying wire or binding wire shall be 2,50 mm diameter, mild-steel, class C galvanized wire for tying fencing wire to standards and 1, 60 mm diameter, mild-steel, class C galvanized wire for tying wire mesh to fencing wire.

Barbed-tape concertinas

Barbed-tape concertinas shall comply with the requirements for type A in CKS Specification 592 and shall consist of close-coiled high tensile wire with a continuous strip of flat steel barbs (barbed tape) crimped to the wire along the entire length of the wire. The coils shall further be attached together by clips to give a concertina configuration when pulled apart. The coils shall be of the diameter as shown on the drawings. Each concertina shall have a minimum of 55 coils, and the maximum effective length of open concertina, when pulled apart, shall depend on the diameter of the roll, but shall be at least 12 m.

The high-tensile wire shall be class B galvanized and the barbed tape shall be made of cold-rolled carbon steel galvanized to class Z450. The concertina clips shall be manufactured from steel strip galvanized to class Z450.

PA 03.4: Diamond mesh

Diamond mesh (chain-link fencing) shall comply with the requirements of SABS 1373. The width shall be as shown on the drawings, and both edges shall be clinched.

The diameter of the wire shall be 2,5 mm and the mesh size shall be as shown on the drawings and the wire shall be class B galvanized.

PA 03.5: Gates

Gates shall comply with the requirements of CKS 146 and shall be manufactured to the dimensions shown on the drawings.

Gates shall be complete in every respect, and shall include hinges, washers, bolts and the locking mechanism shown on the drawings

PA 03.6: Concrete

Concrete used for fencing shall comply with the requirements of SABS 1200 G.

PA 04: CLEARING OF FENCE LINE

Strip clearing for the fence shall be carried out in accordance with SABS 1200 C and will be measured and paid for under 1200 C of the schedule of quantities.

PA 05: INSTALLING POSTS AND STANDARDS

Straining posts shall be erected at all ends, corners and bends in the line of fencing and at all junctions with other fences. Straining posts shall not be spaced further apart than shown on the drawings. The height of the posts above the ground shall be such that the correct clearance between the lowest wire and the ground can be obtained.

Posts shall be accurately set in holes and, where indicated, shall be provided with concrete bases to the dimensions shown on the drawings.

Holes shall be dug to the full specified depth. Where, due to the presence of rock, the holes cannot be excavated by hand or by pneumatic tools and the contractor has to resort to the use of explosives, he will be paid separately for the drilling and blasting operations required.

Corner, gate, end and straining posts shall be braced by means of stays or anchors, as shown on the drawings. Pipe stays shall be bolted to the posts. Gate posts shall not be used as straining posts, but at each gate post a straining post shall be placed as shown on the drawings and stayed by means of an anchor consisting of six strands of wire.

Standards shall be firmly planted in the ground at the spacing shown on the drawings or as directed by the engineer. The spacing of standards between any two straining posts shall be uniform. In rock or hard material standards shall either be driven or set in holes drilled into the rock. The size of drilled holes shall be such that a tight fit is obtained. Care shall be taken not to buckle or damage the standards when driven. Where indicated, standards shall be provided with concrete bases to the dimensions shown on the drawings.

All posts and standards shall be accurately aligned and set plumb and shall be planted with the overhang as shown on the drawings and at right angles to the direction of the fence. After posts and standards have been firmly set in accordance with the foregoing requirements, the fencing wire shall be attached thereto as described below.

PA 06: INSTALLING WIRE

All fencing wire shall be carefully stretched and hung without sag and with true alignment, and care shall be taken not to stretch the wire so tightly as to cause breaking, to pull up straining posts, or to be easily damaged during veld fires.

Each strand of fencing wire shall be securely fastened in the correct position to each standard with galvanized binding wire. The binding wire for each horizontal fence wire shall pass through a hole or notch in the standard, and the ends of the wire shall be wound at least four times around the fencing wire.

At the end, corner, straining and gate posts the fencing wire shall be securely wrapped twice around the post and secured against slipping by tying the end tightly around the wire by means of at least six snug, tight twists. In the case of high-tensile wire, two long windings must first be made before the six tight twists, to prevent the wire from breaking at the first twist. Where smooth wire is used, the loose end shall be bent back and hooked into the opening between the fencing wire and the first winding.

Splices in the fencing wire will be permitted if made in the following manner with the use of a splice tool: The end of each wire at the splice shall be carried at least 75 mm past the splice tool and wrapped snugly around the other wire for not less than six complete turns, after which the two separate wire ends shall be wound in opposite directions. After the splice tool has been removed, the space left by it in the splice wire shall be closed by pulling together the wire ends. The unused ends of wire shall be cut close, to leave a neat splice.

The gaps between gate posts and the adjacent straining posts shall be fenced off with short fencing wires.

PA 07: INSTALLING DIAMOND MESH

Where indicated on the drawings, diamond mesh shall be stretched against the fence and properly tied to the fencing wire. The diamond mesh shall be secured by means of binding wire at 1,2 m centres along the top and bottom wires and at 3 m centres along each of the other fencing wires, unless shown otherwise on the drawings.

PA 08: INSTALLING BARBED-TAPE CONCERTINAS

Barbed-tape concertinas shall be positioned on the fence as shown on the drawings. The concertinas shall be fastened to the appropriate fencing wires at each standard as well as at 1,0 m maximum intervals between standards.

Rolls of barbed-tape concertinas shall be joined with binding wire at four points spaced at equidistant intervals around the circumference of the loop. Joints shall be made to coincide with the positions of standards.

PA 09: CLOSING OPENING UNDER FENCE

At ditches, streams, drainage channels or other hollows where the fence cannot follow the general ground contour, the contractor shall close the opening under the fence by means of horizontal barbed wires 150 mm apart and stretched between additional straining posts as shown on the drawings. The opening shall be covered with strips of diamond mesh, 1 000 mm wide, fixed to the barbed wires.

In the case of larger streams, the opening below the lower fencing wire shall be closed by means of loose-hanging wire nets as shown on the drawings. These mats shall be erected at streams only on the instructions of the engineer.

PA 10: INSTALLING GATES

Gates shall be installed at the positions indicated on the drawings or pointed out on site. The gates shall be hung on gate fittings in accordance with the details shown on the drawings. Gates shall be so erected that they swing in a horizontal plane at right angles to the gate posts and clear of the ground in all positions. Double swing gates shall close to have a gap of not more than 25 mm between them, and other gates shall close to be not further than 25 mm from the gate post.

PA 11: GENERAL REQUIREMENTS AND TOLERANCES

The completed fences shall be plumb, taut, true to line and to the ground contour, and with all posts, standards and stays firmly set.

The height of the lower fencing wire above the ground at posts and standards shall not vary by more than 25 mm from that shown on the drawings. Other fencing wires shall not vary by more than 10 mm from their prescribed relative vertical positions.

Anchoring of a fence to structures shall be done as shown on the drawings.

The contractor shall, on completion of each section of fence, remove all cut-offs and other loose wire or mesh so as to leave the fence with a neat and furnished appearance.

PA 12: MEASUREMENT AND PAYMENT

PA.01: Supply and erection of new fencing material

Barbed wire (grade, size and type of wire indicated)

Unit: m

Smooth wire (grade and size indicated)

Unit: m

Barbed tape concertinas (coil diameter indicated)

Unit: m

The unit of measurement shall be the metre of each type of fencing wire and barbed-tape concertinas measured between end posts. Binding wire and wire used for the bracing and anchoring of posts shall not be measured for payment.

Diamond mesh (mesh size indicated)

The unit of measurement shall be the square metre of diamond mesh and the quantity shall be calculated on the prescribed width and the length between straining posts or gate posts, or the length of strips for covering openings under fences, or the length used for the covering of gates.

Corner, end, and straining posts, including anchors (type, size and length indicated)

The unit measurement shall be the number of posts erected in accordance with the maximum specified spacing or such lesser spacing as authorized by the engineer.

Standards (length and type indicated)

The unit of measurement shall be the number of standards erected in accordance with the maximum specified spacing or such lesser spacing as authorized by the engineer.

The tendered rates shall include full compensation for all excavations, concrete, binding wire, straining wire, bolts, washers and nuts, for the drilling of holes for standards, and for the complete erection of the fence as specified and as shown on the drawings. The tendered rate

for posts shall make provision for the construction of the stays of the types shown on the drawings.

The quantity of material used shall be determined by measuring the quantities of individual items of materials installed in the completed fence. No linear measure of completed fence shall be applicable.

PA.02: New gates:

Single leaf (size and type indicated)

Unit: No

Double leaf (size and type indicated)

Unit: No

The unit of measurement shall be the number of new gates erected. A pair of gates shall be measured as one.

The tendered rate shall include full compensation for gate posts, hinges, bolts, concrete, locking mechanism and straining wire, and for the erection of the gates as specified and as shown on the drawings. It shall not include compensation for any fencing wire or mesh used on the gate.

PA.03: The drilling and blasting of holes for posts and anchors

Unit: No

The unit of measurement shall be the number of holes for posts and anchors made by drilling and blasting where excavation by hand tools or pneumatic tools cannot be done economically.

PS13 and for The tendered rate shall include full compensation for drilling and blasting the holes

PS14 all other expenses in connection with the provision, storage, transportation and use of

PS15 explosives.

PS16 PS PWA: WATERTIGHTNESS TESTING OF TANKS

PS17 Scope

This specification covers the watertightness testing of tanks retaining aqueous liquids.

Watertightness

General

Before testing for watertightness commences, a thorough inspection shall be done to ensure that all joints have been properly sealed and that no cracks are visible on structural elements. Unless otherwise specified by the Engineer, backfill behind the walls of water retaining structures may only commence once the structure has passed the watertightness requirements and has been signed off by the Engineer.

For potable water structures, the structure shall be cleaned and disinfected. Thereafter the outlet and scour valve shall be closed or temporarily plugged, if applicable

Disinfection

Before disinfection of tanked areas, the roof shall have been tested for watertightness as specified. The structure shall be thoroughly cleaned and washed. Roofs, beams, columns and walls shall be sprayed down with pressurized equipment using water containing 0,015g/litre chloride or lime. The same solution shall be used for scrubbing the floor.

On completion of disinfection wash water shall be run to waste.

-Should the structure not pass the watertightness test and require remedial work, it shall be disinfected again before refilling. The cost of this disinfection will be carried by the Contractor.

PS 17.1.1 PWA1.1.3 Initial filling and testing

The structure shall be filled with water at a uniform rate not exceeding 2,0 m in 24 hours until the top water level has been reached. The water level will then be carefully noted and recorded by the Engineer in relation to a fixed bench-mark, and the structure shall be allowed to remain filled for a period of 21 days to permit complete absorption of water by the concrete and for auto genous healing.

Any loss of water which may have occurred shall then be made up by again filling the structure to the top water level and by allowing the water to remain undisturbed for a period of not less than four days. The structure shall be considered to be watertight if the drop in level in 96 hours (less the drop caused by evaporation) does not represent more than 0,06% of the volume of the reservoir.

The evaporation shall be measured by the mean drop in level caused by the evaporation of the water in three flat containers floating in the water, being recorded.

For structures with multiple compartments, the test shall be conducted for each compartment individually without the adjacent compartment being filled.

The Contractor is free to attend the taking of all measurements by the Engineer.

In the event of an appreciable leakage being evident or visible at any stage of the filling or testing, or in the event of the final degree of watertightness being unsatisfactory, the Contractor shall, when so ordered by the Engineer, discontinue such filling or testing and shall, at his own expense, take approved steps to rectify the leakage, until a test proves that a sufficient degree of watertightness has been obtained.

Before the expiry of the defects liability period, the Engineer shall have the right to retest the structure for watertightness, results of such further tests will be made available for the information of the Contractor. In the event of these tests indicating an unsatisfactory degree of water-tightness, the Engineer will, before issuing the final certificate, again require the Contractor to rectify the leakage, at his own expense, in such a manner as will cause the least interruption of the water supply to consumers and as will ensure the soundness of the work, to the satisfaction of the Engineer.

Should the failure of the reservoir to pass the first or any subsequent test for watertightness necessitate the draining of the structure, the Employer reserves the right to utilise the water by discharging it into its water-reticulation network, in which case the Contractor –

- i shall not have to pay for the subsequent refilling of the reservoir;
- ii shall, if applicable, reimburse the Employer for any additional costs incurred to make the water fit for consumption; and
- iii shall not be entitled to claim for extra time whilst waiting for the water to be discharged into the network.

The costs of retesting the reservoir for watertightness shall be borne by the Contractor.

PWA1.1.4 Testing of roofs and slabs

Roofs of structures retaining liquids shall be tested by ponding the roof with 25mm of water for 36 hours. For domed or sloped slabs where ponding is not practical, the structure may be continuously hosed or irrigated using a sprinkler system for 8 hours. The slab or roof will be considered satisfactory if leaks or damp patches are visible on the soffit.

PWA1.1.5 Cost of water

Water for the initial filling will be supplied free of charge by the Employer.

PS18 MEASUREMENT AND PAYMENT**Water tightness testing Unit : Lump sum**

The tendered amount shall include full compensation for the provision of labour, plant and materials necessary for testing the structure for water tightness as specified, as well as for the

installation and removal of any temporary plugs to blank off pipes, to the satisfaction of the Engineer.

PS19 PS 13 PREFABRICATED TANK

PS13.1 Supply, handle, install, erect ABECO steel tank.

Xm length x Xm width x Xm deep, complete with structural steel supports 10m high.

The rate shall cover a hot dip galvanized basic tank, including :

- Caged external ladder
- Internal access ladder
- Hinged lockable manhole
- Float and pointer type water level indicator
- Screened ventilator
- As well as all standard fittings required for installation.

PORTION 2: VARIATIONS AND ADDITIONS TO THE STANDARDISED SPECIFICATIONS**SANS 1914-5: PARTICIPATION OF TARGETED****PS.8.1 VARIATIONS TO SANS 1914-5**

- a) The definition for net amount shall be amended as follows:
Financial value of the contract upon completion, exclusive of any value added tax or sales tax, which the law requires the employer to pay the contractor.
- b) The schedule referred to in 5.2 shall in addition reflect the status of targeted labour as women, youth and persons with disabilities and the number of days of formal training provided to targeted labour.

PS20 SANS 1200A: CIVIL ENGINEERING CONSTRUCTION: PRELIMINARY AND GENERAL**PSA 2 INTERPRETATIONS**

Add the following new sub-clause:

PSA 5 CONSTRUCTION

(New sub-clause)

PSA 5.1.8 Dealing with traffic

The Contractor shall comply with the requirements of KGETLENGRIVIER LOCAL Municipality

The complete closure of any road shall not be permitted without the prior written consent of the Engineer.

PSA 8 MEASUREMENT AND PAYMENT**PSA 8.2.2 Time-Related Items**

Replace this sub clause with the following:

"Subject to the provisions of 8.2.3 and 8.2.4, payment of item 8.4.1 (time-related item) will take place in equal monthly amounts, calculated on the tendered amount for the item, divided by the contract period in months, with the understanding that the total of the monthly payments which was paid for this specific item does not exceed the proportion that the progress of the works to date bears in relation to the works as a whole.

Should the Engineer grant an extension of time, the Contractor is entitled to an increase in the amount tendered for time related items, and this increase must be kept in the same proportion to the original tender amount as the extension of time is to the original time period of the completion of the works.

Payment for such increased amounts will be considered as full compensation for all time related, provisional and general costs which arise as a result of the extension of time.

PSA 8.3 SCHEDULED FIXED-CHARGED AND VALUE-RELATED ITEMS**PSA 8.3.2.1 Facilities for Engineer**

Delete items (b) to (d) and replace with:

- | | |
|--|-----------|
| a) Name board..... | Unit: Sum |
| b) Engineer's office and parking facilities..... | Unit: Sum |
| c) Latrine facilities..... | Unit: Sum |

PSA 8.3.2.2 Facilities for the Contractor

- a) Delete items (c) and (d).

PSA 8.4 SCHEDULED TIME-RELATED ITEMS**PSA 8.4.2.1 Facilities for Engineer**

Delete items (a) to (d) and replace with:

- | | |
|---|-----------|
| a) Nameboard..... | Unit: Sum |
| b) Engineers' office and parking facilities | Unit: Sum |
| c) Latrine facilities | Unit: Sum |

The transportation item shall cover the traveling costs of the Engineer, who shall be traveling between sites, for the duration of the Contract Period.

PSA 8.4.2.2 Facilities for the Contractor

Delete items (c) and (d).

PSA 8.5 Sums stated provisionally by Engineer

Add the following to this sub-clause:

- | | |
|--------------------------------|-------------|
| b) Traffic Accommodation | Unit: P Sum |
|--------------------------------|-------------|
- This item shall be applicable for all other parts/sections of the works.

- | | |
|---|-------------|
| c) Protection of various structures until construction in vicinity is complete..... | Unit: P Sum |
|---|-------------|

The above-mentioned items shall be removed from temporary works, and shall be priced as a provisional sum. The description of the items shall remain as described in temporary works.

PSA 8.8 Temporary works

Delete the following from this sub-clause:

- | | |
|--|-------------|
| 8.8.2 Accommodation of traffic | Unit: P Sum |
| 8.8.3 Protection of various structures until construction in vicinity is complete..... | Unit: P Sum |

Add the following to this sub-clause:

- | | |
|---|-----------|
| e) Establish pipe diameter and material type (No) | Unit: Sum |
|---|-----------|
- The rate shall include the costs of confirming and reporting on, the diameters of the existing pipes, in addition to the material types and all hand excavations required.

SABS 1200 AB : ENGINEER'S OFFICE**PSAB 1 SCOPE****PSAB1.1 Delete this sub-clause and substitute:**

This Specification covers the requirements for offices, carports and the minimum associated facilities for the use of the Engineer on the site.

THE CONTRACTOR SHALL NOTE THAT THESE ARE GENERAL REQUIREMENTS AND THAT ONLY THOSE ITEMS THAT ARE SPECIFICALLY REQUIRED ON THIS CONTRACT ARE ITEMISED IN THE SCHEDULE OF QUANTITIES

The Contractor is to price the items scheduled in the Schedule of Quantities. The Contractor shall not order any buildings, material, equipment or fittings on the basis of what is specified or scheduled without the written confirmation from the Engineer. No buildings shall be erected without the Engineer's written instructions as to the exact position or orientation of the buildings.

The offices and car ports shall, unless otherwise agreed or instructed, be erected in close proximity to the Contractor's offices and laboratory and the entire area shall be fenced with security fencing and provided with a gate. The contractor shall take all reasonable precautions to prevent unauthorised entry to the offices and laboratories and to ensure the general security of the offices.

PSAB 3 MATERIALS**PSAB 3.1 Nameboards**

Add the following:

The nameboard shall be of size 1,0 m x 1,5 m and the wording shall be finalised after the award of the Contract.

PSAB 3.2 Office building(s)

Delete this sub-clause entirely and re-title the sub-clause "FACILITIES FOR ENGINEER".

Add the following sub-clauses:

PSAB 3.2.1 Office Buildings

The Contractor shall provide, furnish and equip one or more offices (as scheduled) for the use of the Engineer.

Buildings for offices shall be constructed of timber, asbestos or other approved materials. The buildings shall have double walls filled with insulating material and lined on the inside with timber or other approved material. Ceilings shall be provided and offices shall have timber or concrete floors with edge to edge carpeting with foam-backed needle punch carpeting.

Office buildings shall be painted with an approved paint after erection and the paintwork shall be maintained during the contract period.

Each door shall be provided with a lock and two keys.

The siting of all offices shall be to the Engineer's satisfaction and shall be decided upon in consultation with him and confirmed in writing before erection. All accommodation shall include the provision of a constant 220 volt A.C. electrical supply, access roads where required, fresh clean potable water and sewerage, including septic tanks which will be considered as part and parcel of the accommodation provided and will not be paid for separately.

All accommodation shall meet with the approval of the Engineer.

The offices shall comply with the following requirements:

<u>Dimensions</u>	<u>Type 1 Office</u>	<u>Type 2 Office</u>
Minimum floor area	40,0 m ²	16,0 m ²
Minimum window area	6,0 m ²	2,4 m ²
Minimum window area opening	3,6 m ²	1,5 m ²
Minimum clear height	2,4 m	2,4 m

Furniture and equipment:

Each office shall be equipped with the following:

- (i) Office desk with a surface area of at least 1,5 m² with at least 3 drawers, one of which can be locked.
- (ii) General purpose steel cabinet with doors, lock and two keys with at least 1,5 m² shelf area and a volume of 0,7 m³.
- (iii) Two office chairs.
- (iv) Double 80 watt fluorescent light fittings complete with ballast and tubes (3 per Type 1 office, 1 per Type 2 office).
- (v) A table with a smooth flat top having an area of at least 3 m².

(vi) 220 / 250 volt 15 amp power points (4 per Type 1 office, 2 per Type 2 office).

(vii) Windows shall be fitted with Venetian or opaque roller blinds.

In addition to the above the Type 1 office shall be equipped with the following:

(viii) A table large enough to accommodate ten people and have an area of at least 3 m². This table may be the table referred to in (v) above.

(ix) Ten chairs suitable for meeting chairs.

The Contractor shall also provide a toilet for the exclusive use of the Engineer. The toilet shall preferably be a flush toilet system connected to the local sewerage system but a chemical toilet might be acceptable. Provision shall be made for the washing of hands at a suitable location adjacent to the toilet. The toilet shall be cleaned and maintained on a daily schedule for the contract period.

On completion of the Works, ownership of the buildings, furnishings and equipment shall revert to the Contractor who shall remove them from the Site.

SANS 1200C: CIVIL ENGINEERING CONSTRUCTION: SITE CLEARANCE

PSC 5 CONSTRUCTION

PSC 5.3 CLEARING

Delete the existing sub-clause 5.3 (d) and replace with the following:

d) the removal of all rocks and boulders of any size that are lying on the surface to be cleared or exposed during clearing operations.

SANS 1200DA: CIVIL ENGINEERING CONSTRUCTION: EARTHWORKS (SMALL WORKS)

PSDA 2 INTERPRETATION

PSDA 2.1 SUPPORTING SPECIFICATIONS

Add the following sub-clause:

3) KGETLENGRIVIER LOCAL Municipality, Public Road and Miscellaneous By-laws, Code of Practice for work in the road reserve (COP), Latest Version.

Should any requirement of this COP conflict with any requirement of the standardised or particular specifications the requirements of the COP shall prevail.

The COP is available at KGETLENGRIVIER LOCAL Municipality Offices, Wayleaves Department, Contact number: (011) 298 5000

PSDA 2.3 DEFINITIONS

Delete the definition of 'Overhaul' and replace with the following:

Overhaul is not applicable. Hence all distances applicable are considered as free haul distances and no additional payment will be applicable.

PSDA 3 MATERIALS

Add the following sub-clause

PSDA 3.3 MATERIALS FOR REINSTATEMENT OF ROADS AND PAVED AREAS

PSDA 3.3.1 Subbase and base

The quality of materials used for all pavement layers in bituminous roads and footways shall comply with the requirement of the COP.

PSDA 3.3.2 Premix carpet

Only hot premix may be used for road surfacing unless written approval is obtained from the Engineer to use cold premix.

PSDA 3.4 CLASSIFICATIONS FOR HAND EXCAVATION

Add the following new sub-clauses:

Classification of material for various types of hand excavation will be based on the results of a dynamic cone penetrometer. The category of material shall be determined by testing the material at regular intervals and at various depths along the centre line of the trench. A minimum of 5 tests shall be done at each location and the average number of blows of the tests shall be used to determine the category of material.

The interval between test locations shall be determined by the variation of material type but shall not exceed 50m. The depth of testing shall be determined by the variation of material type and can increase or decrease in hardness with increasing depth of excavation. Table PSDB 3.8 indicates the categories:

TABLE PSDA: 3.4 CLASSIFICATIONS FOR HAND EXCAVATION

Category of Material	Consistency		DCP Blows to Penetrate 100mm	
	Granular	Cohesive	Granular	Cohesive
<u>Soft</u> Soft excavation shall be excavation in material that can be efficiently removed from the trench using a pick and shovel but not requiring prior breaking using mechanical equipment such as pavement breakers	Up to medium dense	Firm to stiff	0-6	1-5
<u>Intermediate</u> Intermediate excavation shall be excavation in material that require loosening with a hand spike (gwala) before being removed from the trench	Dense	Stiff to very stiff	7-15	6-8
<u>Hard</u> Hard excavation shall be excavation in material that requires prior breaking using mechanical equipment, such as pavement breakers with clay spades, before being removed from the trench.	Very dense		16-50	-15
<u>Rock</u> Rock excavation shall be excavation in material other than described above which by nature of the material requires prior breaking using mechanical equipment, such as pavement breakers with moil points, before being removed from the trench	-	-	>50	>15

PSDA 5 CONSTRUCTION**PSDA 5.1 PRECAUTIONS****PSDA 5.1.1 Safety****PSDA 5.1.1.1 Barricading and lighting**

Delete the existing clause and replace with the following:

In terms of the applicable regulation of the Machinery and Occupational Safety Act, 1983 (Act 6 of 1983) every excavation by which the safety of persons may be endangered, shall be

- Adequately protected by a rubber mesh barrier / fence of height at least 1.2m and be placed as close to the excavation as practicable;
- Provide red warning lights at night.

It shall be the responsibility of the Contractor to ensure that the barricades and lights remain functional at all times.

PSDA 5.1.1.2 Safeguarding of excavations

Add the following to this sub-clause:

g) The Contractor shall programme his activities in such a way that long sections of trenches do not lie open for undue periods of time, as it poses a security risk. The manholes shall be constructed as soon as possible after excavation and then backfilled. Under no circumstances will excavations be left open for more than 1 week.

The Contractor shall inform the KGETLENGRIVIER LOCAL Municipality (VDM) at least 2 days in advance of the actual date on which he proposes to excavate in any road or footway.

PSDA 5.1.8 Road Traffic Control

Delete this sub-clause and replace with the following:

The Contractor shall comply with the requirements of the COP, PS 5.7 and PSA 5.1.8.

PSDA 5.2 METHODS AND PROCEDURES**PSDA 5.2.2 Excavation**

Add the following to this sub-clause:

h) Where the manholes are to be constructed in surfaced roads the Contractor shall neatly cut four parallel grooves into and through the asphalt before excavating between the grooves. The cost of this operation, where not scheduled separately it will be deemed to have been included in the general rates for excavation.

i) The Contractor shall maintain the bottoms of completed excavation in good condition. Excavation bottoms that are softened or eroded through stormwater, seepage water or otherwise, must be rectified by removal of the softened material and its replacement with approved material firmly compacted in layers not exceeding 150mm in compacted thickness or with 10MPa concrete where directed, at the Contractor's cost. The placing of hardcore or concrete screed shall be entirely at the Contractor's cost in any section of the work where softening of floors has been due to the method of excavation or inadequate provision for drainage.

Bottoms of excavation in bad or waterlogged ground shall be excavated and replaced with hardcore filling, a hardcore base and/or a 20 MPa concrete screed as directed.

i) Hardcore filling shall consist of 75 – 150 mm stone well rammed and compacted.

ii) Hardcore base shall consist of 50 – 75 mm stone laid and compacted across the full width of the trench. Preparation of excavation bottoms shall be included in the schedule rates for excavation. Approved granular material imported to the site, or hardcore base, hardcore filling or concrete screed, used on trench floors shall be paid for separately, where such is not as a result of the Contractor's negligence.

PSDA 5.2.6 Transportation of Earthworks**PSDA 5.2.6.1 Freehaul**

Delete existing clause and replace with:

All distances applicable are considered as free haul distances and no additional payment will be applicable.

PSDA 5.2.6.2 Overhaul

Delete existing clause. Overhaul is not applicable.

PSDA 5.2.7 Backfilling

Add the following new sub-clause:

In addition to the existing clauses, backfilling work shall be carried out in accordance with the COP.

PSDA 5.2.8 Disposal of unsuitable and surplus excavation material

Add the following new sub-clause:

Excavated material that is unsuitable or has become surplus because of bulking, displacement by the manhole and/or pipework and importation shall be disposed of at approved tipping sites to be located by the Contractor. All unsuitable material shall be spoiled within 48 hours of excavation failing which the Engineer shall be entitled to suspend work under the Contract.

The prior approval of the Engineer must be obtained before surplus material may be deposited, spread and leveled at agreed sites within the area of the works.

PSDA 5.2.9 Construction in Headings

Add the following new sub-clause:

Generally in soft material the buttresses and portions of ground left for the purpose of supporting the sides of the excavations or headings providing access to private properties, shall be broken down as the refilling and compaction proceeds.

PSDA 5.2.10 Compaction of areas subject to traffic loads

Add the following new sub-clause:

In areas subject to traffic loading and in constructed footways compaction shall be done in accordance with the requirements specified in this Project Specification and the COP requirements.

PSDA 5.2.12 Kerbing

Add the following new sub-clause:

Where the Contractor has, in the process of excavating, removed kerbing, of all types of shape and all material, he shall re-instate such kerbing to its original condition with regard to alignment (vertically and horizontally). This may include cleaning, but not patching. All kerbing damaged during the removal process shall be replaced at the cost of the Contractor.

PSDA 7 TESTING

Add the following to this sub-clause:

PSDA 7.4 Quality control testing

Contractor to ensure adequate compaction and material quality throughout the contract, the Contractor should therefore carry out his own regular tests. The Contractor shall furnish the Engineer with the originals of all such test results.

In the event that the Contractor does not conduct his own regular compaction and in-situ shear strength tests, the Contractor will be liable for the costs associated with the re-testing of all failed sections of reinstated trench.

If any test result shows that the specified compaction or shear strength requirements have not been met, the Contractor shall at his own expense and within 7 days of receipt of the Engineer's instruction take the following remedial action:

- 1) Backfill material other than structural layers of bituminous roads and constructed footways
 - a) Trench excavations (other than road crossings)

The backfill material shall be removed to a depth of 450mm for a distance of 2m on either side of the point at which the test was taken. If the backfill material is suitable, it shall be replaced and re-compacted to the specified densities. Otherwise suitable material shall be imported and compacted and the excess material removed.

Where adjacent test results show that the backfill densities are below specified requirements, the entire length of trench between the points at which the tests were taken shall be re-excavated and re-compacted as required above.

Density testing along trench excavations shall be carried out at intervals, as directed by the Engineer.

- b) Trench excavations (road crossings)

As for (a) above save that the backfill material shall be removed to a depth of 450mm over the full length of the trench.
 - c) All other excavations

As for (a) above save that the backfill material shall be removed to a depth of 450mm over the extent of the excavation.
- 2) Structural layers of bituminous roads and constructed footways

In the case where a structural layer does not meet the shear strength requirements, the structural layer in question shall be removed. If, however, any other layers have been constructed on top of the layer in question, then all such layers shall also be removed at the cost of the Contractor, even if the shear strengths of these layers meet the specification.

 - a) Trench excavation (other than road crossings)

The layer shall be removed to its full depth for a distance of 2m on either side of the point at which the test was taken. If the material is suitable, it shall be replaced and re-compacted to the specified shear

strength. Otherwise suitable material shall be imported and compacted and the excess material removed.

Where adjacent test result show that the shear strengths are below specified requirements, the entire length of trench between the points at which the tests were taken shall be re-excavated and re-constructed as required above.

In-situ shear strength testing along trench excavations shall be carried out at intervals, as directed by the Engineer.

b) Trench excavation (road crossings)

As for (a) above save that the layer shall be removed to its full depth over the full length of the trench.

c) All other excavations

As for (a) above save that the layer shall be removed to its full depth over the extent of the excavation.

3) Premix reinstatement

a) Trench excavations (other than road crossings):

The premix shall be removed for a distance of 1m on either side of the point at which the test was taken and reinstated in accordance with the COP requirement.

b) Trench excavations road crossings:

As for (a) above save that the premix shall be removed over the full width of the road.

c) All other excavations:

As for (a) above save that the premix shall be removed over the full extent of the excavation.

The Employer (where the Employer wishes to perform additional control tests) or the KGETLENGRIVIER LOCAL MUNICIPALITY shall not be liable for additional costs or delays arising from remedial work related to excavations, which have already been finally reinstated before their test results, become available.

PSDA 8.3 SCHEDULED ITEMS

PSDA 8.3.1 Excavation

c) Extra-over for:

Delete items (3) and (4) and replace with:

3) Boulder excavation Unit: m³

SANS 1200DB: CIVIL ENGINEERING CONSTRUCTION: EARTHWORKS (PIPE TRENCHES)

The following variations are applicable to the standard specification SANS 1200 DB:

PSDB 1 MATERIALS

PSDB1.1 Classes of excavation (clause 3.1)

- a) All excavations shall be classified as either: Soft excavation, including all topsoil, sand, loam, clay and gravel, or
- b) Intermediate, including boulders up to 0,1 cubic metres, or
- c) Rock, including all solid un-decomposed rock, which necessitates the use of explosives, rock splitting equipment or pneumatic pavement breakers and rock drills. All boulders larger than 0,1 cubic metre in volume is included.

PSDB 4 PLANT

PSDB 4.1 Excavation equipment

Add the following at the beginning of the existing Clause:

"As far as is practical and reasonable, utilise labour-intensive methodologies for all Contract excavations but where not feasible,"

PSDB 5 CONSTRUCTION**PSDB 5.2 Minimum base widths specified**

The minimum base width for secondary reticulation mains shall not be less than 600 mm wide for pipe sizes up to 110 mm diameter. For pipe sizes larger than 110 mm diameter the minimum base width shall be the pipe size plus 300 mm working space on either side as specified in SANS 1200DB.

The base width for erf connection pipes, up to 50 mm diameter, shall not be less than 400 mm.

The base width for yard connection pipes, up to 50 mm diameter, shall not be less than 300 mm.

PSDB 5.9 Reinstatement of surfaces**PSDB 5.9.1 Reinstatement – private property and commonage**

Delete existing clause and replace with the following:

“Reinstatement shall be with the same type of surfacing (including supporting structures; example bedding layers, jointing sand, structural joints, etc) and to at least the same standard and conditions as existed before excavation took place.

Grass sods shall be neatly cut out from grassed areas to be excavated and shall be preserved and kept damp until they can be replaced during the reinstatement. All other material to be used for reinstatement shall be suitably stored for such purpose.

Any settlement below original ground level that occurs during the execution of the Contract or the Defects Liability Period shall be made good by and at the cost of the Contractor within a reasonable period as determined by the Engineer.”

PSDB 5.9.2 Bitumen roads and surfaced footways: sub-base and base

In addition to the existing clause the following shall apply:

“No separate payment shall be made for the above procedure, which shall be deemed to be included in the rates and prices tendered.

The tendered rates shall allow for the substitution of reinstatement of sub-base and base course layers with a hydrofill layer. Additional reinstatements necessitated by cover excavation, slips or falls shall be to the account of the Contractor.”

PSDB 5.9.3 Bitumen roads and surfaced footways – surfacing

Delete the existing clauses 5.9.5.1 and 5.9.5.2 and replace with the following:

PSDB 5.9.3.1 General

The Contractor shall inform the Engineer in writing when the road or surfaced verges are ready for reinstatement.

The scheduled item for reinstatement of surfacing allow for widths 0.30 m greater than the specified trench widths for road crossings. Extra reinstatements necessitated by over excavation, slips or falls shall be to the account of the Contractor.

PSDB 5.9.4 Re-instatement of concrete

In addition to the existing Clause 5.9 the following shall apply: All existing concrete surface shall be reinstated to original level and final finish (wood floated or steel floated or other) with un-reinforced concrete of 15 Mpa (minimum) strength. The reinstated concrete shall also not exceed 125 mm but shall not be less than 50 mm.)

PSDB 5.9.5 Interlocking blocks, paving slabs and bricks

All the existing blocks, slabs or bricks shall be cleaned and re-used. The blocks, slabs or bricks, which have been taken up, shall be stacked in a safe manner without restriction to vehicular or pedestrian traffic. Blocks, slabs or bricks around manhole covers shall be finished level with the manhole cover top. The cost of

additional interlocking blocks, paving slabs or bricks required for complete reinstatement, over and above those taken up and stacked, shall be included in the rates tendered for the reinstatement of surfaces.

PSDB 5.9.6 Grassed areas

Refer to PSDA 5.9.2 for protection of grass sods prior to reinstatement.

PSDB 5.9.7 Kerbing

All existing types of kerbing that has been removed shall be cleaned and stacked in a safe manner without restricting to vehicular or pedestrian traffic.

The Contractor shall replace all kerbing removed during trenching.

PSDB 7 TESTING**PSDB 7.1 Density tests**

Delete the existing clause and replace with the following:

“The Engineer may carry out quality control testing of compaction densities on Works sections deemed to be completed by the Contractor.

No testing by the Engineer shall, however, relieve the Contractor of his responsibility to ensure adequate compaction throughout and the Contractor should therefore carry out his own regular compaction tests. If a hydrometer is used, the Contractor shall furnish the Engineer with a certificate of calibration of the instrument together with copies of all test results. A minimum of 4 random compaction tests is required of compaction production. Testing shall be to the full layer depth of material placed, or in stages not exceeding 300 mm equivalent layer depths whichever is the lesser.

If any test results show that the specified compaction requirements have not been met, the Contractor shall at his own expense and within 7 days of receipt of the Engineer instruction take the following action:

PSDB 7.1.1 Backfill material

Trench excavations (other than road crossings)

The backfill material shall be ripped (through labour-intensive methodologies) up to the depth of the failed layer for a distance of 5 m on either side of the point at which the test was taken. If the previous layers had not been tested, the untested layers shall also be ripped (through labour-intensive methodologies) up to a depth of 450mm.

If the backfill material is suitable, it shall be re-compacted in layers to the specified densities. Otherwise suitable material shall be imported and compacted in layers and the excess material removed.

Where adjacent test results show that the backfill densities are below specified requirements, the entire length of trench between the points at which the tests were taken plus 5 m outside each end of that length shall be re-excavated and re-compacted as required above.

New density testing, for the account of the Contractor, shall be conducted along the trench excavations at intervals, as directed by the Engineer.

PSDB 8 MEASUREMENT AND PAYMENT**PSDB 8.3 Scheduled Items****PSDB8.3.1 This clause shall be extended to cover surface clearance.**

Add the following new clauses:

PSDB8.3.1 (d) Saw cut, remove and dispose of existing asphalt

The rate shall cover removal, handling, transport and proper off-site site disposal of all types of existing asphalt and stone crush base up to a maximum thickness of 40 mm.

Unit: m²

PSDB8.3.1 (e) Saw cut, remove and dispose of concrete (un-reinforced)

The rate shall cover removal, handling, transport and proper off-site disposal of existing un-reinforced concrete of maximum thickness 150 mm.

Unit: m²

PSDB8.3.1 (f) Remove and temporarily store of paving block units

The rate shall cover removal, handling, transport and proper storage of all types of existing paving block units for later re-instatement.

Unit: m²

PSDB8.3.1 (g) Remove and temporarily store of grass sods

The rate shall cover removal, handling, transport and proper storage and maintenance of existing grass in sods for later re-instatement.

Unit: m²

PSDB8.3.1 (h) Remove and temporarily store all types of kerbing

The rate shall cover removal, handling, transport and proper storage of all types of existing kerbing for later re-instatement.

Unit: m²

PSDB 8.3.2 Excavation**PSDB 8.3.2 (a) Excavation (Sub Clause 8.3.2(a))**

Excavation quantities for secondary water mains shall be per linear metre. The trench width for secondary water mains for pipe sizes up to 110 mm diameter shall be a minimum width of 600 mm and the depth of excavation shall be a minimum of 1200 mm. For pipe sizes larger than 110 mm diameter pipe sizes, the SANS 1200DB method of excavation shall apply.

Excavation quantities for erf connections shall be per linear metre. The trench width shall be a minimum width of 400 mm and the trench depth shall be a minimum of 900 mm in road reserves.

Excavation quantities for yard connections shall be per linear metre. The trench width shall be a minimum width of 300 mm and the trench depth shall be a minimum of 450 mm.

Excavation of intermediate shall be done making use of pneumatic equipment and shall be executed by the SMMEs, with the Contractor providing all the equipment and the necessary training for the effective use of pneumatic equipment. The use of a back acting excavator for removal of intermediate material shall only be permitted upon approval by the Engineer.

PSDB 8.3.3 Compaction in road reserves

Add the following to this clause : "at road crossings"

This clause shall be extended to cover compaction at road crossings.

PSDB 8.3.6 Finishing**General**

Delete "road". This clause shall be extended to cover surfaces other than road surfaces,

The width of any trench through an area grassed or paved with bricks or pre-cast concrete units shall be the minimum practicable width, which in the opinion of the Engineer is sufficient. In the case of blocks this minimum area will be the minimum area over which units (whether bricks or pre-cast units) can be removed without requiring cutting.

The Contractor's rate for supply and lay of asphalt must provide for all plant, labour and material costs associated with the work, including inter alia:

The cost of the asphalt and hydrofill, the collection, transport to site and placing in accordance with the standard specification.

All wastage and overbreak reinstatement costs, including the purchase of the asphalt and hydrofill.

PSDB8.3.6.1 (b) Replace "parking areas" with "areas other than roadways".

Add the following new clauses:

PSDB 8.3.6.1 (d) Re-instatement of concrete, complete

The rate shall cover loading, transporting and re-instatement complete to previous levels (or levels to suite proper stormwater drainage), and surface finish of 15 MPa (minimum) un-reinforced concrete strength. The reinstated concrete shall also not exceed 125 mm but shall not be less than 50 mm.)

Unit: m³

PSDB 8.3.6.1 (e) Re-instatement of bricks and pre-cast units, complete

The rate shall cover loading, transporting and re-instatement complete with bricks/pre-cast unit-receival area preparation, compaction (minimum 90%Mod AASHTO density), levelling, 20 mm river sand bedding, laying bricks/units, plaster sand jointing, and compaction.

Unit: m²

PSDB 8.3.6.1 (f) Re-instatement of paving blocks units, complete

The rate shall cover loading, transporting and re-instatement complete with paving blocks, compaction (minimum 90%Mod AASHTO density), levelling, 20 mm river sand bedding, laying bricks/units, plaster sand jointing, and compaction.

Unit: m²

PSDB 8.3.6.1 (g) Re-instatement of grass sods, complete

The rate shall cover loading, transporting, and re-instatement complete with grass-receival area preparation, compaction, levelling, laying sods, top soiling, and watering (water not from property supply).

Unit: m²

PSDB 8.3.6.1 (h) Re-instatement of all types of kerbing, completing

The rate shall cover loading, transporting and re-instatement complete with sand-cement bedding, laying units, mortar jointing, haunching, and backfilling, compaction (minimum 90 % Mod AASHTO density) and levelling behind kerbs.

Unit: m

SANS 1200G : CONCRETE - STRUCTURAL

PSG 2 INTERPRETATIONS

PSG 2.3 Quality

This clause is amended to include:

Set (of concrete cubes). A set of cubes shall consist of 6 cubes of nominal side 150mm of which 3 will be crushed at 7 days after making and the remaining 3 at 28 days.

PSG 3 MATERIALS

PSG 3.2 Cement

Replace the entire clause with the following:

Only Ordinary Portland Cement (OPC) and Pulverised Fuel Ash (PFA) shall be used in all concrete for this contract. No other types of cement shall be permitted.

Pulverised Fuel Ash (PFA) shall comply with the following specifications:

- a) PFA shall be obtained from only one power station, from which the PFA has been approved by SANS for used in concrete.
- b) All PFA shall comply with requirements of SANS 1466 (1998)

PFA shall be used as partial replacement of the OPC in concrete. A maximum of 33% (by mass) of the total cementitious material in the concrete may be PFA and shall be mixed before delivery on site.

The OPC/ PFA mix shall be stored in the same manner as OPC. When stored in silo's the PFA / OPC mix shall require increased silo capacity, more efficient filters and aeration compared to OPC only.

PSG 3.5 Admixtures

PSG 3.5.2 Air-entraining agents

Replace with the following:

Air-entraining agents shall not be used

PSG 3.6 Reinforcement

Add the following:

Cover blocks for reinforcement shall be concrete, of at least the same strength as specified for the structure in which it will be used.

PSG 4 PLANT**PSG 4.5 Formwork**

PSG 4.5.2 Finish – unless otherwise noted formwork is to be in accordance with the following classification:

- a) Rough – where in contact with backfill or surface is not exposed;
- b) Smooth – where exposed and up to 150mm below paving or ground level

PSG 5 CONSTRUCTION**PSG 5.5 Concrete***PSG 5.5.1 Quality**PSG 5.5.1.7 Strength concrete*

Add the following

Although the contractor is responsible for the mix design, the following specifications apply to the mix design:

- a) Minimum cement: water ratio = 2
- b) For class 35/19 concrete the minimum cement content shall be 325kg/m³
- c) Maximum absorption of aggregates is 3%

The permeability of test cylinders (if ordered by the Engineer) shall not be greater than 5 x 10⁻⁷ mm/second.

*PSG 5.5.3 Mixing**PSG 5.5.3.2 Ready mixed concrete*

Add the following

Concrete for liquid retaining structures shall be mixed by batching plant.

PSG 5.5.6 Compaction

Add the following:

If re-vibration is instructed by the Engineer, the time lapse between vibration and re-vibration shall be 90 minutes

PSG 5.5.8 Curing and protection

Replace the clause with the following:

All concrete other than site concrete and porous concrete shall be cured by maintaining saturation for a minimum of 10 (ten) days after placement or after stripping formwork. No curing compound will be accepted. Curing methods other than the methods listed below, shall be approved in writing by the Engineer prior to placing of concrete.

i) *Ponded water with a minimum depth of 50mm.*

ii) *Saturated sand with a minimum thickness of 60mm.*

For floors, the sand shall be kept moist at all times using an irrigation system. Clean river sand shall be applied within 24 hours after completing the specified surface finishing and concrete has gained sufficient strength as not to damage the surface. In areas with high temperatures or wind, the surface shall be protected with plastic sheeting until it has reached sufficient strength to receive the sand.

iii) *Covering the previously saturated surfaces with approved plastic sheet* maintained in contact with the concrete surfaces and with all edges and joints sealed by methods approved by the Engineer. The sheets shall be partially removed on a regular basis and moisture added to ensure continuous saturation. Plastic sheets for curing shall not be dark colored and all lapping joints shall be taped closed.

iv) *Continuously saturated heavy duty sacking or geotextile* or other approved absorbent material maintained in contact with the concrete surfaces by fasteners spaced at 1.5m c/c

v) *Continuously irrigation or sprinkling of the entire concrete area with a mist spraying system* Sprayers shall be spaced at intervals such that the whole area of concrete is wetted and shall be fastened to the concrete at regular intervals. The system shall be designed with an automatic timing system to ensure continuous saturation during weekends and public holidays.

Periodical hosing or curing compound will not be accepted as a curing method.

For concrete walls, both sides shall be cured using irrigation as described above. Sprayers shall be spaced at such intervals to ensure that the whole concrete face is wetted. Curing shall

commence the day after concrete has been cast. If formwork is to remain in position (e.g. to support subsequent lifts), it shall be loosened as soon as the concrete has gained sufficient strength (usually within a day) to allow curing water to thoroughly wet the surfaces of the concrete.

In addition the Contractor shall also ensure that the concrete shall not be exposed to thermal shocks during the first 28 days after casting and he shall take the necessary, additional precautionary measures to shield the concrete with plastic sheets or hessian during extreme

PSG 5.5.10 Concrete Surfaces

PSG 5.5.10.2 This clause is amended to include:

‘Unless otherwise noted on the drawings all exposed unformed surfaces and surfaces to receive grout are to be wood float finished.’

“Wood float finish – Degree of Accuracy 11 – once the unformed surface has been brought to a plane surface it shall be uniformly floated using a wood float and shall be free from trowel marks.”

“Steel float finish – Degree of Accuracy I – where this finish is specified or shown on the drawings the surface shall be treated as for wood float finish above except that when the moisture film has disappeared and the concrete hardened sufficiently to prevent laitance from being worked to the surface, the screeded surface shall be steel troweled under firm pressure to produce a dense smooth uniform surface free from trowel marks.”

“Power float finish – Degree of Accuracy I – where this finish is specified or shown on the drawings the surface shall be treated as for steel float finish above except that the screeded surface shall be power floated to produce a high quality dense smooth uniform surface free from float marks.”

“Bull nose edge to joints – Degree of Accuracy I – Where this finish is specified a nosing tool shall be applied during and after the finishing of the flat surface. The purpose is to thoroughly compact the edge of the concrete and render it watertight prior to application of the joint sealer.”

PSG 5.5.16 No-fines concrete (new item)

No-fines concrete will be classified by the prefix NF followed by the size of aggregate to be used.

When the no-fines concrete will be receiving reinforcement it will be sealed with a power floated 3:1 sand cement mortar.

Materials shall comply with SABS1200G section 3. The aggregate shall be a single sized aggregate, graded in accordance with SABS 1083.

The volume of aggregate per 50kg of cement for each class of no-fines shall be as follows:

Class	Aggregate per 50kg cement (m ³)
NF38	0.33
NF19	0.30
NF13	0.27

The mix will be such that the grout is smooth and adheres to and completely coats every particle of aggregate. The mix will not contain more than 20 litres of water per 50kg cement. The mix shall be weight batched.

Notwithstanding the preceding specifications, the mix design will be the responsibility of the Contractor.

The void ratio for no-fines concrete shall not be less than 27.5%.

The no-fines concrete shall be placed with a procedure as agreed with the Engineer and shall be placed in the final position within 30min after mixing. It shall be worked sufficiently to ensure that all aggregates adhere to each other, but vibrating and excessive tamping shall be avoided. No-fines concrete shall be cured by sacking or plastic sheeting for at least 3 days after placing.

PSG 5.6 Joints (new item)

Joint filler shall be closed cell polyethylene with a density of 200/m³. Filled joints shall be accurately formed to the dimensions shown and with the filler material specified on the

Drawings. The filler shall be fixed in position to ensure position during or after placing of concrete.

Unfilled joints shall be formed accurately as indicated on the drawings. The concrete face against which the fresh concrete is placed shall be treated in good time with an approved bond breaker.

Sealed joints shall be made watertight over the full length of the joints, with dimensions as indicated on the drawings.

Preparation of joints:

The reaming of joints by sawing or other means shall be undertaken at a stage when edge spalling or raveling can be avoided and shall be subject to the Engineer's approval.

After removal of the temporary filler material or the breaking-out of the excess concrete, the inside faces of the joint shall be wire-brushed or grit-blasted to remove all laitance and contaminants. Thereafter the joint shall be cleaned and blown out with compressed air to remove all traces of dust. Solvents shall not be used for removing contaminants from concrete and porous surfaces.

Care shall be taken to ensure that primers or adhesives are applied only to surfaces that are absolutely dry and in accordance to manufactures' specifications. The sealant shall be applied within the period during which the primer remains active.

Sealants shall be applied strictly in accordance with the manufacturer's instructions by a person skilled in the use of the particular type of sealant. The trapping of air and the formation of voids in the sealant shall be avoided. The sealant shall be finished to a neat appearance flush with the edges of the concrete or to the specified depth.

Waterstops shall be supplied in unjointed standard production lengths. Site jointing shall be limited to the absolute minimum.

At intersections, transitions and abrupt changes of direction, factory-moulded watertight junction pieces shall be used so that any site jointing can be restricted to simple joints.

When a waterstop with a centre bulb is intersected, the centre bulb shall be continuous throughout the intersection irrespective of the make-up of the intersection.

PVC waterstops shall be manufactured from high-quality virgin material and shall not contain any scrap or reclaimed material. The waterstops shall be light coloured so as to reduce heat absorption when exposed to sunlight.

The waterstops shall be precision moulded or extruded to the required cross-sectional profile, they shall be free from porosity or other imperfections, and shall be provided with eyelets so that they can be securely fixed to prevent displacement during concreting.

All joints shall be butt-jointed hot-welded joints. Where joints cannot be factory made, Site joints shall be made in accordance with the manufacturer's instructions with equipment prescribed or supplied by the manufacturer and approved by the Engineer.

PSG 5.7 CONSTRUCTION JOINTS

e) Construction joints in slabs

The reinforcement shall be continuous throughout the joint. After placing the first section of concrete, the joint face shall be green-cut within 24 hours after placing of concrete to expose 3mm coarse aggregate. Prior to placing the second section of concrete, the existing concrete shall be saturated with water (min 8 hours) without visible ponding. The fresh concrete shall then be placed directly onto this surface. No wet-to-dry epoxy will be allowed.

No vertical construction joints will be allowed in the walls.

Positions of additional joints required by the contractor must be approved by the Engineer.

All kickers shall be cast monolithic with the base, ensuring that it is properly compacted. The height shall be 75mm.

PSG 7 TESTS

PSG 7.1 FACILITIES AND FREQUENCY OF SAMPLING

PSG 7.1.2 Frequency of Sampling

PSG 7.1.2.1 This clause is amended to include:

“A test result shall be taken as the average of three sample cube strengths.”

PSG 7.1.2.2 This clause is amended to include:

“At least one set of samples shall after that be taken from each day’s casting and from at least every 50 m³ of concrete of each grade placed or part thereof.”

PSG 7.1.2.3 This clause is amended to include:

“A frequency sampling guide is shown below though final testing frequencies will be at the discretion of the Engineer.”

- i) One set/batch/day or
- ii) One set/element/day or
- iii) One set/50 m³/day such that sufficient sets are obtained to enable them to be representative of the concrete placed.”

PSG 7.1.2.4 This clause is deleted in its entirety.

PSG 8 MEASUREMENT AND PAYMENT

PSG 8.1 Measurement and rates

PSG 8.1.1 Formwork

PSG 8.1.1.2 Add the following subclauses:

Forming Sloping Surfaces

Forming a sloping top surface of concrete will be scheduled for sloping top surfaces of unfinished concrete where the angle of inclination from the horizontal is over 0° and up to 20°, and shuttering will not be measured to such surfaces.

Beams

Unless otherwise stated casing to sides and soffits of beams shall be for all depths of beams. In case where differentiation for depths is made, items will be scheduled separately where beams exceed 1.00m overall depth.

Items will be scheduled for casing to soffits of beams.

Items will be scheduled separately where beams exceed 1.00m overall depth, sides scheduled separately from soffits as described above.

Slabs

Unless otherwise stated horizontal shuttering to soffit of slabs shall be for slabs of all thicknesses.

Columns

Separate items will not be scheduled for formwork to columns of different shapes, other than to circular columns as described below.

In the case of circular columns separate items will be scheduled in square metres stating diameters in the following stages:

Exceeding 0 and not exceeding 500mm diameter;
 Exceeding 500 and not exceeding 1 000mm diameter;
 Exceeding 1 000mm diameter

Column heads/bases

Special column heads formed using conical shutters will be measured as the number of conical shapes/shutters used

Curved/Radial Formwork

Separate items will be not be scheduled for curved formwork for each element.

Rates

Rates for formwork are to include for:

Chamfers or splayed edges not exceeding 25 x 25mm;

Straight cutting – raking and square (circular cutting and waste will be scheduled);

Intersections;

Holing formwork for reinforcing, etc at joints;

Notchings;

Kickers;

Contractors construction joints.

PSG 8.1.2 Reinforcement

PSG 8.1.2.2 Replace subparagraph (a) with the following:

“The mass of steel bars will be measured as the total mass of steel, irrespective of diameters.”

PSG 8.1.3.3 (a) Delete the words “nominal size 25 mm” in the first subparagraph

Delete subparagraph (b)

PSG 8.1.3 Concrete

• **Add the following:**

Payment for concrete in water-retaining structures will be made as follows:

- a) Full payment will be made for concrete placed and approved by the Engineer as per sub-clause 8.1.3.3 and other relevant clauses. Payment testing of water tightness will be done separately.

PSG 8.1.3 Casting in of pipes and specials (Additional clause)

No separate items will be scheduled for building in items supplied under this Contract except where specially measured in the Schedule of Quantities. The rate for supply and installation shall cover the cost of casting in the items regardless if they are positioned prior to construction or cast in boxed out holes.

PSG 8.4 Scheduled concrete items

• **Add the following:**

The tendered rate for concrete in water-retaining structures shall include storage of cement and aggregates in a cool, dry area and ensuring that these items are cool prior to mixing. Cost of curing is also included

PSG 8.4.7 No fines concrete (Additional payment item)

Describe class and positionUnit: m³

PSG 8.4.8 Sand-cement screed (Additional payment item)

Describe positionUnit: m³

PSG 8.9 Miscellaneous items (New payment item)

These items will be measured in metre, square metre, number or sum as per the schedule.

Where a sum is measured, the rate shall cover supply, installation and casting in of the item as depicted on the relevant drawings.

SANS 1200L: PIPELINES

The following variations are applicable to the standard specification SANS 1200 L:

PSL2 INTERPRETATIONS**PSL 2.4 Abbreviations**

In addition to the existing clause the following shall apply:

HDPE: High density polyethylene

PSL3 MATERIALS

Add the following to the existing specified clauses:

PSL 3.1 General

Materials for this Contract should preferably be obtained from manufacturers who operate an effective quality management system such as that described in SANS 0157 or ISO 9000.

PSL 3.4 STEEL PIPES, FITTINGS, AND SPECIALS

Add the following to the existing sub-clauses:

PSL 3.4.1 General

All steel pipes shall be manufactured as specified in BS 534. Steel plate to BS 4360 Grade 43A is acceptable. The manufacturer of the pipes shall submit to the Engineer the steel maker's certificates covering all steel used as required in Clause 3.4 of SANS 719.

The steel pipes shall be manufactured exclusively at works of such manufacturers as may be approved by the Engineer and at only one works unless otherwise agreed by the Engineer in writing.

Contractors are to supply brochures indicating fittings and special types, sizes and manufacturer specifications.

PSL 3.4.2 Pipes of nominal bore over 150mm

Steel pipes larger than 150mm diameter shall conform to API 5L and have a minimum thickness of 4.5mm

PSL 3.7.1 PVC-U pipes

PVC-U pipe systems shall conform to SABS 966 – 1998 Part I or II as applicable. All PVC-U pipes shall have integral pipe-end sockets of the rubber ring joint type. All PVC-U pipes shall be in 6m lengths

Fittings and specials for PVC-U pipes shall be manufactured in Grade 14 cast iron, rated to at least 1 600 kPa working pressure. Unless otherwise specified by the engineer, fittings and specials shall be bitumen dipped. Fittings and specials shall comply with SABS 546. Socketed ends shall be to SABS 966. Flanged ends shall comply with PSL 1.1.

PSL 3.7.2 Polyethylene pipes

Class 16 HDPE type IV pipes, plain ended for butt-welding, shall be used unless otherwise indicated. All HDPE pipes greater than or equal to 75 mm diameter are to be heat fusion welded (i.e. butt welded) in accordance with SABS specifications. The internal butt welds shall not protrude by more than 4 mm. Pipes smaller than 75 mm are to be jointed with compression type fittings.

PSL 3.8 JOINT MATERIALS

Replace the existing sub-clause with the following:

PSL3.8.3 Flanges (clause 3.8.3)

Flanges shall comply with the requirements of SANS 1123 (as amended). Flanges designed for working pressures of less than 1 600 kPa shall have flat flange faces and those for working pressures equal or greater than 1 600 kPa shall have raised flange faces.

It shall be the responsibility of the Contractor to ensure that flanges on pumps, valves, fittings, specials and pipes to be fitted together, are fully compatible.

Machined surfaces shall be coated with a mixture of white lead and tallow or another approved protective composition before these are affected by rust.

PSL 3.8.8 Welding

Welding shall be Grade B spiral steel continuously welded pipe. The qualification of welders shall be in accordance with the relevant clauses of the above standards, and specifically SANS 044 Part III and shall be Grade 1 welders. Grade 2 welder shall be permitted only with the Engineer's approval.

The Contractor shall provide evidence, acceptable to the Engineer, that welding procedures and welders have been tested in accordance with the requirements of AWS D1.1.

PSL 3.8.9 Jointing of HDPE pipe

Jointing of HDPE pipe shall be by means of welding, welded flanges or approved external compression type fittings (Plasson or similar approved).

PSL 3.9 CORROSION AND PROTECTION**PSL 3.9.2 Steel pipes**

Add the following new sub-clauses:

PSL 3.9.2.4 General

Coatings shall comprise a coherent lining bonded to the inside surface of pipes and pipe specials in order to prevent corrosion of the inner pipe surface and to reduce friction and a coherent external coating bonded to the outside surface of each pipe in order to prevent corrosion.

Unless otherwise specified or indicated on the drawing or Schedule of Quantities, all bolts, nuts and washers shall be hot-dip galvanized to SANS 763 after threading. All bolts, nuts and washers within water retaining structures or exposed to rain water shall be fabricated from stainless steel, every bolt shall have at least one washer at the nut side.

The following corrosion protection specifications shall apply to pipework, specials and valves:

- | | | |
|---|---|--|
| Steel pipes and fittings above ground and in valve chambers | - | internal and external hot-dip heavy duty galvanized pipework |
| Buried steel pipes and fittings | - | Fusion bonded coating medium density polyethylene or similar approved combination of petrolatum impregnated cloth tape and a PVC outer wrap. |

PSL 3.9.2.5 Internal Lining or Coating**PSL 3.9.2.5.1 Cement Lining**

The cement mortar lining shall be applied in accordance with the American Water Works Association Specification C205-80 or as amended except where the Specification C205-80 is at variance with the requirements of this Contract.

PSL 3.9.2.6 External Coating**PSL 3.9.2.6.1 Bitumen Coating**

Bitumen shall be an approved bitumen pipe coating enamel of the quality and applied in accordance with SANS 1137 – 1977 and SANS 1178 – 1979.

PSL 3.9.6 Corrosive soil

Delete the existing clause and replace with:

All steel or cast iron fittings and joints shall be treated with a compatible primer, packed with a bitumen-based or tar-based mastic, and wrapped with an approved plastics tape, or protected with scheduled or approved materials. Tape shall be Denso wrapping, 150mm wide.

PSL 3.10 Valves (clause 3.10)**PSL 3.10.1 General**

All valves for this Contract shall be supplied with a full set of instruction manuals describing routine maintenance and repairs, as well as a complete parts list.

All wearing parts for all valves used during this Contract shall be readily available in South Africa.

PSL 3.10.2 Gate valves

All gate valves up to 200 mm shall be a resilient seal gate valve type and have a 1 000 kPa working pressure. All other gate valves shall be wedge gate valves up to 1 600 kPa working pressure. Both valves shall have flange adapters both sides.

Resilient seal gate valves (RSV) shall comply with SANS 664 (as amended). All RSV valves shall be Class 16. Plain-ended valves shall be suitable for the type of pipe specified, and, in the case of spigotted valves shall be complete with couplings for the type of pipe specified. The valves shall have a straight, unobstructed body passage without pockets. The valves shall allow back sealing to allow replacing of spindle seals under pressure. The spindle seal shall consist of a double O-Ring arrangement with a wiper ring. RSV valves shall have non-rising stainless steel spindles. Gates shall be completely rubber covered and shall be supported by guides.

Wedge gate valves shall be of the class as specified, but not less than Class 16. Plain-ended valves shall be suitable for the type of pipe specified, and, in case of spigotted valves shall be complete with couplings for the type of pipe specified. All wedge gate valves shall be of Trim C: Stainless steel trim. Seat rings shall be pinned in position. The gland shall have a back sealing ring and at least 3 rings of acceptable packing material. The lugs on the gate and spindle are to be machined.

On all valves the design of the guides shall be such that the valve can be mounted in any position. All flanges, unless otherwise required, shall be to SANS 1123-1600. Flanges for valves larger than 200 mm and/or working pressure higher than 1 600kPa shall be spot-faced. All valves larger than 150 mm to be installed in pump stations shall have indicators. All valves shall, unless otherwise specified, be clockwise closing. Gearing shall be chosen to limit the effort on hand wheels or valve keys to 500N. Unless otherwise specified caps for key operations will be required for buried valves and hand wheels on valves situated in accessible chambers.

PSL 3.10.3 Air valves

All air valves shall be double purpose air valves suitable to:

- Vent a filling pipeline.
- Release pressurized air from a full pipeline.
- Relieve vacuum (allow air intake) during emptying of a pipeline.

The air valve shall be of a single chamber design incorporating an integral “anti shock” orifice to limit shock induced pressure to twice the rated working pressure of the valve.

The air valve shall have an intake orifice diameter of at least the nominal diameter of the valve. The valve design shall incorporate an over-pressure safety feature that will prevent explosive failure. The feature shall consist of easily replaceable components.

Air valves up to 50 mm nominal diameter shall, unless otherwise specified, be for a screwed BSP connection. All other air valves shall be flanged.

The air valve provision and installation shall also include the provision and installation a control valve and a chamber as per the applicable detail drawing.

PSL 3.10.4 Control valves (pressure reducing / sustaining / relief, rate-of-flow)

The control valves shall be fully automatic, requiring no external power source.

The control valves shall have large filter(s) in the control circuit. All pilot valves shall after being set, be sealed with sealing wire and lead seals. All pilot valves shall be permanently marked.

The valve shall be delivered complete with an appropriate brick chamber (similar to that of the bulk meters) and a full set of operating instructions and a diagram indicating the control logic.

PSL 5 CONSTRUCTION

In addition to the existing clause the following shall apply:

PSL 5.1.3 Keeping pipelines clean

Pipe laying operations and precautions taken during pipe laying shall be aimed at eliminating the necessity for cleaning of completed mains. However, should foreign matter have entered or remained in the pipelines, the Contractor shall arrange for the mains to be cleaned (at the Contractor's expense) to the satisfaction of the Engineer prior to testing.

PSL 5.6 Valve and hydrant chambers

Valve, scour valve and hydrant chambers shall be constructed as detailed on the standardised typical drawings of the Employer or approved designed chambers by the Engineer.

The rate tendered for the specific valve and hydrant chamber shall exclude all pipes, valves, hydrants and fittings but shall include excavation, compacted backfill, all concrete or brick work, formwork and steel reinforcing as well as concrete covers.

PSL 5.8 Brickwork

The joints of exposed faces shall be flush trowelled, hard and smooth and shall be rubbed for the full width of the joint as the work proceeds to give a hard polished finish.

PSL 5.10 Disinfection of water pipelines

Delete existing clause and replace with:

On satisfactory completion of hydrostatic testing all pipelines shall be flushed with potable water supplied by the Employer. The Contractor shall ensure that the water used for flushing is disposed of in an approved manner without causing damage, nuisance or injury.

If required the Contractor shall arrange for all pipelines to be sterilised by chlorination by an approved specialist firm after flushing has been complete. The preferred method of sterilisation is as follows:

The volume of the section of the pipeline to be chlorinated is calculated. A concentration of 8 – 10 ppm of chlorine to this volume of water is injected into the pipeline at the point of charging to form a highly concentrated chlorine block about 20 m in length. Charging of the pipeline is then commenced with chlorine being continuously injected at a concentration of 3 – 4 ppm. This moves the highly concentrated block throughout to end of that section of the pipeline.

This results in high concentration and short contact times in the high contamination zones and lower chlorine concentration with longer contact times in the other zones.

During this process each scour is left closed. When the section of pipeline is fully charged each scour is "blown" under pressure until there is no evidence of turbidity. The highly concentrated block is scoured out of the pipeline at the end of the section of pipeline. During this scouring process, chlorine is injected into the pipeline at the charging point at a concentration of 3 – 4 ppm.

Generally after a 24 hour contact time water sample analysis indicates chlorine concentrations of 1-2 ppm.

In all cases of chlorination, HTH granular chlorine is to be dissolved with water prior to injection.

The chlorinated water shall thereafter be drained from the pipelines and disposed of in an approved manner if necessary, after dechlorination, without causing damage, nuisance or injury. The mains shall then be refilled with potable water.

PART E PROVISION OF THE TEMPORARY WORKFORCE**CONTENTS**

E1	SCOPE
E2	INTERPRETATIONS
E3	PERMITTED SOURCES OF TEMPORARY WORKERS
E4	EMPLOYMENT RECORDS TO BE PROVIDED
E5	VARIATIONS IN WORKER PRODUCTION RATES
E6	TRAINING OF THE TEMPORARY WORKFORCE
E7	RECRUITMENT AND SELECTION PROCEDURES
E8	TERMS AND CONDITIONS PERTAINING TO THE EMPLOYMENT OF THE TEMPORARY WORKFORCE
E9	LABOUR RELATIONS AND WORKER GRIEVANCE PROCEDURES
E10	THE SUBCONTRACTORS' WORKFORCES
E11	MEASUREMENT AND PAYMENT

E1. SCOPE

This Specification covers the provisions and requirements relating to the provision of the temporary workforce.

E2. INTERPRETATIONS**E2.1 Supporting Documents**

The Tendered Rules, Conditions of Contract, Standard and Construction Specifications, Drawings and statutory minimum requirements relating to the employment and remuneration of labour shall *inter alia* be read in conjunction with this Specification.

E2.2 Definitions and abbreviations

For the purposes of this specification, the definitions given in the Conditions of Contract, the Standard Specifications and the Construction Specifications, together with the following additional definitions shall, unless the context dictates otherwise, apply:

- (i) "Key Personnel" means all contracts managers, site agents, materials and survey technicians, trainers, supervisors, foremen, skilled plant operators, artisans and the like, and all other personnel in the permanent employ of the Contractor or Subcontractor who possess special skills and/or who play key roles in the Contractor's or Subcontractor's operation
- (ii) "Project Committee" means a committee consisting of the Employer, the Engineer, the Contractor, (or their nominated representatives) as well as representatives of the temporary workforce, which is convened from time to time at the discretion of the Engineer, for the purposes of acting as an avenue for effective communication and liaison between all the parties referred to, in all matters pertaining to the Contract
- (iii) "Subcontractor" means any person or group of persons in association, or firm, or body corporate (whether formally constituted or otherwise) not being the Contractor, to whom specific portions or aspects of the Works are sublet or subcontracted by the Contractor in accordance with the provisions of the Contract
- (iv) "Worker" for the purposes of this Specification means any person, not being one of the Contractor's key personnel, nor any key personnel of any Subcontractor, who is engaged by the Contractor, a Subcontractor or the Employer to participate in the execution of any part of the Contract Works and shall include unskilled labour, semi-skilled and skilled labour, clerical workers and the like

(v) "Workforce" means the aggregate body comprising of all workers and shall, unless the context dictates otherwise, include the workforces of the Contractor and all Subcontractors

(vi) "Liaison Officer" means a representative from the temporary workforce, duly elected by them, to act on their behalf and through whom all matters pertaining to the temporary workforce can be channelised.

E2.3 Status

Where any provisions or requirements of this Specification are in conflict with anything elsewhere set out in the Contract, the provisions and requirements of this Specification shall take precedence and prevail.

E3. Permitted Sources Of Temporary Workers

The Contractor shall as far as possible make optimum use of the human resources outside his own workforce and the workforces of all Subcontractors. The temporary workforce which is to be used in the execution of the Works in terms of Part A may consist of the workers of various communities, and shall not be bound to one particular community.

E4. EMPLOYMENT RECORDS TO BE PROVIDED

The Contractor shall maintain accurate and comprehensive records of all workers engaged on the Contract and shall provide the Engineer at monthly intervals from the commencement of the Contract, with interim records substantiating the actual numbers of employment opportunities which have been generated to date and the amounts actually paid in respect thereof. Such interim records shall be in a format approved by the Engineer.

The Contractor shall, on completion of the Contract, and as a pre-requisite event to the release of any retention money in terms of the Conditions of Contract, provide the Engineer with copies of the Terms of Employment as well as independently audited documentary evidence of the total number of temporary and permanent employment opportunities actually generated during the Contract.

E5. VARIATIONS IN WORKER PRODUCTION RATES

Notwithstanding anything to the contrary as may be stated in or inferred from any other provision of this Contract, the Contractor shall not be entitled to any additional payment or compensation whatever, in respect of any differences as may result between the production rates actually achieved by workers in the course of the execution of the Contract Works and those production rates on which he has based his Tendered.

E6. TRAINING OF THE TEMPORARY WORKFORCE

Selected members of the workforce are to be provided with structured training in accordance with the provisions of Part F.

The Contractor shall make all necessary allowances in his programme of work to accommodate and facilitate the delivery of such structured training and shall comply fully with the requirements of Part F.

The provision of structured training as described in Part F shall not relieve the Contractor of any of his obligations in terms of the Conditions of Contract and the Contractor shall remain fully liable for the provision, at his own cost, of all training of the workforce, additional to that as provided for in Part F, as may be necessary to achieve the execution and completion of the works strictly in accordance with the provisions of the Contract.

E7. RECRUITMENT AND SELECTION PROCEDURES

The Contractor shall be fully responsible for the recruitment and selection of workers to constitute the temporary workforce.

The Contractor shall advise the Engineer in writing of the numbers of each category of temporary worker which he requires, together with the personal attributes which he considers desirable that each category of worker shall possess (taking due cognisance of the provisions of the Contract relating to training).

The Contractor shall, at his own cost, take all necessary actions to advertise within the communities comprising the personnel resources, the fact that temporary employment opportunities exist and the time and place where recruiting will occur. This shall include making contact with the local ward councillors and or labour forums that may exist. Delays in obtaining temporary workers shall not be accepted as reasonable grounds for seeking an extension of time claim.

The Contractor shall record in writing, the details of all persons applying for employment, including *inter alia*:

- (i) Name, address, age and sex
- (ii) Marital status and number of dependants
- (iii) Qualifications and previous work experience (whether substantiated or not)
- (iv) Period since last economically active
- (v) Preference for type of work or task.

The Contractor shall make his selection of workers from amongst the applicants, taking due cognisance of his requirements for the workforce and the provisions of the contract in regard to the provision of training to the workforce and in accordance with the following principles:

- (i) No potential temporary worker shall be precluded from being employed by the Contractor on the execution of the Works, by virtue of his lack of skill in any suitable operation forming part of the Works, unless -
 - all available vacancies have been or can be filled by temporary workers who already possess suitable skills, or
 - The Time for Completion allowed in the Contract, or the remaining portion of the Contract Period (as the case may be) is insufficient to facilitate the creation of the necessary skills.
- (ii) Preference shall be given to the unemployed and single heads of households.
- (iii) The Contractor shall, in so far as is reasonably practicable, give priority to accommodating the applicants' expressed preferences regarding the types of work for which they are selected.
- (iv) The selection process shall not be prejudicial to youth (over the age of fifteen years) and women. After making his selection, the Contractor shall advise the Engineer thereof, in writing and the Engineer shall, without undue delay, ratify the Contractor's selection.

The provisions of this clause shall apply *mutatis mutandis* in respect of the selection of additional or replacement members of the workforce as may be necessary from time to time during the Contract.

The Contractor shall, after selecting his temporary workforce, arrange at his own cost for the appointment of the Liaison Officer as representative of the workforce to act on their behalf with regards to all matters pertaining to the workforce.

E8. TERMS AND CONDITIONS PERTAINING TO THE EMPLOYMENT OF THE TEMPORARY WORKFORCE

E8.1 All temporary workers engaged in accordance with the provisions of the Construction Specifications, shall be employed on the terms and conditions of employment as are consistent with those as set out in this Contract. The Contractor shall implement and adhere strictly to such terms and conditions relating to the employment of the temporary workforce, and subject only to the provisions of this Contract, shall not employ any temporary worker on terms and conditions which are less favourable to the worker or inconsistent with the standards and norms generally applicable to temporary workers in the Civil Engineering Industry and applicable to the particular area.

E8.2 The Contractor shall pay to all temporary workers engaged in terms of Part A of the Construction Specifications, not less than the minimum rate of remuneration as specified by the Department of Labour for the Gauteng area

E9. LABOUR RELATIONS AND WORKER GRIEVANCE PROCEDURES

The Contractor, as the Employer of the workforce, shall be fully responsible for the establishment and maintenance at his own cost, of satisfactory labour relations on site and the resolution of all grievances of temporary workers as may occur.

The Contractor shall at all times adhere to the accepted norms and standards of labour relations prevailing generally in the Civil Engineering Construction Industry and shall conduct himself in a fair and reasonable manner, within the constraints as may be imposed upon him by the terms of the Contract.

In the event of any temporary worker engaged by the Contractor in terms of the Contract, being aggrieved with regard to his terms of employment, working conditions and training, he shall have the right, at his discretion, to be supported in any inquiry or disciplinary hearing or investigation instituted by the Contractor by one member of the temporary workforce and one member of the Project Committee, which persons shall be nominated by the worker.

In the event of any grievance not being satisfactorily resolved through the application of normal dispute resolution procedures, then either the Contractor or the worker concerned may require that the matter be referred to the Project Committee for further consideration, with a view to facilitate the resolution thereof.

E10. THE SUBCONTRACTORS' WORKFORCES

The provisions of this Part F shall apply *mutatis mutandis* to the workforces employed by all Subcontractors engaged by the Contractor and the Contractor shall be fully responsible for ensuring, at his own cost, that the terms of every subcontract agreement entered into are such as to facilitate the application of these provisions in respect of the workforces of all Subcontractors.

The Contractor shall at his own cost and to the extent necessary, assist and **monitor all Subcontractors in the application of the provisions of this Specification, and shall**, in terms of the Conditions of Contract, remain fully liable in respect of the acts, omissions and neglects of all Subcontractors, in respect of the application of the provisions of this Specification.

E11. MEASUREMENT AND PAYMENT

The Contractor will not be separately reimbursed or compensated in respect of the provision of the workforce and creation of temporary employment opportunities and all the Contractor's costs associated with compliance with the provisions of this part of the Construction Specifications shall, except to the extent provided for in Part F as relevant, be deemed to be included in the rates tendered for the various items of work listed in the Bill of Quantities.

PART F: PROVISION OF STRUCTURED TRAINING

CONTENTS

F1	SCOPE
F2	INTERPRETATIONS
F3	ENGINEERING SKILLS TRAINING
F4	ENTREPRENEURIAL SKILLS TRAINING
F5	MEASUREMENT AND PAYMENT

F1. SCOPE

This specification covers the requirements for the provision of the following training:

- (i) Specified structured training to selected members of the workforce and small, medium and micro enterprises (SMME's) by a selected Subcontractor as appointed by the Employer.
- (ii) Additional training deemed necessary by the Contractor, to members of the workforce and small, medium and micro enterprises (SMME's).

F2. INTERPRETATIONS

F2.1 Supporting documents

The Tendered Rules, Conditions of Contract, Standard, Supplementary and Specific Specifications and Construction Specifications and drawings shall *inter alia* be read in conjunction with this specification.

F2.2 Application

The provisions of this specification shall apply in respect of all workers and small, medium and micro enterprises other than the Contractor's key personnel, who are engaged on the execution of the works.

F3. ENGINEERING SKILLS TRAINING

The Contractor shall, from the commencement of the contract, implement a structured training programme comprising of the training delivered by the Selected Subcontractor and any additional training as provided for by the Contractor, in which the various skills required for the execution and completion of the works are imparted to the workers, and where applicable, small, medium and micro enterprises engaged thereon, in a

Programmed and progressive manner. Selected workers shall be trained progressively throughout the duration of the contract in the various stages of a particular type of work.

F3.1 Training programme

The skills training programme to be implemented by the Selected Subcontractor shall comply with the following minimum standards:

- a) Be accredited by the Civil Engineering Industry Training Scheme (CEITS) or other institution recognised by the Department of Labour, as being appropriate for application on this project. Accredited training refers to both the trainers as well as to the training materials.
- b) Be delivered by suitably qualified and experienced trainers accredited to do so.

F3.2 In house training

The Contractor shall provide with his Tendered, full details of any additional accredited and in-house training, viewed to be necessary by the Contractor, which he intends to implement at his own cost. These details shall include the following:

- (i) The name of the accredited training institution and programme
- (ii) The various aspects of each type of training comprised in the programme
- (iii) The manner in which the training is to be delivered
- (iv) The numbers and details of the trainers to be utilized.

Details of such additional skills training shall be attached to Form H of the forms to be completed by the Tenderer.

F3.3 Additional training

The Contractor shall be responsible for the provision of the following necessary for the delivery of the specified and additional skills training programme, including the following:

- (i) Sufficient skilled, competent and accredited trainers to deliver the additional training programme to workers in accordance with the training programme
- (ii) A suitably furnished venue
- (iii) Transport of the workers as required
- (iv) Tools, equipment, and teaching aids
- (v) Stationery and all other necessary materials.

F3.4 Selection of candidates

Members of the workforce will be selected by the Engineer, assisted by the Contractor and the Liaison Officer, to receive specific training as approved by the Engineer.

The following will be taken into account in the selection of the workers to receive the specified training:

- (i) Previous experience (if any)
- (ii) Previous courses completed (if any)
- (iii) Module specific requirements.

F3.5 Duration of training

The Contractor shall allow in his programme for the selected members of the workforce to be engaged in the specified training modules.

Provision must also be made by the Contractor for members of the workforce to receive any additional training as provided for by the Contractor.

F3.6 Training hours

All specified skills-related training shall take place only during normal working hours and the Contractor shall ensure that the selected workers are available at the appropriate times to undergo such training.

F3.7 Approval of training

Both the Selected Subcontractor's and the Contractor's additional training programme shall be subject to the approval of the Engineer, and if so instructed by the Engineer, the Contractor shall alter or amend the programme and course content to suit changing conditions on site and all changes in the Contractor's programme of work.

F3.8 Training record

The Contractor shall keep comprehensive records of the training given to each worker involved in training as well as the nature and number of each task executed by the worker and whenever required shall provide copies of such records to the Engineer.

F3.9 Remuneration during training

Workers shall be remunerated in respect of all time spent undergoing the specified training in terms of Clause D03.02, at the minimum specified wage rate for the area of the Works.

F3.10 Use of workers

The Contractor shall, in so far as it is reasonably feasible, take due cognizance of the nature of the works to be executed at any given time and use trained workers on those aspects of the works for which they have been trained.

F4. ENTREPRENEURIAL SKILLS TRAINING

F4.1 Selection of Candidates

Members from selected small, medium and micro enterprises employed by the Contractor as Subcontractors will be entitled to receive a structured training programme, comprising of training delivered by a Selected Subcontractor and any additional training as provided for by the Contractor, the training will comprise both management skills as well as business development skills.

F4.2 Performance and monitoring

The Contractor shall closely monitor the performance of all the Subcontractors in the execution of their contracts and shall identify all such Subcontractors who, in his opinion, display the potential to benefit from structured training as may be provided for elsewhere in the Contract and where required by the Engineer, and shall make recommendations in this regard. The final list of candidates will be decided between the Contractor, the Engineer and the Project Committee.

F4.3 Delivery of training

The Contractor shall assist in facilitating in the delivery of the training, by instructing and motivating the Subcontractor's regarding attendance and participation therein.

F4.4 Programming of work and training

The Contractor shall further make all reasonable efforts to co-ordinate the programming of the Subcontractor's work with that of the delivery of the structured training.

F4.5 Training standards

The entrepreneurial skills training programme to be implemented by the selected Subcontractor shall comply with the following minimum standards:

(i) Be accredited by the Civil Engineering Industry Training Scheme (CEITS) or other institution recognised by the Department of Labour, as being appropriate for application on this project. Accredited training refers to both the trainers as well as to the training materials.

(ii) Be delivered by suitably qualified and experienced trainers accredited to do so

F4.6 Certificates

Following completion of the structured training, members of small, medium and micro Subcontractors that have demonstrated understanding of and competence in the training material are to be appropriately certified by the accrediting body.

F4.7 In house training and additional training

The Contractor shall provide with his Tendered, full details of any additional accredited and in-house training, viewed to be necessary by the Contractor, which he intends to implement at his own cost. These details shall include the following:

(i) The name of the training institution and programme

(ii) The various aspects of each type of training comprised in the programme

- (iii) The manner in which the training is to be delivered
- (iv) The numbers and details of the trainers to be utilized.

Details of such additional entrepreneurial training shall be attached to Form H of the forms to be completed by the Tenderer.

F4.8 Provision of entrepreneurial training

The Contractor shall be responsible for the provision of the following necessary for the delivery of the entrepreneurial training programme, including the following:

- (i) Sufficient skilled and competent trainers to deliver the additional training programme to trainees in accordance with the training programme
- (ii) A suitably furnished venue
- (iii) Transport of the trainees as required
- (iv) Tools, equipment, and teaching aids
- (v) Stationery and all other necessary materials.

F4.9 Training hours

All specified entrepreneurial training shall take place within normal working hours.

F4.10 Approval of training

Both the Selected Subcontractor's and the Contractor's training programme shall be subject to the approval of the Engineer, and if so instructed by the Engineer shall alter or amend the programme and course content.

F4.11 Training records

The Contractor shall keep comprehensive records of the training given to each Subcontractor involved in training and whenever required shall provide copies of such records to the Engineer. At the successful completion of each course each Subcontractor shall be issued with a certificate indicating the course contents as proof of attendance and completion.

F4.12 Remuneration during training

No remuneration in respect of time spent undergoing specified training in terms of this clause will be made to any of the Subcontractors.

F5. MEASUREMENT AND PAYMENT

F5.1 Basic principles

a) General

Measurement and payment for all work executed in terms of this contract shall be measured and paid for in accordance with the principles set out in Clause B1232 of the Construction Specifications, irrespective of whether the work is executed as an integral part of the provision of training in terms of this specification.

b) Training

The Contractor shall only be reimbursed for the amounts actually paid by the Contractor to the Selected Subcontractors as appointed by the Employer, in execution of the Engineer's written instruction, plus a percentage as Tendered to cover all his charges and profits.

F5.2 Scheduled items

Payment items are included in the bill of Quantities under Section 1200 for the provision of the specified training by selected Subcontractors only. Any additional training as viewed by the Contractor to be necessary shall be viewed to be included under Section 1300 and shall not be paid for separately.

C3.5 Management

CONTENTS	PAGES
C3.5.1 HEALTH AND SAFETY SPECIFICATIONS	
SECTION G1000 : HEALTH AND SAFETY REQUIREMENTS	223
C3.5.2 ENVIRONMENTAL SPECIFICATIONS	
SECTION H1000 : ENVIRONMENTAL MANAGEMENT	234

C3.5.1 HEALTH AND SAFETY SPECIFICATIONS

This part of C3.5 Management contains specifications for Health and Safety matters not covered by C3.4 Construction Specifications.

The number of each clause and each payment item in this specification is prefixed with a G to differentiate these clauses and items.

SECTION G1000 : HEALTH AND SAFETY REQUIREMENTS

CONTENTS

G1001 SCOPE	223
G1002 DEFINITIONS	223
G1003 INTERPRETATION.....	225
G1004 REQUIREMENTS	225
G1005 MEASUREMENT AND PAYMENT	233

G1001 SCOPE

This health and safety specification establishes the overarching framework within which a contractor is required to satisfy general requirements for occupation health and safety in an engineering and construction works contract.

- Note:**
- 1) This specification establishes general requirements to enable the employer and the contractor to satisfy the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) and the Construction Regulations, 2003.
 - 2) The Construction Regulations, 2003, require an employer to stop any contractor from executing construction work which is not in accordance with the contractor's health and safety plan for the site or which poses a threat to the health and safety of persons.

G1002 DEFINITIONS

Act: the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993)

competent person: any person having the knowledge, training and experience specific to the work or task being performed

ergonomics: the application of scientific information concerning humans to the design of objects, systems and the environment for human use in order to optimize human well-being and overall system performance

hazard: a source of or exposure to danger

incident: an event or occurrence occurring at work or arising out of or in connection with the activities of persons at work, or in connection with the use of plant or machinery, in which, or in consequence of which-

- a) any person dies, becomes unconscious, suffers the loss of a limb or part of a limb or is otherwise injured or becomes ill to such a degree that he is likely either to die or to suffer a permanent physical defect or likely to be unable for a period of at least 14 days either to work or to continue with the activity for which he was employed or is usually employed;
- b) a major incident occurred; or
- c) the health or safety of any person was endangered and where-

- i) a dangerous substance was spilled;
- ii) the uncontrolled release of any substance under pressure took place;
- iii) machinery or any part thereof fractured or failed resulting in flying, falling or uncontrolled moving objects; or machinery ran out of control

health and safety plan: a documented plan which addresses hazards identified and includes safe work procedures to mitigate, reduce or control the hazards identified.

health and safety specification: a documented specification of all health and safety requirements pertaining to the associated works on a construction site, so as to ensure the health and safety of persons

inspector: a person designated as such under section 28 of the Act

major incident: an occurrence of catastrophic proportions, resulting from the use of plant or machinery, or from activities at a workplace

reasonably practicable: practicable having regard to:

- a) the severity and scope of the hazard or risk concerned;
- b) the state of knowledge reasonably available concerning that hazard or risk and of any means of removing or mitigating that hazard or risk;
- c) the availability and suitability of means to remove or mitigate that hazard or risk; and
- d) the cost of removing or mitigating that hazard or risk in relation to the benefits deriving therefrom;

risk: the probability that injury or damage will occur

safe: free from any hazard

scaffold: any temporary elevated platform and supporting structure used for providing access to and supporting workmen or materials or both

specification data: data, provisions and variations that make this specification applicable to a particular contract

structure

- a) any building, steel or reinforced concrete structure (not being a building), railway line or siding, bridge, waterworks, reservoir, pipe or pipeline, cable, sewer, sewage works, fixed vessels, road, drainage works, earthworks, dam, wall, mast, tower, tower crane, batching plants, pylon, surface and underground tanks, earth retaining structure or any structure designed to preserve or alter any natural feature, and any other similar structure;
- b) any formwork, false work, scaffold or other structure designed or used to provide support or means of access during construction work; or
- c) any fixed plant in respect of work which includes the installation, commissioning, decommissioning or dismantling and where any such work involves a risk of a person falling two metres or more

substance: any solid, liquid, vapour, gas or aerosol, or combination thereof

suitable: capable of fulfilling or having fulfilled the intended function or fit for its intended purpose

G1003 INTERPRETATION

- G3.1 The Act and its associated regulations shall have precedence in the interpretation of any ambiguity or inconsistency between it and this specification.
- G3.2 Compliance with the requirements of this specification does not necessarily result in compliance with the provisions of the Act.

G1004 REQUIREMENTS

G4.1 General requirement

- G4.1.1 The contractor shall execute the works in a manner that complies with all the requirements of the Act and all its associated regulations, and in so doing, minimize the risk of incidents occurring.
- G4.1.2 The contractor shall with respect to the site and the engineering and construction works that are contemplated:
- a) identify the hazards and evaluate the risks associated with such work constituting a hazard to the health and safety of such employees and the steps that need to be taken to comply with the Act; and
 - b) as far as is reasonably practicable, prevent the exposure of such employees to the hazards concerned or, where prevention is not reasonably practicable, minimize such exposure.
- G4.1.3 The contractor shall as far as is reasonably practicable, cause every employee to be made conversant with the hazards to his health and safety attached to any work which he has to perform, any article or substance which he has to produce, process, use, handle, store or transport and any plant or machinery which he is required or permitted to use, as well as with the precautionary measures which should be taken and observed with the respect to those hazards.
- G4.1.4 The contractor shall ensure that all employees under his or her control are:
- a) informed, instructed and trained by a competent person regarding any hazard and the related work procedures before any work commences, and thereafter at such times as may be determined in the risk assessment; and
 - b) issued with proof of health and safety induction training issued by a competent person and carry proof of such induction when working on site.
- G4.1.5 The contractor shall not allow or permit any employee to enter any site, unless such person has undergone health and safety induction training pertaining to the hazards prevalent on the site at the time of entry.
- G4.1.6 The contractor shall ensure that each visitor to a construction site, save where such visitor only visits the site office and is not in direct contact with the construction work activities:
- a) undergoes health and safety instruction pertaining to the hazards prevalent on the site; and
 - b) is provided with the necessary personal protective equipment.
- G4.1.7 The contractor shall provide suitable on-site signage to alert workers and visitors to health and safety requirements.
- G4.1.8 The contractor shall not permit any person who is or who appears to be under the influence of intoxicating liquor or drugs, to enter or remain at a workplace.

G4.2 Health and safety representatives

G4.2.1 The contractor shall appoint in writing one health and safety representative for every 50 employees of the contractor working on the site, whenever there are more than 20 employees on the site; to:

- a) review the effectiveness of health and safety measures;
- b) identify potential hazards and potential major incidents;
- c) in collaboration with his employer, examine the causes of incidents;
- d) investigate complaints by any employee of the contractor relating to that employee's health or safety on the site;
- e) make representations to the contractor on matters arising from a), b), c) or d) or on general matters affecting the health or safety of the employees at the workplace;
- g) inspect the site with a view to the health and safety of employees, at regular intervals;
- h) participate in consultations with inspectors at the workplace and accompany inspectors on inspections of the workplace; and
- i) participate in any internal health or safety audit.

G4.2.2 The contractor shall inform the relevant safety representative:

- a) beforehand of inspections, investigations or formal inquiries of which he has been notified by an inspector; and
- b) as soon as reasonably practicable of the occurrence of an incident on the site.

G4.2.3 The contractor shall convene health and safety meetings whenever more than two health and safety representatives have been appointed for the site. These meetings shall be attended by all health and safety representatives and shall be convened at least once every month to:

- a) make recommendations to the employer regarding any matter affecting the health or safety of persons on the site; and
- b) discuss any incident on the site in which or in consequence of which any person was injured, became ill or died.

G4.2.4 The contractor shall consult with the health and safety committee on the development, monitoring and review of the risk assessment.

G4.3 Appointment of construction supervisor and safety officers

4.3.1 The contractor shall appoint a full-time competent employee designated in writing as the construction supervisor for the site, with the duty of supervising the performance of the work falling within the scope of the contract and may appoint one or more competent employees to assist the appointed construction supervisor.

4.3.2 A contractor may having considered the size of the project, the degree of dangers likely to be encountered or the accumulation of hazards or risks on the site, appoint a full-time or part-time construction safety officer in writing, who has in the contractor's opinion the necessary competencies and resources, to assist the contractor in the control of all safety related aspects on the site.

- G4.3.3 The contractor shall ensure that the construction supervisor is in possession of the most recently updated version of the fall protection plan.
- G4.3.4 The contractor shall ensure that the following activities, as relevant, are carried out under the supervision of a competent person and that such persons are appointed in writing:
- a) all formwork and support work operations;
 - b) excavation work;
 - c) demolition work;
 - d) scaffolding work operations;
 - e) suspended platform work operations;
 - f) operation of batch plants; and
 - g) the stacking and storage of articles on the site.

G4.4 Risk assessment

- G4.4.1 The contractor performing work falling within the contract shall, before the commencement of any such work and during construction work, cause a risk assessment to be performed by a competent person appointed in writing. Such an assessment shall as a minimum:
- a) identify the risks and hazards to which persons may be exposed to;
 - b) analyse and evaluate the identified risks and hazards;
 - c) document a plan of safe work procedures to mitigate, reduce or control the risks and hazards that have been identified;
 - d) provide a monitoring plan; and
 - e) provide a review plan.

Note: A risk assessment is an important step in protecting workers as well as complying with the law. It helps you focus on the risks that really matter in a particular workplace – the ones with the potential to cause real harm. Workers and others have a right to be protected from harm caused by a failure to take reasonable control measures. The following four steps are recommended:

Identify the hazards by looking at what could reasonably be expected to cause harm, ask employees or their representatives what they think, obtain advice from trade associations or publications on health and safety, check manufacturer's instructions or data sheets for chemicals and equipment as they can be very helpful in spelling out the hazards and putting them in their true perspective, review accident and ill-health records, think about long-term hazards to health (eg high levels of noise or exposure to harmful substances) as well as safety hazards etc.

Identify who may be harmed and how by identifying how groups of people might be harmed i.e. what type of injury or ill health might occur.

Evaluate the risks and decide on precautions by doing everything 'reasonably practicable' to protect people from harm i.e. by looking at how things are done, what controls are in place and how the work is organised and comparing this against good

practice to see if more can be done to bring practices up to standard. Consider if the hazard can be got rid of all together, and if not how can the risks be controlled so that

harm is unlikely, e.g. try a less risky option (eg switch to using a less hazardous chemical); prevent access to the hazard (eg by guarding); organise work to reduce exposure to the hazard (eg put barriers between pedestrians and traffic); issue personal protective equipment (eg clothing, footwear, goggles etc); and provide welfare facilities (eg first aid and washing facilities for removal of contamination).

Record the findings by writing down the findings of the risk assessment.

G4.4.2 The contractor shall ensure that as far as is reasonably practicable, ergonomic related hazards are analysed, evaluated and addressed in the risk assessment.

G4.4.3 The contractor shall require a competent person to prepare a fall protection plan in compliance with the requirements of the Construction Regulations.

G4.4.4 Notwithstanding the provisions of the fall protection plan, the contractor shall ensure that:

- a) all unprotected openings in floors, edges, slabs, hatchways and stairways are adequately guarded, fenced or barricaded or that similar means are used to safeguard any person from falling through such openings;
- b) no person works in an elevated position, unless such work is performed safely as if working from a scaffold or ladder;
- c) notices are conspicuously placed at all openings where the possibility exists that a person might fall through such openings;
- d) fall prevention and fall arrest equipment is:
 - i) suitable and of sufficient strength for the purpose or purposes for which it is being used having regard to the work being carried out and the load, including any person, it is intended to bear; and
 - ii) securely attached to a structure or plant and the means of attachment thereto is suitable and of sufficient strength and stability for the purpose of safely supporting the equipment and any person who is liable to fall;
- e) fall arrest equipment is only used where it is not reasonably practicable to use fall prevention equipment; and
- f) suitable and sufficient steps are taken to ensure, as far as is reasonably practicable, that in the event of a fall by any person, the fall arrest equipment or the surrounding environment does not cause injury to the person.

G4.4.5 Where roof work is being performed on a construction site, the contractor shall ensure that it is indicated in the fall protection plan that:

the roof work has been properly planned;

the roof erectors are competent to carry out the work;

no employees are permitted to work on roofs during inclement weather conditions or if weather conditions are a hazard to the health and safety of the employees;

prominent warning notices are to be placed where all covers to openings are not of sufficient strength to withstand any imposed loads and where fragile material exists;

the areas mentioned in paragraph (d) are to be barricaded off to prevent persons from entering;

suitable and sufficient platforms, coverings or other similar means of support have been provided to be used in such a way that the weight of any person passing across or working on or from fragile material is supported; and there is suitable and sufficient guard-rails or barriers and toe-boards or other similar means of protection to prevent, so far as is reasonably practicable, the fall of any person, material or equipment.

G4.4.6 The contractor shall ensure that:

- a) all reasonably practicable steps are taken to prevent the uncontrolled collapse of any new or existing structure or any part thereof, which may become unstable or is in a temporary state of weakness or instability due to the carrying out of construction work;
- b) no structure or part of a structure is loaded in a manner which would render it unsafe; and
- c) specification data prepared by the designer of the structure is taken into account in the risk assessment;

Note: The specification data provided by the designer should outline known or anticipated dangers or hazards relating to the works and make available all information required for the safe execution of the work. It should provide as relevant, geotechnical information (or make reference to reports provided in the site information), the loading the structure is designed to withstand, the methods and sequence of construction.

G4.5 Health and safety plans

G4.5.1 The contractor shall prior to commencing the works to which this specification applies, submit to the employer for approval a suitable and sufficiently documented health and safety plan, based on this specification and the risk assessment that is conducted.

G4.5.2 The health and safety plan shall as a minimum provide:

- a) the information contained in Table 1 in respect of each of the hazards associated with work falling within the scope of the contract (see Figure 1); and

Table 1: Example of the format of a health and safety plan

What are the hazards?	Who might be harmed and how?	What are the safe work procedures for the site?	What further action is necessary (monitoring and review)?	Action by whom	Action by when

- b) an outline of the manner in which the contractor intends complying with the requirements of this specification.

G4.5.3 The contractor shall discuss the submitted health and safety plan with the employer's representative, modify such plan in the light of the discussions and resubmit the modified plan for approval.

G4.5.4 The contractor shall apply the approved health and safety plan from the date of commencement of and for the duration of the works to which this specification applies.

G4.5.5 The contractor shall conduct periodic audits for compliance with the approved health and safety plan at intervals agreed upon with the employer, but at least once every month.

G4.5.6 The contractor shall update the health and safety plan whenever changes to the works are brought about.

G4.6 Subcontractors

- G4.6.1 The contractor may only subcontract work in terms of a written subcontract and shall only appoint a subcontractor should he be reasonably satisfied that such a subcontractor has the necessary competencies and resources to perform the work falling within the scope of the contract safely. Such a subcontract shall require that the subcontractor shall:
- a) co-operate with the contractor as far as is necessary to enable both the contractor and sub-contractor to comply with the provisions of the Act; and
 - b) as far as is reasonably practicable, promptly provide the contractor with any information which might affect the health and safety of any person at work carrying out work or any person who might be affected by the work of such a person at work or which might justify a review of the health and safety plan.
- G4.6.2 The contractor shall provide any sub-contractor who is submitting a tender or appointed to perform a sub-contract falling within the scope of the contract, with the relevant sections of this specification and associated specification data which might be pertinent to the sub-contract.
- G4.6.3 The contractor shall take reasonable steps as are necessary to ensure:
- a) co-operation between all sub-contractors to enable each of those sub-contractors to comply with the requirements of the Act and associated regulations; and
 - b) that each sub-contractor's health and safety plan is implemented.
- G4.6.4 The contractor shall conduct periodic audits for compliance with the approved health and safety plan of each and every sub-contractor working on the site at intervals agreed upon with such contractors, but at least once per month.
- G4.6.5 The contractor shall stop any contractor from executing construction work which is not in accordance with the contractor's or subcontractor's health and safety plan for the site or which poses a threat to the health and safety of persons.
- G4.6.6 The contractor shall ensure that where changes to the works occur, sufficient health and safety information and appropriate resources are made available to the subcontractor to execute the work safely.
- G4.6.7 The contractor shall ensure that:
- a) every subcontractor is registered and in good standing with the compensation fund or with a licensed compensation insurer prior to work commencing on site;
 - b) potential subcontractors submitting tenders have made provision for the cost of health and safety measures during the construction process; and
 - c) every subcontractor has in place a documented health and safety plan prior to commencing any work on site which falls within the scope of the contract.
- G4.6.8 The contractor shall receive, discuss and approve health and safety plans submitted by subcontractors.
- G4.6.9 The contractor shall ensure that all subcontractors are informed regarding any hazard as stipulated in the risk assessment before any work commences, and thereafter at such times as may be determined in the risk assessment.
- G4.6.10 The contractor shall reasonably satisfy himself that all employees of subcontractors are informed, instructed and trained by a competent person regarding any hazard and the

related work procedures before any work commences, and thereafter at such times as may be determined in the risk assessment.

The contractor shall satisfy himself and ensure that all subcontractor employees deployed in the site are:

- a) informed, instructed and trained by a competent person regarding any hazard and the related work procedures before any work commences, and thereafter at such times as may be determined in the risk assessment; and
- b) issued with proof of health and safety induction training issued by a competent person and carry proof such induction when working on site.

G4.7 Reporting of incidents

The contractor shall notify the employer's representative of any incident as soon as possible after it has occurred and report such incidence to an inspector.

G4.8 Administration

G4.8.1 Notification of intention to commence construction work

The contractor shall notify the Provincial Director of Labour in writing using a form similar to that contained in Annexure A of the Construction Regulations issued in terms of the Act before construction work commences and retain a copy of such notification in the health and safety file where such work:

involves the demolition of a structure exceeding a height of 3m;

involves the use of explosives to perform construction work;

involves the dismantling of fixed plant at a height greater than 3m;

exceeds 30 days or will involve more than 300 person days of construction work; and includes:

- i) excavation work deeper than 1m; or
- ii) working at a height greater than 3 m above ground or a landing.

G4.8.2 Health and safety file

G4.8.2.1 The contractor shall maintain on site a health and safety file on site which contains copies of the following, as relevant:

- a) the notification made to the Provincial Director of Labour in terms of 4.4.1;
- b) the letters of appointment of health and safety representatives;
- c) the minutes of all health and safety meetings;
- d) a comprehensive and updated list of all the subcontractors (nominated, selected or domestic) employed on site by the contractor, indicating the type of work being performed by such sub-contractors;
- e) a copy of each and every subcontract agreement;.
- f) the contractor's health and safety plan;
- g) the health and safety plans of all the contractor's subcontractors who are required to provide such plans;

- h) the recommendations made to the contractor by the health and safety committee referred to in 4.2.3
- i) any report made to an inspector by the health and safety committee referred to in 4.2.3; and
- j) the findings of all audit reports made regarding the implementation of the contractor's or a subcontractor's health and safety plan;
- k) proof that the contractor and every subcontractor is registered and in good standing with the compensation fund or with a licensed compensation insurer;
- l) the inputs of the safety officer, if any, into the health and safety plan;
- m) a copy of risk assessments made by competent persons;
- n) details of induction training conducted whenever it is conducted;
- o) proof of all subcontractor's induction training whenever it is conducted;
- p) letters of appointments for competent persons to supervise prescribed activities;
- q) proof of the following where suspended platforms are used:
 - i) a certificate of system design issued by a professional engineer, professional certificated engineer or a professional engineering technologist;
 - ii) proof of competency of erectors;
 - iii) proof of compliance of operational design calculations with requirements of the system design certificate;
 - iv) proof of performance test results;
 - v) sketches indicating the completed system with the operational loading capacity of the platform;
 - vi) procedures for and records of inspections having been carried out;
 - vii) procedures for and records of maintenance work having been carried out;
 - viii) proof that the prescribed documentation has been forwarded to the provincial director;
- r) records of the register of inspections made by a competent person immediately before and during the placement of concrete or any other load on formwork; and
- s) the names of the first aiders on site and copies of the first aid certificates of competency.

G4.8.2.2 The health and safety file shall be made available for inspection by any inspector, subcontractor, employer's representative, employer's agent, health and safety representative or employee of the contractor upon the request of such persons.

G4.8.2.3 The contractor shall hand over the health and safety file to the employer upon completion of the contract together with a record of all drawings, designs, materials used and other similar information concerning the completed structure.

G4.9 First aid, emergency equipment and procedures

The contractor shall where more than five employees are employed at a workplace, provide a first aid box or boxes at or near the workplace which shall be available and accessible for the treatment of injured persons at that workplace. Such first aid boxes shall contain suitable first aid equipment.

The contractor shall ensure that where there are more than 10 employees employed on the site that for every group of up to 50 employees at that workplace, at least one person is readily available during normal working hours, who is in possession of a valid certificate of competency in first aid.

G1005 MEASUREMENT AND PAYMENT

<i>Item</i>	<i>Unit</i>
G10.1 Contractor's initial obligations in respect of the Occupational Health and Safety and Construction Regulations	Lump Sum

Payment of the lump sum tendered shall include full compensation for all costs resulting from the Contractor's initial obligations complying with Occupational Health and Safety Act and its Construction Regulations and requirements in terms of health and safety requirements in respect of the contract as specified.

The full amount will be paid in one instalment only once:-

- (a) The contractor has notified the Provincial Director of the Department of Labour in writing of the project.
- (b) The contractor has made the required initial appointments of employees and sub-contractors.
- (c) The client has approved the contractor's Health and Safety Plan.
- (d) The contractor has set up his Health and Safety File.

<i>Item</i>	<i>Unit</i>
G10.2 Contractor's time related obligations in respect of the Occupational Health and Safety Act and Construction Regulations	Month

The tendered monthly amount shall represent full compensation for that part of the Contractor's general obligations in terms of the Occupational Health and Safety Act and the Construction Regulations which are mainly a function of time. This includes inter alia payment of all costs for the appointment of all staff contemplated in the construction regulations and the transport of employees on site. Payment will be monthly only after payment for Item G10.1 has been made.

The lump sum tendered will be payable monthly instalments in relation to the month under consideration and the total time of the completion of the Works.

C3.5.2 ENVIRONMENTAL SPECIFICATIONS

This part of C3.5 Management contains specifications for Environmental matters not covered by C3.4 Construction Specifications.

The number of each clause and each payment item in this specification is prefixed with an H to differentiate these clauses and items.

SECTION H1000 : ENVIRONMENTAL MANAGEMENT**CONTENTS**

H1001	SCOPE	234
H1002	ENVIRONMENTAL MANAGEMENT PLAN	234
H1003	REHABILITATION	238
H1004	EMERGENCY PLANS	238
H1005	ENVIRONMENTAL AUDITING AND PENALTIES.....	238
H1006	MEASUREMENT AND PAYMENT	239

H1001 SCOPE

The Contractor is required to comply with the requirements of the detailed EMP (to be provided upon award of contract) throughout construction.

The following are standardised additional specifications applicable. They are intended to assist the appointed Contractors to fulfill the environmental requirements of the project. The objective of the EMP is to ensure that the potential impacts upon the environment are minimised, and that upon completion of each section of work the area is left in a clean and sustainable condition.

Overall the environmental impacts of the project are considered to be low as long as the listed procedures are followed. These are given in the EMP.

The Contractor is advised that there are cost implications to the EMP and these must be factored into the tendered price.

H1002 ENVIRONMENTAL MANAGEMENT PLAN**H2.1 Objectives**

The prime objective of the EMP is to minimise or avoid significant environmental impacts by using a pro-active approach and planning procedures.

The second objective is to have a plan in place to rehabilitate areas that have been impacted upon and, thirdly,

To have a plan in place for emergency situations that arise and are detrimental to the environment e.g. fuel or bitumen spills.

The Contractor will be responsible for the day-to-day implementation of the EMP, by himself and all other sub-contractors. During the course of construction regular compliance audits will be undertaken. This environmental auditing will be conducted by qualified environmental practitioners.

H2.2 Environmental Control

The Contractor will oversee the environmental aspects of the construction phase of the project in consultation with the Engineer.

The Contractor will report back to the bi-weekly site meetings with regards to compliance to the environmental specifications.

H2.3 Environmental Awareness Programme

The Engineer will implement an Environmental Awareness Programme for the Contractor, his staff, sub-contractors and all people working on the project. The initial session will be immediately prior to construction commencing.

H2.4 Method Statements

The Contractor shall submit written method statements for activities that are identified by the Engineer, as being potentially harmful to the environment, or for work that is to be undertaken in areas identified as being environmentally sensitive.

Such activities include dewatering of excavations, pumping, working with cement, erection of construction camps and fuel stores, etc.

The Method Statement shall cover applicable details with regard to:

- construction procedures,
- materials and equipment to be used,
- getting the equipment to and from site,
- how the equipment/ material will be moved while on site,
- how and where material will be stored,
- the containment (or action to be taken if containment is not possible) of leaks or spills of any liquid or material that may occur,
- timing and location of activities,
- compliance/ non-compliance with the Specifications, and
- any other information deemed necessary by the Engineer.

Method statements shall be submitted at least 7 days prior to commencing work on the activity to give the Engineer time to study the method statement and consult with contractor and specialists and to obtain written approval of the method statements. The Contractor shall not commence on that activity until such time as the method statement has been agreed to in writing by the Engineer. This will be done within this 10 day period.

Any changes required to the method statements once construction has commenced must be agreed upon in writing with the Engineer before being instituted.

H2.5 Working Areas

Regardless of the extent of the work, the following applies to all of these areas:

- All materials must be stockpiled or stored in a designated area (at each site) avoiding sensitive areas.
- No materials must be left on site once work is completed neither may they be dumped at any other place on site.
- Litter bins and containers for waste materials must be provided by the Contractor at each site. Bins should be weatherproof and scavenger proof.
- All waste must be placed in the bins and containers. No waste may be left lying on the site.
- Visible anti-litter signs must be displayed around the waste collection points and all employees must be encouraged to observe site rules pertaining to solid waste management practices. A concerted

effort should be made to collect and dispose of materials suitable for recycling, separately from the other solid waste.

- No burning or burial of waste is permitted.
- Any soils contaminated by the contractor must be removed or rehabilitated. If a significant amount of soil has to be removed fresh soil must be imported and the site rehabilitated by grading and planting vegetation.
- All waste must be removed to an authorised landfill site, or taken to a facility for recycling.
Any excess road building materials must either be:
 - taken to a site for stockpiling and future re-use,
 - (ii) used for localised rehabilitation, or
 - (iii) removed from site by the contractor for disposal.
- The contractor shall provide waste bins for solid waste collection and storage. Such bins should be placed at designated areas within the site. The refuse collected from the site must be removed for landfill disposal at least once a week.
- Vehicles may not park in the road reserve except with the prior permission of the Engineer.
- Every care should be taken to avoid damaging vegetation or land when vehicles are in use.
- Fuel tanks, pumps, and all equipment using oil, diesel, etc. must have drip trays. The drip trays must have sufficient capacity to contain liquids that will spill in the case of failure of the tanks, etc. The waste liquids taken from the trays must be disposed of at a landfill which permits disposing of liquid wastes.
- Only emergency repairs to vehicles and equipment may take place on site. Where emergency repairs take place it is the responsibility of the contractor to ensure that all waste (e.g. spare parts and oils) are removed from site as soon as possible. All other repairs must take place at a yard off-site, where facilities are suitable and waste facilities are appropriate.
- Whenever practical a tarpaulin should be laid down, prior to emergency repairs taking place, to protect the environment from contamination.
- No natural vegetation may be gathered, removed or destroyed in the course of the project, except where agreed to by the landowner.
- No hunting is permitted.
- Fires are prohibited.
- Erosion control measures must be implemented if the need arises.
- Pollution of water courses by any means must be avoided.
- No defacement of any natural or other features will be allowed; this includes markings for road works, unless markings are restricted to the road surface.
- Dust suppression measures should be implemented if and when required.
- Chemical toilets must be provided at all sites and must be within walking distance of the workers. They must be serviced on a regular basis in order to be kept clean and hygienic. The toilets must be placed in a sheltered place and should be locked after working hours if they are outside a camp area. Alternative arrangements to use existing toilets with owners' written consent may be allowed when submitted in writing.
- All waste from toilets must be disposed of at a permitted landfill or waste treatment works.

H2.6 On-site Workers Camp

H2.6.1 Site Camp

The campsite selection should be carried out in consultation with the landowner or relevant authority.

The site must be selected with due regard to the environment. Due care should be taken to avoid areas where sensitive vegetation and habitats occur.

When the site selection process has been completed, the contractor will define the boundaries of the site and erect a fence with a controlled access around it if practical.

All activities associated with the camp must be restricted to the demarcated area.

It is the responsibility of the contractor to ensure the safety of all personnel within the boundaries of the site. The contractor should have an on-site contingency plan detailing measures to be observed in the case of a health, safety or environmental emergency.

The contractor should ensure that all employees, employed by him and/or employed by subcontractors, have a clear understanding of safety regulations and procedures.

H2.6.2 Water, wastewater, and stormwater

Site occupants must have access to safe drinking water.

If water is stored on site a clear distinction should be made between drinking water and multi-purpose water storage facilities.

All water used on site must be taken from a legal source and comply with recognised standards for potable and other uses.

Wastewater that is contaminated with soaps, detergents and other undesirable materials, such as grease and oils, should be collected in conservancy tanks and disposed of safely in a wastewater treatment facility.

It is illegal to discharge water into a public stream if the quality does not conform with required health standards.

In all camps stormwater must be managed to prevent erosion.

Run-off will be diverted to control ponds so that silt may settle and any pollutants are trapped.

Subsequently, any pollutants must be treated, or removed and disposed of at a permitted landfill site or recycling facility.

All materials should be protected from the rain to prevent them being washed into stormwater channels.

H2.6.3 Ablution Facilities

The contractor shall provide proper and adequate sanitary facilities for all site employees.

These facilities shall be maintained in good and working condition at all times. Odours emanating from these facilities should be controlled within acceptable levels.

H2.6.4 Fires and Cooking Facilities

Fires will not be allowed.

The contractor must supply cooking facilities that are suitable for the environment and are not liable to cause the outbreak of fires. Fire fighting equipment must be supplied by the Contractor at suitable locations.

H2.7 Plant and Equipment Storage Facility**H2.7.1 Plant**

At the end of the shift all plant should be driven or transported back to the campsite for proper and safe overnight storage.

The contractor should ensure that equipment left elsewhere is stored in a manner that will not impact negatively upon the environment.

The plant should be regularly inspected for fuel and oil leaks that may be harmful to the environment, and/or aquatic life if washed into a stream or river.

H2.7.2 Hazardous Materials

Hazardous materials should be stored under lock and key in designated areas with properly displayed and visible warning signs.

All storage of hazardous materials must comply with legislation and regulations.

H1003 REHABILITATION

Upon completion of each section of work the site must be cleared of all equipment, waste and any rehabilitation work must be undertaken. This may include local grading of soils and re-vegetation where sites have been disturbed.

Immediately after the demolition of the campsite, the contractor shall restore the site to its original state, paying particular attention to its appearance relative to the general landscape.

It is imperative that any potential erosion problems are addressed. This may require subsequent site visits to monitor the efficacy of erosion control measures.

H1004 EMERGENCY PLANS

The onus is on the contractor to assess the potential risks to the environment as a result of the project. For example, accidental spillage of materials may pollute the soil or any water body.

The contractor must draw up a suitable emergency plan to contain such pollution. The emergency plans and procedures must be taught to all the workers on site, so that everyone is prepared to cope with an emergency.

Appropriate equipment must be available to carry out the emergency plans.

H1005 ENVIRONMENTAL AUDITING AND PENALTIES

On a regular basis, a qualified auditor will carry out a site audit to ascertain and verify the contractor's level of compliance with the requirements of the EMP

Transgression will be treated as a contravention of the contractual agreement.

Deviation from these prescribed requirements will be met with penalties that are intended to enforce compliance.

It is a requirement that the contractor keep concise records of mitigatory measures undertaken at each site to minimise environmental impacts.

Any emergency situations that impact upon the environment should be recorded by the contractor together with the action that was taken to rehabilitate and remediate the site.

A copy of all completed environmental audits will be given to the contractor and the employer by the auditor.

Any public complaints regarding the environment must be recorded and discussed with the Engineer to determine an appropriate course of action.

The contractor will be responsible for all costs incurred in the rehabilitation of sites.

The contractor will be responsible for all costs incurred where emergency procedures are implemented to deal with accidents that impact upon the environment.

The contractor will be responsible for ensuring that all procedures required to rehabilitate all sites are implemented.

If third parties are called to the site to perform clean up and rehabilitation procedures, the contractor will be responsible for all costs.

Penalties will be imposed for contravention of the EMP, as specified in the EMP:

H1006 MEASUREMENT AND PAYMENT

<i>Item</i>	<i>Unit</i>
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H10.1 Contractor's obligations in respect of Environmental Management	Lump Sum
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Payment of the lump sum tendered shall include full compensation for all costs resulting from the Contractor's initial obligations complying with the requirements in respect of the environmental management plan as specified. The full amount will be paid in one instalment as provided in the Bills of Quantity.

<i>Item</i>	<i>Unit</i>
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H10.2 Contractor's time related obligations in respect of Environmental Management.....Month

The tendered monthly amount shall represent full compensation for that part of the Contractor's general obligations in terms of the environmental management plan which are mainly a function of time. This includes inter alia payment of all costs for the appointment of all staff contemplated in the construction regulations and the transport of employees on site. Payment will be monthly only after payment for Item H10.1 has been made.

The lump sum tendered will be payable monthly in instalments in relation to the month under consideration and the total time of the completion of the Works.

PART C4
SITE INFORMATION

C4 Site Information

C4.1 Scope of Site Information

**PART C5
ANNEXURES**

TENDER DRAWINGS

The work shall be carried out in accordance with the following drawings which form part of these contract documents:

BILL OF QUANTITIES

KGETLENGRIVIER LOCAL MUNICIPALITY

APPOINTMENT OF PROFESSIONAL CONTRACTOR FOR THE REFURBISHMENT OF BOREHOLES AND INSTALLATION OF A NEW WATER TREATMENT PLANT IN REDIRILE AND DERBY(TWO FINANCIAL YEARS PROJECT)

SECTION 1: PRELIMINARY AND GENERAL

DESCRIPTION			UNIT	QUANTITY	RATE	AMOUNT
	SABS 1200A	SECTION 1 : PRELIMINARY AND GENERAL (THIS PROJECT WILL BE IMPLEMENTED IN THREE FINANCIAL YEARS)				
1,1	8,3	FIXED-CHARGED ITEMS				
1.1.1	8.3.1	Contractual requirements.	Sum	1		
	8.3.2	Establishment of facilities on the site:				
1.1.2	8.3.2.1	(A) Facilities for Engineer				
1.1.3		(a) Engineers office (No 1)	Sum	1		
1.1.4	PSA 8.3.2.1	(b) Engineers survey and other equipment (including calls by engineer for the duration of the project, Laptop, Digital Camera, etc)	Prov Sum	1	R135 000,00	R135 000,00
1.1.5		(c) Engineers telephone and facsimile	Prov Sum	1	R22 500,00	R22 500,00
	PSB 8.3.2.1	(d) Accommodation for the engineer - for the duration of the project	Prov Sum - months	16	R6 000,00	R96 000,00
		Extra over: Profit on 1.1.4 & 1.1.5	%	R253 500,00		
1.1.12	8.3.2.2	(B) Facilities for the Contractor				
		(a) Offices and storage sheds	Sum	1		
1.1.13		(b) Workshops	Sum	1		
1.1.14		(c) Ablution and Latrine facilities	Sum	1		
1.1.15		(d) Tools and equipment	Sum	1		
1.1.16		(e) Water supplies and electric power and communications	Sum	1		
1.1.17	PSA 5.5	(f) Dealing with water (see sub-clause 5.5)	Sum	1		
1.1.18		(g) Access (see sub-clause PSA 5.8)	Sum	1		
1.1.19		(h) Plant	Sum	1		
1.1.20		C)Facilities for Project Engineer: Furnished Offices	Sum	1		
1.1.21	PSA 8.3.3	Other fixed-charged obligations:	Sum	1		
1.1.22	8.3.4	Removal of Site Establishment	No.	2		
1.1.23		Restablishment of Site	No.	1		
		HEALTH AND SAFETY AND ENVIRONMENTAL				
	PS 8.1	The preparation of risk assessments, safe work procedures, the health & safety plan and EMP implementation. Provision of personal protection equipment and clothing and any other health and safety matters according to the specifications for the duration of the contract period.	Sum	1		
1,2	8,4	TIME-RELATED ITEMS				
1.2.1	8.4.1	Contractual requirements	Month	16		
	8.4.2	Operation and maintenance of Facilities on Site for duration of construction, except where otherwise stated.				
CARRIED FORWARD						

BROUGHT FORWARD						
	PSA 8.4.2.1	A) Facilities for Engineer				
1.2.2		(a) Engineers office (No 1)	Month	16		
1.2.3		(c) Engineers Working equipment and tools	Month	16		
1.2.4		(d) PSC and CLO Office	Month	16		
1.2.5	8.3.2.1	(e) Meeting room (No 1)	Month	16		
1.2.6		(f) Parking (No 4)	Month	16		
1.2.7		(g) Name board (No 4)	Month	16		
1.2.8		(h) Communication	Month	16		
1.2.9		(i) Survey assistants, equipment and material	Month	16		
1.2.10	PSAB4.2	Maintain computer facilities complete with printer, modem, consumables and call costs.	Month	16		
	8.4.2.2	B) Facilities for Contractor				
1.2.11		(a) Offices and storage sheds	Month	16		
1.2.12		(b) Workshops	Month	16		
1.2.13		(c) Ablution and Latrine facilities	Month	16		
1.2.14		(d) Tools and equipment	Month	16		
1.2.15		(e) Water supplies and electric power and communications	Month	16		
1.2.16		(f) Dealing with water (see sub-clause 5.5)	Month	16		
1.2.17		(g) Access (see sub-clause PSA 5.8)	Month	16		
1.2.18		(h) Plant	Month	16		
	PSA 8.4.3	Supervision for duration of Construction	Month	16		
1.2.20	PSA8.4.7	On-site security	Month	16		
		Health and Safety				
	PSA 8.4.6	Full compliance with Health and safety matters for the duration of the works including completion and updating of a Health and Safety file	Month	16		
CARRIED FORWARD						

BROUGHT FORWARD						
1,3	8,5	PROVISIONAL SUMS STATED BY ENGINEER				
	PD2.3	a) Community liasing officer/s (CLO/s)				
1.3.1	PD2.3.1(a)	i) CLO/s salary (R6000-00/month)	Prov Sum	1	R96 000,00	R96 000,00
1.3.4		b) Overheads charges and profit on item (a) above (max.10%)	%	R96 000		
1.3.5		c) Skills training	Prov Sum	1	R150 000,00	R150 000,00
1.3.6		d) Overheads charges and profit on item (c) (max.10%)	%	R150 000,00		
1,4	8,8	TEMPORARY WORKS				
	8.8.4	Existing Services				
1.4.1		a) Excavation by hand in all material to expose existing services	m³	375		
1.4.2		b) Temporary protection of services	Prov Sum	1	R50 000,00	R50 000,00
1,5		ACCOMODATION OF TRAFFIC				
	SANS 1200D	Road Traffic Signs and Markings				
1.5.1		a) Accomodation of traffic and maintenance of by passes	No.	2		
1.5.2		b) Existing roads used as bypasses	m	25000		
		c) Temporary traffic control				
1.5.3		i) Flagmen	p/m-day	704		
1.5.4		ii) Portable Stop and Go signs	No	4		
1.5.6		iv) Road signs, TR-series	No	8		
1.5.10		viii) Movable barricades / road sign combination	No	4		
1,6	8,7	DAYWORKS				
		a) Labour				
1.6.1		i) Site Agent	hours	1		
1.6.2		ii) Qualified artisan/s	hours	1		
1.6.3		iii) Qualified mechanic/s	hours	1		
1.6.4		iv) Foreman, leader hand/s	hours	1		
		b) Planthire: Work rates on Site				
1.6.7		i) Tipper truck/s (size 5.5m^3)	hours	1		
CARRIED FORWARD						

BROUGHT FORWARD						
1.6.8		ii) Flatbed truck/s (7 ton)	hours	1		
1.6.9		iii) LDV/s	hours	1		
1.6.10		iv) Tractor loader backhoe (TLB)	hours	1		
		Excavator	Hours	1		
		Water Cart	Hours	1		
		Roller	Hours	1		
1.6.11		v) Pedestrian roller/s	hours	1		
1.6.12		vi) Concrete mixer/s	hours	1		
		d) Planthire: Transport cost to and from Site (Distance shall be measured one way only. Tenderer's rates shall include for transport both to and from site)				
1.6.23		i) Low-bed truck/s (suitable for the transport of the	km	1		
1.6.24		ii) Tipper truck/s (size: 5.5m ³)	km	1		
1.6.25		iii) Flat-bed truck/s (size: 7ton)	km	1		
1.6.26		vi) LDV/s	km	1		
1.6.27		v) Concrete-mixer/s (small-towable)	km	1		
1.6.28		viii) Chain-saw	km	1		
		e) Labour intensive				
1.6.29		i) Pick-axe	day	1		
1.6.30		ii) Shovel	day	1		
1.6.31		iii) Bucket (+/- 20ml)	day	1		
1.6.32		iv) Wheelbarrow	day	1		
TOTAL CARRIED FORWARD TO SUMMARY						

KGETLENGRIVIER LOCAL MUNICIPALITY

REFURBISHMENT OF BOREHOLES AND INSTALLATION OF A NEW WATER TREATMENT PLANT IN REDIRILE, DERBY (TWO FINANCIAL YEARS PROJECT)

SECTION 2 : WATER SUPPLY PIPELINES

ITEM	DESCRIPTION		UNIT	QUANTITY	RATE	AMOUNT
3.		<u>WATER SUPPLY PIPELINES</u>				
3.1	SABS					
3.1.1	1200DB	<u>EARTHWORKS (Pipe trenches)</u>				
		<u>SITE CLEARANCE</u>				
	8.3.1a	(a) Clear vegetation and trees of girth up to 1 m	m ²	270		
	8.3.1b	(b) Clear trees of girth over 1 m	no	2		
	8.3.1c	(c) Remove topsoil (150 mm depth)	m ²	270		
3.1.2	SABS					
3.1.2.1	120)DB	<u>Excavation</u>				
	8.3.2a	Excavation in all materials for trenches for 200 mm nominal diameter pipes and smaller. Rates include backfill, compact and disposal of surplus and unsuitable material.				
		(a) Up to 1,5 m deep	m	108		
		(b) Over 1,5 m up to 2,5 m deep (Provisional)	m	72		
3.1.2.2	8.3.2b	<u>Extra-over item for 3.1.2.1</u>				
		(a) Intermediate excavation (Prov.)	m ³	40,32		
		(b) Hard rock excavation (Prov.)	m ³	60,48		
3.1.2.3	8.3.2c	Excavate and disposal of unsuitable material from trench bottom (Prov.)	m ³	108		
3.1.2.4	8.3.3.1b	Import backfill material from designated borrow pits (Prov.)	m ³	14		
3.1.2.5	8.3.3.2	Opening up and closing down of designated borrow pit	ha	1		
3.1.2.6	8.3.3.3	Compaction in road reserve	m ³	60		
3.1.2.7	8.3.3.4	<u>Overhaul</u>				
		(a) Limited overhaul (0,5 to 1,0 km) (Prov.)	m ³	40		
		(b) Long overhaul (Prov.)	m ³ /km	80		
3.1.2.8	8.3.4.a	Shore trench opposite structure or service	m	70		
3.1.2.9		<u>Existing services that intersect or adjoin a pipe trench</u>				
	8.3.5a	(a) Services that intersect a trench	no	20		
	8.3.5b	(b) Services that adjoin a trench	m	180		
CARRIED FORWARD						

BROUGHT FORWARD							
3,2	SABS	<u>BEDDING (pipes)</u>					
3.2.1	1200LB	<u>Supply only of bedding by importation</u>					
3.2.2.1	8.2.2.1	<u>From other necessary excavations (Prov.)</u>					
		(a) Selected granular material	m³	25,92			
		(b) Selected fill material	m³	103,68			
3.2.2.2	8.2.2.2	<u>From borrow pits (Prov.)</u>					
		(a) Selected granular material	m³	12,96			
		(b) Selected fill material	m³	51,84			
3.2.2.3	8.2.2.3	<u>From commercial sources (Prov.)</u>					
		(a) Selected granular material	m³	7,776			
		(b) Selected fill material	m³	31,104			
3.2.3	8.2.3	Concrete bedding cradle class 20/19	m³	14,4			
3.2.4	8.2.4	Encasing of pipes in concrete class 20/19	m³	3,6			
3.2.5	8.2.5	Overhaul of material for bedding cradle and selected fill blanket (Prov.)	m³/km	600			
3,3	SABS	<u>MEDIUM PRESSURE PIPELINES</u>					
3.3.1	1200L	<u>uPVC Pressure Pipes and Fittings</u>					
3.3.1.1	8.2.1	Supply, lay, bed and test the following uPVC pressure pipes (conforming with SABS 946 Part 1 specifications) in 6m lengths, each pipe fitted at one end with socket for Mechanical jointing, in the following diameters:					
		(a) 90 mm dia Class 12	m	90			
		(b) 75 mm dia Class 12	m	54			
		(c) 63 mm dia Class 12	m	36			
3,5	SABS	<u>ANCHOR/THRUST BLOCKS AND PEDESTALS</u>					
3.5.1	8.2.11	Concrete thrust block					
		(a) Concrete volume	m³	3			
3.5.2		Pipeline marker	no	20			
3,7		<u>MARK-UP RATES</u>					
3.7.2		(a) Percentage mark-up on rates listed on term contracts.	%	R5 000,00			
		(b) Percentage mark-up on items approved by the client or his representative with attached invoices for material used.	%	R5 000,00			
3,8	PSA 15	<u>Tip Trucks</u>					
		(a) 6 m3	h	60			
		(b) 10 m3	h	60			
3,9	PSA 15	<u>Flat Bed Trucks</u>					
		(a) 5t	km	300			
		(b) 7t	km	300			
3,10	PSA 15	<u>LDV</u>					
		(a) 2 x 4WD	km	800			
		(b) 4 x 4WD	km	800			
2.2.6	PSJ	<u>TESTING MATERIALS AND WORKMANSHIP</u>					
		Other special tests requested by the Engineer:					
		(a) Cost of testing	PC Sum	1		R200 000,00	R200 000,00
		(b) Charge on Prime Cost Sum	%	R200 000,00			
TOTAL CARRIED FORWARD TO SUMMARY							

KGETLENGRIVIER LOCAL MUNICIPALITY

APPOINTMENT OF PROFESSIONAL CONTRACTOR FOR THE REFURBISHMENT OF BOREHOLES AND INSTALLATION OF A NEW WATER TREATMENT PLANT IN REDIRILE AND DERBY (TWO FINANCIAL YEARS PROJECT)

SECTION 3 : PUMPHOUSES CONSTRUCTION

ITEM		DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
15.		<u>PUMPHOUSE INSTALATION FOR BOREHOLES</u>				
15,1	SABS					
15,1	1200C	<u>SITE CLEARANCE</u>				
15.1.1	8.2.1	Clear and grub site	m ²	250		
15.1.2	8.2.2	<u>Remove and grub large trees and stumps of girth:</u>				
		(a) Over 1 m and up to and including 2 m	no	1		
		(b) Over 2 m and up to and including 3 m	no	1		
15.1.3	8.2.4	Reclear surfaces (only on instructions from the Engineer)	m ²	250		
15.1.4	8.2.5	<u>Take down existing fences</u>				
		(a) Stockproof fence	m	1		
		(b) Security fence	m	288		
15.1.5	8.2.7	Dismantle and remove pipelines with internal diameter up to 150 mm	m	120		
15.1.6	8.2.8	<u>Demolish and remove concrete structures:</u>				
		(a) Unreinforced	m ³	2		
		(b) Reinforced	m ³	11,97		
		c) Masonry brick wall	m ³	10,37		
		d) Shack (Zink wall)	m ²	258,79		
15.1.7	8.2.9	Transport materials and debris to unspecified sites and dump	m ³ /km	22,32		
15,2	SABS					
15,2	1200 DA	<u>EARTHWORKS (SMALL WORKS)</u>				
15.2.1	8.3.2	<u>Restricted excavation</u>				
		a) Excavate for restricted foundations, footings and trenches in all materials and use for backfill or dispose	m ³	21,76		
		b) <u>Extra-over item 15.2.1a for:</u>				
		(i) intermediate excavation	m ³	8,70		
		(ii) hard rock excavation	m ³	13,06		
15.2.2	8.3.3	<u>Overhaul</u>				
		(a) Limited overhaul	m ³ /km	2		
		(b) Long overhaul	m ³ /km	30		
15.2.3	8.3.4	Importing of materials from borrow pits	m ³	30		
15.2.4	8.3.5	Topsoiling	m ²	300		
CARRIED FORWARD						

BROUGHT FORWARD						
15,3	SABS	<u>CONCRETE (ORDINARY BUILDINGS)</u>				
15.3.1	1200GB	Formwork				
15.3.1.1	8.2.1	a)	<u>Rough</u>			
			(i) Horizontal	m ²	1	
			(ii) Vertical	m ²	1	
		b)	<u>Normal</u>			
			(i) Horizontal	m ²	1	
			(ii) Vertical	m ²	1	
		c)	<u>Special smooth, rubbed</u>			
			(i) Horizontal	m ²	108,00	
			(ii) Vertical	m ²	106,20	
15.3.1.2	8.2.2	<u>Narrow widths</u>				
			(a) Up to 300 mm	m	1	
			(b) Exceeding 300 mm up to and including 600 mm	m	1	
15.3.2	8.2.4	<u>Reinforcement</u>				
		a)	Mild steel bars	t	1	
		b)	High tensile steel bars	t	1	
		c)	<u>Welded mesh</u>			
			(i) ref. 193	m ²	149,76	
			(ii) ref. 245	m ²	1	
			(iii) ref. 395	m ²	136,8	
15.3.3	8.2.5	<u>Concrete</u>				
15.3.3.1		Prescribed mix 1:3:6 (38)				
				m ³	2	
15.3.3.2		<u>Strength mix (general works)</u>				
		a)	Class 15/19	m ³	2,43	
		b)	Class 20/19	m ³	1	
		c)	Class 25/19	m ³	47,81	
		d)	Class 30/19	m ³	1	
CARRIED FORWARD						

BROUGHT FORWARD						
15.3.3.3		Strength mix Class 25/19 to pumphouse floor, pump and engine foundations.				
		a) Concrete floor 3000 x 3000 x 150 mm	no	1		
		b) Diesel engine foundation block (including formwork and anchor bolts)				
		i) Size 2300 x 800 x 600 mm	no	1		
		ii) Up to 5 kW max.	no	1		
		iii) From 6 kW to 25 kW	no	1		
		c) Electric motor foundation block (including formwork and anchor bolts)				
		i) Size 600 x 600 x 600 mm (up to 7 kW max.) (anchor bolts dia. M12 x 200 mm long)	no	1		
		ii) Size 800 x 800 x 600 mm (from 8 kW to 22 kW (5 anchor bolts dia M16 x 215 mm long)	no	1		
15.3.3.4		Blinding layer in class 15/19 concrete	m ³	0,8748		
15.3.3.5	8.2.6	<u>Unformed concrete surface finishes</u>				
		a) Wood-floated finish	m ²	32,4		
		b) Steel-floated finish	m ²	75,6		
		c) Power-floated finish	m ²	1		
15,4		<u>BRICKWORK (STRECHERBOND)</u>				
15.4.1		<u>Foundation walling with clay bricks type NFX to SABS 227-1986 in:</u>				
		(a) 230 mm walls	m ²	1		
		(b) 345 mm walls	m ²	1		
15.4.2		<u>Walling with clay stock bricks type NFP to SABS 227-1986 in:</u>				
		a) 115 mm walls	m ²	1		
		b) 230 mm walls	m ²	248,4		
		c) 345 mm walls	m ²	1		
15.4.3		<u>Walling with clay face bricks to SABS 227-1986 in:</u>				
		a) <u>Type FBA</u>				
		(i) 115 mm walls	m ²	1		
CARRIED FORWARD						

BROUGHT FORWARD						
		(ii) 230 mm walls	m ²	1		
	b)	<u>Type FBX</u>				
		(i) 115 mm walls	m ²	1		
		(ii) 230 mm walls	m ²	1		
	c)	<u>Type FBS</u>				
		(i) 115 mm walls	m ²	1		
		(ii) 230 mm walls	m ²	1		
15.4.4		<u>Extra-over items 15.4.1, 15.4.2 and 15.4.3 for building</u>				
15.4.4.1		<u>in of miscellaneous walling materials:</u>				
		<u>Brickforce in the following widths</u>				
	a)	75 mm	m	1		
	b)	150 mm	m	1620		
	c)	225 mm	m	1		
15.4.4.2		<u>Wire ties</u>				
	a)	Butterfly type wire tie	no	1		
	b)	Modified PWD type wire tie	no	1		
15.4.4.3		<u>Mild steel (non-coiled) round bars</u>				
	a)	6 mm dia	m	1		
	b)	8 mm dia	m	1		
15.4.4.4		<u>Precast concrete lintels:</u>				
	a)	110 mm wide	m	48		
	b)	225 x 50 mm cross section	m	1		
	c)	225 x 75 mm cross section	m	1		
15.4.4.5		<u>Damp proof sheeting to SABS 952-1985</u>				
	a)	375 micron polyolefin water proof sheeting under floor slabs & other positions instructed by the Engineer	m ²	117		
	b)	375 micron polyolefin water proof sheeting in walls and window cills:				
		i) 110 m wide	m	1		
		waterproof	m ²	240		
		ii) 225 mm wide	m	94,77		
		iii) 375 mm wide	m	1		
15.4.4.6		<u>Soft board</u>				
	a)	<u>Plain</u>				
		(i) 10 mm thick	m ²	1		
		(ii) 13 mm thick	m ²	1		
CARRIED FORWARD						

BROUGHT FORWARD						
15.4.4.7		b) <u>Bitumen impregnated</u> (i) 10 mm thick	m ²	1		
15.4.4.8		Galvanised hoop iron	m	1		
		<u>Galvanised wire</u>				
		a) 4 mm dia in 50 kg rolls	no	5		
		b) 3,15 mm dia in 50 kg rolls	no	1		
15.4.5		<u>Extra-over items 15.4.1, 15.4.2 and 15.4.3 for forming of wall joints:</u>				
		a) 10 mm square raked joint, measured per square metre of walling	m ²	1		
		b) 10 mm square raked and tooled joint, measured per square metre of walling	m ²	1		
	9	SANS Building Mortar 2001 -				
	9,1	CMI: 2007 Class I mortar: Large batches				
		a) Using common cement complying with SANS 50197 (1:3,7)				
		i) Cement	kg	1		
		ii) Sand	m ³	1		
		b) Using masonry cement complying with SANS 50413 class MC 22,5X or MC 12,5. Do not use class MC 12,5X. (1:1,96)				
		i) Cement	kg	1		
		ii) Sand	m ³	1		
	9,2	Class I mortar: Small batches				
		a) Using common cement complying with SANS 50197 (1:3,5)				
		i) Cement	kg	1		
		ii) Sand	m ³	1		
		b) Using masonry cement complying with SANS 50413 class MC 22,5X or MC 12,5 SANS 50413 (1:2)				
		i) Cement	kg	9676,8		
		ii) Sand	m ³	13,55		
	10.	LOUVRE FLSH-2.6-6.0SQM FLSH-0.53-AZ200: THUNDERSTORM - COLORPLUS or similar	no	20		
	11	1000 x 1200mm STEEL DOOR or similar	no	10		
15,5		<u>MODULAR PUMPHOUSE</u>				
15.5.1		Remove old pumphouse and store temporarily for re-installation	no	10		
15.5.2		Install removal pump house	no	10		
15.5.3		Supply and install complete new modular pumphouse in compliance with plan nos. 125 815/97 ME and 125 816/97 ME	no	9		
15.5.4		Supply 50 mm padlock wit set of 3 keys	set	10		
15.5.5		Supply and install precision made RSJ frame for pump and engine to plan 125 815/97 ME and 125 816/97 Me, complete with a anchor bolt (500 mm long with 100 mm hook, diameter M20)				
		(a) Small diesel engine - frame size 500x2100x350 mm	set	10		
		(b) Medium engines - frame size 600 x 2100 x 350 mm	set	10		
CARRIED FORWARD						

BROUGHT FORWARD						
15,6		(c) Large engines - frame size 1000 x 2100 x 650 mm	set	10		
		<u>TAPSTANDS</u>				
		(a) Stand pipes - single type to Drw No. 125 836/97 ME	no	10		
15,7		<u>NAME PLATES</u>				
		Supply and installation of name plates	set	10		
15,9	PSA15	<u>Tip Trucks</u>				
		(a) 6 m ³	h	1		
		(b) 10 m ³	h	50		
15,1	PSA15	<u>Flat Bed Trucks</u>				
		(a) 5t	km	1		
		(b) 7t	km	200		
15,11	PSA15	<u>LDV</u>				
		(a) 2 x 4WD	km	3000		
		(b) 4 x 4WD	km	1		
TOTAL CARRIED FORWARD TO SUMMARY						

KGETLENGRIVIER LOCAL MUNICIPALITY
APPOINTMENT OF PROFESSIONAL CONTRACTOR FOR THE REFURBISHMENT OF BOREHOLES AND INSTALLATION OF A NEW WATER TREATMENT PLANT IN REDIRILE
AND DERBY (TWO FINANCIAL YEARS PROJECT)

SECTION 4: PUMPS AND RELATED WORKS

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
4	BOREHOLEPUMP WORKS				
	Supply and commissioning, installation and testing of Borehole pump equipment complete with electric wiring and connection and controls. All units are to be made good and neat in accordance to manufacturers specification.				
4.1	(PUMPS, VALVES, OUTLET PIPES, ETC)				
4.1.1	Pump				
4.1.1.1	SP1A-14 Outlet = 32mm Pump only: HEAD of 58m , FLOW of 0,2l/sec submersible. All internals of wet-end will be stainless steel\brass. Electrical motor will be stainless steel. Complete with corrosion protection.	no	1		
4.1.1.2	SP1A-14 Outlet = 32mm Pump only: HEAD of 47m , FLOW of 0,2l/sec submersible. All internals of wet-end will be stainless steel\brass. Electrical motor will be stainless steel. Complete with corrosion protection.	no	1		
4.1.1.3	SP3A-18 Outlet = 32mm Pump only: HEAD of 78m , FLOW of 0,7l/sec submersible. All internals of wet-end will be stainless steel\brass. Electrical motor will be stainless steel. Complete with corrosion protection.	no	1		
4.1.1.4	SP3A-21 Outlet = 32mm Pump only: HEAD of 68m , FLOW of 0,3l/sec submersible. All internals of wet-end will be stainless steel\brass. Electrical motor will be stainless steel. Complete with corrosion protection.	no	1		
4.1.1.5	SP5A-21 Outlet = 32mm Pump only: HEAD of 90m , FLOW of 1.0l/sec submersible. All internals of wet-end will be stainless steel\brass. Electrical motor will be stainless steel. Complete with corrosion protection.	no	3		
4.1.1.6	SP7A-23 Outlet = 32mm Pump only: HEAD of 90m , FLOW of 1.5l/sec submersible. All internals of wet-end will be stainless steel\brass. Electrical motor will be stainless steel. Complete with corrosion protection.	no	1		
4.1.1.7	SP3A-15 Outlet = 32mm Pump only: HEAD of 68m , FLOW of 0,75l/sec submersible. All internals of wet-end will be stainless steel\brass. Electrical motor will be stainless steel. Complete with corrosion protection.	no	1		
4.1.1.8	SP5A-12 Outlet = 32mm Pump only: HEAD of 51m , FLOW of 1,15l/sec submersible. All internals of wet-end will be stainless steel\brass. Electrical motor will be stainless steel. Complete with corrosion protection.	no	1		
4.1.2	Motor				
4.1.2.1	Electrical Submersible Motor 4: 0,37 kW , Single phase, 230V, 50Hz Mains frequency stainless steel casing. Complete with corrosion protection.	no	1		
4.1.2.2	Electrical Submersible Motor 4: 0,37 kW , Single phase, 230V, 50Hz Mains frequency stainless steel casing. Complete with corrosion protection.	no	1		
4.1.2.3	Electrical Submersible Motor 4: 1,1 kW , Single phase, 380V, 50Hz Mains frequency stainless steel casing. Complete with corrosion protection.	no	1		
4.1.2.4	Electrical Submersible Motor 4: 0,55 kW , Single phase, 380V, 50Hz Mains frequency stainless steel casing. Complete with corrosion protection.	no	1		
4.1.2.5	Electrical Submersible Motor 4: 2,2 kW , Single phase, 380V, 50Hz Mains frequency stainless steel casing. Complete with corrosion protection.	no	1		
4.1.2.6	Electrical Submersible Motor 4: 3 kW , Single phase, 380V, 50Hz Mains frequency stainless steel casing. Complete with corrosion protection.	no	3		
4.1.2.7	Electrical Submersible Motor 4: 1,1 kW , Single phase, 380V, 50Hz Mains frequency stainless steel casing. Complete with corrosion protection.	no	1		
4.1.2.8	Electrical Submersible Motor 4: 1,1 kW , Single phase, 230V, 50Hz Mains frequency stainless steel casing. Complete with corrosion protection.	no	1		
4.1.4	Safety Steel Wire Rope 6mm Galv (100m Roll)	no	10		
4.1.5	Submersible Cable 1.5mm2x4core	no	10		
4.1.6	MX1 Cable Joining Kit	no	10		
4.1.7	HDPE 50mm PIPE PN10 (100m Roll)	no	10		
4.1.8	Compression Male Adaptors	no	20		
4.1.9	Baseplate Galvanized 50mm	no	10		
4.1.10	SURFACE PIPEWORK IN THE PUMPHOUSE as per drawing, diameter is 50mm:				
	a) Standard 90° Bend FBE	no	10		
	b) Vent O MAT Airvalv	no	10		
	d) Standard TEE	no	30		
	e) Pressure Gauge	no	10		
	f) Puddle Flange	no	10		
	g) Kent Water Meter or similar	no	10		
	h) Non Return Valve	no	10		
	i) Gate Valve	no	10		
	j) Delivery pipe with Flange Connector	no	10		
	k) High density polyethylene (HDPE) PE100, 50mm diameter				
	1) Class PN10 for borehole depths up to 60m and,	m	550		
	2) Class PN12,5 for borehole depth deeper than 60m	m	550		
TOTAL CARRIED TO SUMMARY					

SECTION 5: BOREHOLES (1 to 3)

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
4	<u>BOREHOLES (1 to 3)</u>				
4,1	<u>Control Panel</u> Supply, installation, connections, testing and handing over in working order of board with switchgear including punching of cable holes brackets and bolts for fixing, board 1.6mm stainless steel, powder coated electric orange for borehole starter panels. Equipment in accordance with Consulting Engineers Standard Electrical Quality Specification for pump stations. Panel to be weatherproof and mounted at 1m to underside on pumphouse structure or on galvanised stand, if required. Outer door (with seal) and padlock handle required and inner faceplate hinged and locked with square key locks. DIRECT ON LINE STARTER(DOL) 240V. Equipment as follows: .01 40A circuit breaker - main .02 30A circuit breaker - motor .03 15kW Soft starter with overload protection .04 3 x LED (MDA22) pilot lights on cable end - cable alive indicator .05 Start & Stop buttons and start & stop indicating LED's Complete Assembly	no	3		
4,3	<u>Low Voltage PVC Cables</u> Supply, installation and testing of 600/1000 V PVC PVC SWA PVC cable ends including glands, lugs, bolts, nuts, connections, heat shrink sleeves on cores, complete 10mm ² 2-core cable	m	150		
	10mm Bare copper earth wire	m	150		
4,4	<u>Cable terminations</u> 10mm ² 2-core cable	no	12		
	10mm Bare copper earth wire	no	12		
4,5	<u>Other</u> Making provision for the required inspection, tests and the	sum	3		
4,6	<u>Excavation and Trenching</u> Excavation and backfilling in soft soil	m ³	18		
	Excavation and backfilling in hard rock	m ³	9		
TOTAL CARRIED TO SUMMARY					

SECTION 6: BOREHOLES (4 to 10)

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
4	<u>BOREHOLES (4 to 10)</u>				
4,1	<u>Control Panel</u>				
	Supply, installation, connections, testing and handing over in working order of board with switchgear including punching of cable holes brackets and bolts for fixing, board 1.6mm stainless steel, powder coated electric orange for borehole starter panels. Equipment in accordance with Consulting Engineers Standard Electrical Quality Specification for pump stations. Panel to be weatherproof and mounted at 1m to underside on pumphouse structure or on galvanised stand, if required. Outer door (with seal) and padlock handle required and inner faceplate hinged and locked with square key locks. SOFT STARTER 380V.				
	Equipment as follows:				
	.01 40A circuit breaker - main				
	.02 30A circuit breaker - motor				
	.03 22kW Soft starter with overload protection				
	.04 3 x LED (MDA22) pilot lights on cable end - cable alive indicator				
	.05 Start & Stop buttons and start & stop indicating LED's				
	Complete Assembly	no	7		
4,3	<u>Low Voltage PVC Cables</u>				
	Supply, installation and testing of 600/1000 V PVC PVC SWA PVC cable ends including glands, lugs, bolts, nuts, connections, heat shrink sleeves on cores, complete				
	10mm ² 4-core cable	m	150		
	10mm Bare copper earth wire	m	150		
4,4	<u>Cable terminations</u>				
	10mm ² 4-core cable	no	14		
	10mm Bare copper earth wire	no	14		
4,5	<u>Other</u>				
	Making provision for the required inspection, tests and the	sum	7		
4,6	<u>Excavation and Trenching</u>				
	Excavation and backfilling in soft soil	m ³	72		
	Excavation and backfilling in hard rock	m ³	27		
TOTAL CARRIED TO SUMMARY					

KGETLENGRIVIER LOCAL MUNICIPALITY

APPOINTMENT OF PROFESSIONAL CONTRACTOR FOR THE REFURBISHMENT OF BOREHOLES AND INSTALLATION OF A NEW WATER TREATMENT PLANT IN REDIRILE AND DERBY (TWO FINANCIAL YEARS PROJECT)

SECTION 7: MV ELECTRICAL INSTALLATION

Item	Description	Unit	Quantity	Rate	Amount
	MV ELECTRICAL INSTALLATION				
	Supply and install all items listed below as per Eskom standards				
1	Pegging out the works				
1,1	MV Pegging - excl bush clearing and tree felling	m	150		
2	Digging of Holes				
2,1	MV stay back-actor or hand	each	6		
2,2	MV strut back-actor or hand	each	1		
2,3	9m Pole back-actor or hand	each	3		
2,4	11m Pole back-actor or hand	each	6		
3	Plant Poles				
3,1	9m Wood 160-180mm tops	each	3		
3,2	11m Wood 160-180mm tops	each	6		
4	MV Structures				
4,1	T-off ass int vert	each	3		
4,2	Terminal ass vert	each	3		
5	MV Stays				
5,1	1 Off conv anchor	each	6		
5,2	1 Off strut pole 9m	each	1		
6	Conductor ACSR				
6,1	Fox Conductor	m	400		
6,2	MV Fox full tension joint	each	6		
7	Transformer Installation				
7.1	25kVA 22kV/400V pole mounted transformer complete with structures, poles and accessories	each	3		
7.2	Drop-out fuses three phase	each	3		
7.3	Surge Arrestors three phase	each	3		
7.4	Neutral Surge Arrestor	each	3		
7.5	63Amp Fuse	each	3		
7.5	16kVA Pole mounted Kiosk, Eskom specification	each	3		
7.6	2.5m wooden cross arm	each	3		
7.7	3.5m wooden cross arm	each	3		
8	<u>Low Voltage PVC Cables</u>				
8,1	16mm ² 4 core PVC SWA Cable	m	100		
8,2	10mm ² Bare Copper Earth Wire	m	100		
	<u>Terminations:</u>				
8,3	16mm ² core PVC SWA Cable	No	10		
8,4	10mm ² Bare Copper Earth Wire	No	10		
9	Installation of Earthing				
9,1	LV Earthing (Type 1 crowfoot)	each	3		
9,2	MV Earthing (Type 1 Mcrowfoot)	each	3		
10	Pole Numbering				
10,1	MV pole number	each	6		
11	Commissioning				
11,1	Test & commission trsf and MV equipment	each	6		
12	Provisional Amounts				
12,1	Allowance for Surveyor	sum	1		
12,2	Eskom Security and connection fee	sum	1		
TOTAL CARRIED TO SUMMARY					

SECTION 8 - WATER PURIFICATION SYSTEM

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
8	<u>WATER PURIFICATION SYSTEM - DISINFECTION</u>				
8,1	<u>GROUND WATER TREATMENT PACKAGE PLANT</u> Supply, installation/construction, connections, testing and handing over, Ground water treatment package plant including power supply for the capacity of 6 l/s as per Engineer's approval.	Prov Sum	1	R 1 610 000,00	R 1 610 000,00
	Overheads charges and profit on item (c) (max.10%)	%	R 1 610 000,00		
TOTAL CARRIED TO SUMMARY					

KGETLENGRIVIER LOCAL MUNICIPALITY

APPOINTMENT OF PROFESSIONAL CONTRACTOR FOR THE REFURBISHMNET OF BOREHOLES AND INSTALLATION OF A NEW WATER TREATMENT PLANT IN REDIRILE AND DERBY(TWO FINANCIAL YEARS PROJECT)

SECTION 9 - SUMMARY

SUMMARY OF BILL OF QUANTITIES		
DESCRIPTION	AMOUNT	
SECTION 1: PRELIMINARY AND GENERAL	R	
SECTION 2 : WATER SUPPLY PIPELINES	R	
SECTION 3 : PUMPHOUSES CONSTRUCTION	R	
SECTION 4 : PUMPS AND RELATED WORKS	R	
SECTION 5 : ELECTRICAL WORKS SINGLE PHASE	R	
SECTION 6 : ELECTRICAL WORKS THREE PHASE	R	
SECTION 7 : MV RETICULATION	R	
SECTION 8 : WATER PURIFICATION SYSTEM	R	
9.1: SUB-TOTAL 1	R	
9.2: CCONTINGENCIES (10% of Construction Cost)	R	
9.3: CONTRACT PRICE ADJUSTMENT (2,5% of Construction Cost - CPA)	R	
9.4: SUB-TOTAL 2	R	
9.5: Add 15% VAT	R	
9.6: TOTAL	R	