



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

CONTRACT NO: RLM/RWST/OMM/0102/2024/25

RE-ADVERT: APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK PIPELINE

AUGUST 2025

VOLUME 1: T1 TENDERING PROCEDURES, T2 RETURNABLE DOCUMENTS, C1 AGREEMENT AND CONTRACT DATA, C2 PRICING DATA, C3 SCOPE OF WORKS (EXCLUDING PARTICULAR SPECIFICATIONS, HEALTH AND SAFETY SPECIFICATIONS AND ENVIRONMENTAL MANAGEMENT PLAN)

NAME OF BIDDER:

BID PRICE: (VAT Incl.)

Prepared by:

**RUSTENBURG WATER SERVICES TRUST
1A KOCK STREET
RUSTENBURG
0300**

BID CLOSES: 27 August 2025 at 10:00



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

PARTICULARS OF THE BIDDER	
NAME OF THE BIDDING OR TENDERING COMPANY	
POSTAL ADDRESS	
	POSTAL CODE
STREET ADDRESS (PHICAL ADDRESS)	
	POSTAL CODE
NAME OF COMPANY REPRESENTATIVE	
E-MAIL ADDRESS	
TELEPHONE NUMBER (TELKOM LINE)	
CIDB CRS NUMBER	
CELLPHONE NUMBER	
ALTERNATE CELLPHONE NO.	
CENTRAL SUPPLIER DATABASE NUMBER OF THE BIDDING COMPANY	

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

INDEX/TABLE OF CONTENTS

DOCUMENT NAME ABBREVIATION	DOCUMENT NAME/DESCRIPTION	
BPL	BID PROCESS CRITERIA LIST (TENDERING PROCEDURES)	
BN (T1.1)	BID NOTICE (TENDER NOTICE AND INVITATION TO TENDER)	
	SPECIFICATIONS	
	FUNCTIONALITY	
	AUTHORITY OF SIGNATORY	
MBD 1	INVITATION TO BID (PART A)	
	PART B	
MBD 4	DECLARATION OF INTEREST	
MBD 5	DECLARATION FOR PROCUREMENT ABOVE R10 MILLION (ALL APPLICABLE TAXES INCLUDED)	
MBD 6.1	PREFERENCE CLAIM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS	
MBD 8	DECLARATION OF ABUSE OF SUPPLY CHAIN MANAGEMENT SYSTEM	
MBD 9	CERTIFICATE OF INDEPENDENT BID DETERMINATION	
T1.2	TENDER DATA	
T1.3	STANDARD CONDITIONS OF TENDER	
T2.1	LIST OF RETURNABLE DOCUMENTS	
T2.3	TECHNICAL SCHEDULES	
C1	AGREEMENT AND CONTRACT DATA	

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

C2	PRICING DATA	
C3	SCOPE OF WORK	

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

BID PROCESS CRITERIA LIST

**RLM/RWST/OMM/0102/2024/25 - RE-ADVERT:
APPOINTMENT OF A CONTRACTOR FOR THE
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

**TENDERING PROCEDURES:
DOCUMENT COMPLETION INSTRUCTION AND RETURNABLE SCHEDULE**

A bid not complying with the requirements stated hereunder will be regarded as an “Unacceptable bid”, and as such will be rejected.

“Unacceptable bid” means any bid which, in all respects, does not comply with the conditions of bid and specifications as set out in the bid documents, including conditions as specified in the Preferential Procurement Policy Framework Act (Act 5 of 2000) and related legislation as published in Government Gazette number 22549, dated 10 August 2001, in terms of which provision is made for this policy.

Important information to note:

1. Bidder should not remove any page from the bid document or submit a copy of the original bid document.
2. The bid document should not be completed using a pencil or any other colour ink. Only black ink must be used to complete the bid document. Only tick the appropriate option. Please be informed that whether you scratch out, tick or circle, your answer will be where the pen ink is reflecting.
3. The bid should be properly signed by the designated signatory contained in the tender document.
4. The bidder should not attempt to influence the evaluation and/or awarding of the contract.
5. The bid should not submit after the relevant closing date and time.
6. Failure to complete and sign and / or disclose wrong information in any of the declaration forms will result in an “Unacceptable bid”.
7. Compulsory questionnaires must be fully completed and signed.
NB! In the case of Joint Venture separate compulsory questionnaire forms must be completed and submitted.
8. The bidder must in the case of Joint Venture submit separate MBD 5 forms for each partner.
9. In the case of multi directors or joint venture, the bidder must submit separate MBD 4 declaration forms for each director.
10. Bid documents must be in envelopes that clearly marked with the bid number and description.
11. Bidders are not allowed to use correction pens. In a case where a wrong answer is ticked, a straight line must be made across the wrong answer, then initial next to the mistake and a correct answer must be ticked or provided in writing.
12. Bidder must be registered with Central Supplier Database (CSD)
13. The bidder must attach the following documents:
 - A valid proof of payment with the relevant reference number as stipulated in the tender advertisement.
 - Required CIDB Grading Certificate where applicable.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:

CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

- The authority of signatory (printed on bidder's letter head) if the tender is a CIDB related project.
- A copy of a valid signed Joint Venture/Consortium agreement (if applicable) to the bid document.
- **Municipal rates and taxes statements of the directors**
 - ✓ Current municipal rates and taxes statement in the names of the director (from the previous month determined by the date of tender closure) for each directors' address must be attached; or
 - ✓ Valid lease agreement of the director/s with all critical contractual obligations (i.e Lease period, use of premises, lessors' responsibilities, leases' possibilities, amounts related to the lease, address of the leased premises, signatures etc) or,
 - ✓ An original letter from tribal authority not older than three (3) months if the director/s are residing in a tribal land, or
 - ✓ If the rates and taxes account is not in the names of the director/s the attached municipal rates and taxes statement must be submitted together with an original affidavit from the property owner whose names are appearing on the municipal rates and taxes statement to confirm that the director resides in their property.
- **Municipal rates and taxes statements of the company**
 - ✓ Current municipal rates and taxes statement in the name of the company (from the previous month determined by the date of tender closure) for the company's' address must be attached; or
 - ✓ Valid lease agreement of the company (showing all critical contractual obligations (i.e Lease period, use of premises, lessors' responsibilities, leases' possibilities, amounts related to the lease, address of the leased premises, signatures etc), or
 - ✓ An original letter from a tribal authority not older than three (3) months if the company is operating from a tribal, or
 - ✓ If the rates and taxes account is not in the names of the company, the attached municipal rates taxes statement must be submitted together with an original affidavit from the property owner whose names are reflecting on the municipal rates and taxes statement to confirm that the company operates from their property.

NB!!

The company address written on the tender document and statement submitted must be the same as the one reflected on the CSD report.

- ✓ **For procurement expected to be less than 10 million, awards will not be made to bidders owing municipal rates and taxes for over 90 days at the time of tender closure.**
- ✓ **For procurement expected to be more than 10 million, awards will not be made to bidders owing municipal rates and taxes for over 30 days at the time of tender closure.**

14. The bidder must comply with the following:

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:

CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

- Bidders must submit both a hard copy document and an electronic tender document in the form of a USB (only) which must be clearly marked with the company name. (Bidders will be disqualified for not submitting a USB containing the scanned bidding documentation)

VERIFICATION OF DOCUMENTS AND INFORMATION.

- Please note that by submitting this tender document, you are agreeing to the verification process of your supporting documents by the Rustenburg Local Municipality.
- Tax compliance status will be verified using CSD number. (For a bidder to be considered for final award, their status must reflect “tax compliance” before final award is made)
- CIDB Grading will be verified.
- Sworn Affidavits will be accepted only if its originals submitted.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

BID NOTICE

RLM/RWST/OMM/0102/2024/25 - RE-ADVERT: APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

TENDER ADVERTISEMENT

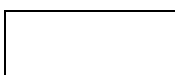
BID NUMBER: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT

COMPULSORY BRIEFING SESSION: 29 July 2025 at 10:00 at Bospoort Portion 4 of Tweedepoort 283 JQ 25°33'42.21"S
27°20'57.05"E (Bospoort Treatment Plant)

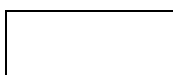
CLOSING DATE: 27 August 2025 at 10H00

DESCRIPTION	DOC. FEES (NON-REFUNDABLE)	EVALUATION CRITERION	ENQUIRIES
Re-advert: Appointment of a contractor for the construction of the Bospoort Bulk Pipeline	TENDER DOCUMENT AMOUNT R5 000.00 REFERENCE NUMBER: 0102+Company name BANK NAME Standard Bank ACCOUNT NUMBER: 033 054 657 Bidders who previously bought the tender document must attach their previous Proof of Payment. Payment will be verified	❖ Administrative evaluation (document completion and attachment of mandatory documents) to include all necessary certifications. ❖ CIDB Grading of 9CE or higher ❖ Functionality minimum qualifying score of 70 out of maximum of 100 points ❖ 90/10 preferential point system (price = 90 & Specific goals = 10) NB! That no other evaluation criterion should be used	TECHNICAL Mr. C van Eck 012 842 8706 Coenie.vaneck@bigengroup.com And Mr. M. Lekukela Mpho.lekukela@rwst.co.za SCM Ms. J. Masinga 014 590 3123 jmasinga@rustenburg.gov.za

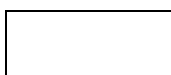
1. Bid documents must be in a sealed packaging clearly marked with the bid number and description, must be placed in the bid box in the foyer of the Municipal offices, Missionary Mpheni House, Beyers Naude Drive, Rustenburg not later than the prescribed closing date, where after the bids will be opened in public at the Municipal offices.
2. All bids will be evaluated in accordance with the Supply Chain Policy of the Rustenburg Local Municipality, PPPFA 2022 and other related legislations. Bids will remain valid for 90 days.
3. The lowest or any bid will not be necessarily accepted, and the municipality reserves the right to accept the whole or part of any bid. The municipality reserves the right to increase or decrease quantities as indicated in the technical specifications. A market analysis conducted will be taken into consideration to ensure right procurement and quality service delivery.
4. Tender submission must comply with the instruction note (Tender Completion and Attachment of Mandatory Documents) as well as all other additional tendering conditions and requirements stated in the tender document.



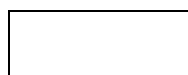
Employer



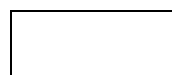
Witness 1



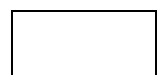
Witness 2



Contractor



Witness 1



Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

5. No bids will be considered from any person(s) in the service of the state (as defined in Regulation 1 of Local Government: Municipal Supply Chain Management Regulations).
6. Objections or complaints must be submitted in writing to the Municipal Manager at the address stated, and must contain the following:
 - (a) reasons and/or grounds for the objection or complaint.
 - (b) the way in which the objector or complainant's rights have been affected; and
 - (c) the remedy sought by the objector or complainant
7. Any objection or complaint must reach the Municipal Manager with a 14-day period after award has been made. Late objections or complaints will not be entertained.
8. Submissions which fail to adhere to all the requirements and instructions stated on this advert, E-tender advert, CIDB Website for CIDB tenders as well as the tender document will lead to disqualification.
9. Should there be any contradictions between the information on the advert and the information in the tender document, then the information on this advert will take precedence.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

SPECIFICATIONS

REFER TO PART C3: SCOPE OF WORK

**RLM/RWST/OMM/0102/2024/25 - RE-ADVERT:
APPOINTMENT OF A CONTRACTOR FOR THE
CONSTRUCTION OF THE BOSPOORT BULK
PIPELINE**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

FUNCTIONALITY

RLM/RWST/OMM/0102/2024/25 - RE-ADVERT: APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

The Bid Evaluation Committee reserves the right to verify all the information provided.

Values: non-submission = 0, 1= Poor, 3 = Good, 5 = Excellent

CRITERIA	WEIGHT	VALUE	SCORE	VERIFICATION METHOD
1. Company Experience				
Previously <u>completed</u> bulk water pipeline projects (construction of steel pipelines with nominal diameter equal or larger than 500 mm and longer than 5 km)	50			Attach appointment and completion certificates per project.
6 and above appointment and completion certificates (Value= 5)				
4-5 appointment and completion certificates (Value = 3)				
2-3 appointment and completion certificates (Value = 1)				
1 appointment and completion certificates (Value = 0)				
2. Key Personnel: Please attach qualifications with comprehensive CV indicating relevant bulk water pipeline construction experience and contactable references				
2.1 Project / Contracts Manager - • A minimum qualification of NQF level 6 (Diploma or Advanced Certificate) in Civil Engineering with a minimum of 10 years post qualification [SAQA accredited] experience • Pipeline construction projects with a minimum value of R 60 million per contract	15			Attach a comprehensive CV with clear experience in the construction of bulk water pipelines
5 projects and above (Value = 5)				
3 - 4 projects (Value = 3)				
2 projects (Value = 1)				
1 project or less (Value = 0)				
2.2 Site agent • A minimum qualification of NQF level 6 (Diploma or Advanced Certificate) in Civil Engineering with a minimum of 10 years post qualification [SAQA accredited] experience • Pipeline construction projects with a minimum value of R 50 million per contract	10			Attach a comprehensive CV with clear experience in the construction of bulk water pipelines
5 projects and above (Value = 5)				
3 - 4 projects (Value = 3)				
2 projects (Value = 1)				
1 project or less (Value = 0)				
2.3 Site Foreman Pipeline construction projects with a minimum value of R 50 million per contract	10			Attach a comprehensive CV with clear experience in the construction of bulk water pipelines
5 projects and above (Value = 5)				
3 - 4 projects (Value = 3)				
2 projects (Value = 1)				
1 project or less (Value = 0)				

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

2.4 Health and Safety Office Minimum qualification of NQF level 6 in Safety Management and Professional registration with OHS SACPCMP		5		3-4 page comprehensive CV with clear experience in the construction of bulk water pipelines	
	5-8 years (Value = 1)				
	9-14 years (Value = 3)				
	> 15 years (Value = 5)				
3. Quality Management Systems		10		Attach proof of valid and up to date accreditation for QMS:	
	Proof attached (Value = 5)				
	No proof attached (Value = 0)				
TOTAL		100			

Calculate the points scored according to the following formula:

$$Ps = \frac{[So]}{Ms} \times Ap$$

Where:

Ps = percentage scored for functionality by the bid under consideration

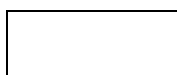
So = total score of bids under consideration, i.e. weight X value = score

Ms = maximum possible score = 500

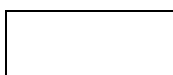
Ap = percentage allocated

$$\text{Total percentage scored by the bidder on functionality: } Ps = \frac{\quad}{500} \times 100 = \quad$$

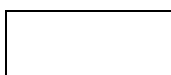
NB: No tender will be regarded as an acceptable tender/responsive if it fails to achieve the minimum qualifying score for functionality of 70 out of a maximum of 100 points.



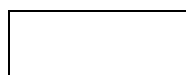
Employer



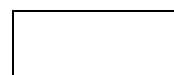
Witness 1



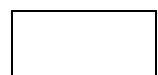
Witness 2



Contractor



Witness 1



Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

AUTHORITY OF SIGNATORY

RLM/RWST/OMM/0102/2024/25 - RE-ADVERT: APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

T2.2.13 Authority of Signatory

With reference to Clause 2.13.4 of the Tender Data, I/we herewith certify that this tender is submitted by: *(Mark applicable block)*

a company, and attach hereto a certified copy of the required resolution of the Board of Directors

☐

a partnership, and attach hereto a certified copy of the required resolution by all partners

☐

a close corporation, and attach hereto a certified copy of the required resolution of the Board of Officials

☐

a one-man business, and attach hereto certified proof that I am the sole owner of the business submitting this tender

☐

a joint venture, and attach hereto

☐

- an notarially certified copy of the original document under which the joint venture was constituted; and
- certified authorisation by the participating members of the undersigned to submit tenders and conclude contracts on behalf of the joint venture

SIGNED ON BEHALF OF TENDERER:

PLEASE NOTE:

Failure to complete all blank spaced on this form or attend to other details mentioned therein will render the Bid liable to rejection.

The signatory shall confirm his/her authority thereto by attaching on the tendering company's letterhead a duly signed and dated copy of the relevant resolution of the board of directors / partners.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

MBD FORMS

RLM/RWST/OMM/0102/2024/25 - RE-ADVERT: APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

MBD 1

PART A
INVITATION TO BID

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE RUSTENBURG LOCAL MUNICIPALITY					
BID NUMBER:	RLM/RWST/OMM/0102/2024/25	CLOSING DATE:	27 AUGUST 2025	CLOSING TIME:	10h00
DESCRIPTION	RE-ADVERT: APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF THE BOSPOORT BULK PIPELINE				
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:					
RUSTENBURG LOCAL MUNICIPALITY					
MISSIONARY MPHENI HOUSE					
CNR BEYERS NAUDE AND NELSON MANDELA DRIVE, RUSTENBURG					
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:	
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 BID PRICE	
TOTAL NUMBER OF ITEMS OFFERED				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:		
CONTACT PERSON	J Masinga	CONTACT PERSON	Coenie van Eck		
TELEPHONE NUMBER	014 590 3123	TELEPHONE NUMBER	012 842 8700		
E-MAIL ADDRESS	N/A	E-MAIL ADDRESS	Coenie.vaneck@bigengroup.com		

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

PART B

TERMS AND CONDITIONS FOR BIDDING

1. BID SUBMISSION:

- 1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.
- 1.2. ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED, COMPLETED WITH A BLACK PEN
- 1.3. THIS BID IS SUBJECT TO THE RLM SUPPLY CHAIN MANAGEMENT POLICY, PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2022, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.

2. TAX COMPLIANCE REQUIREMENTS

- 2.1 BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.
- 2.2 BIDDERS ARE REQUIRED TO SUBMIT THEIR UNIQUE PERSONAL IDENTIFICATION NUMBER (PIN) ISSUED BY SARS TO ENABLE THE ORGAN OF STATE TO VIEW THE TAXPAYER'S PROFILE AND TAX STATUS.
- 2.3 APPLICATION FOR THE TAX COMPLIANCE STATUS (TCS) CERTIFICATE OR PIN MAY ALSO BE MADE VIA E-FILING. IN ORDER TO USE THIS PROVISION, TAXPAYERS WILL NEED TO REGISTER WITH SARS AS E-FILERS THROUGH THE WEBSITE WWW.SARS.GOV.ZA.
- 2.4 FOREIGN SUPPLIERS MUST COMPLETE THE PRE-AWARD QUESTIONNAIRE IN PART B:3.
- 2.5 BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID.
- 2.6 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED; EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.
- 2.7 WHERE NO TCS IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.

3. QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS: (BIDDER MAY NOT BE DISQUALIFIED ON THIS PART IF INDICATED THAT THEY ARE NOT FOREIGN BASED SUPPLIER)

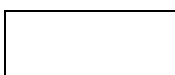
- 3.1. IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)? ☐ YES ☐ NO
 - 3.2. DOES THE ENTITY HAVE A BRANCH IN THE RSA? ☐ YES ☐ NO
 - 3.3. DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA? ☐ YES ☐ NO
 - 3.4. DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA? ☐ YES ☐ NO
 - 3.5. IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION? ☐ YES ☐ NO
- IF THE ANSWER IS "NO" TO ALL OF THE ABOVE, THEN IT IS NOT A REQUIREMENT TO REGISTER FOR A TAX COMPLIANCE STATUS SYSTEM PIN CODE FROM THE SOUTH AFRICAN REVENUE SERVICE (SARS) AND IF NOT REGISTER AS PER 2.3 ABOVE.

NB: FAILURE TO PROVIDE ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID.
NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE.

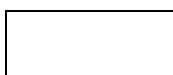
SIGNATURE OF BIDDER:

CAPACITY UNDER WHICH THIS BID IS SIGNED:

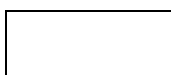
DATE:



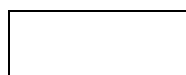
Employer



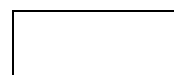
Witness 1



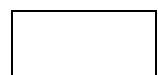
Witness 2



Contractor



Witness 1



Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

PART A
MBD 3.1

PRICING SCHEDULE – FIRM PRICES
(PURCHASES)

NOTE: ONLY FIRM PRICES WILL BE ACCEPTED. NON-FIRM PRICES (INCLUDING PRICES SUBJECT TO RATES OF EXCHANGE VARIATIONS) WILL NOT BE CONSIDERED

IN CASES WHERE DIFFERENT DELIVERY POINTS INFLUENCE THE PRICING, A SEPARATE PRICING SCHEDULE MUST BE SUBMITTED FOR EACH DELIVERY POINT

Name of bidder..... Bid number.....
Closing Time Closing date.....

OFFER TO BE VALID FOR 90 DAYS FROM THE CLOSING DATE OF BID.

ITEM NO.	QUANTITY	DESCRIPTION	BID PRICE IN RSA CURRENCY ** (ALL APPLICABLE TAXES INCLUDED)

-	Required by:	.....
-	At:	.....
		
-	Brand and model	.....
-	Country of origin	.....
-	Does the offer comply with the specification(s)?	*YES/NO
-	If not to specification, indicate deviation(s)	.....
-	Period required for delivery	.....
		*Delivery: Firm/not firm
-	Delivery basis	.....

Note: All delivery costs must be included in the bid price, for delivery at the prescribed destination.

** "all applicable taxes" includes value-added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

**MBD 4
DECLARATION OF INTEREST
(IN CASE OF MULTI DIRECTORS OR JOINT
VENTURE, BIDDERS MUST SUBMIT SEPARATE
MBD 4 DECLARATION FORMS FOR EACH
DIRECTOR)**

**RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK
PIPELINE**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

MBD 4: DECLARATION OF INTEREST



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

No bid will be accepted from persons in the service of the state.

1. Any legal person, including persons employed by the state¹, or persons having a kinship with persons employed by the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid (includes a price quotation, advertised competitive bid, limited bid or proposal). In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons employed by the state, or to persons connected with or related to them, it is required that the bidder or his/her authorised representative declare his/her position in relation to the evaluating/adjudicating authority where-
 - the bidder is employed by the state; and/or

- the legal person on whose behalf the bidding document is signed, has a relationship with persons/a person who are/is involved in the evaluation and or adjudication of the bid(s), or where it is known that such a relationship exists between the person or persons for or on whose behalf the declarant acts and persons who are involved with the evaluation and or adjudication of the bid.

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

2.1. Full Name of bidder or his or her representative:

2.2. Identity Number:

2.3. Position occupied in the Company (director, trustee, hareholder²):

2.4. Company Registration Number:

2.5. Tax Reference Number:

2.6. VAT Registration Number.....

2.7. Personal Reference Tax Number.....

- 2.7.1. The names of all directors / trustees / shareholders members, their individual identity numbers and state employee numbers must be indicated in paragraph 3 below.

¹“State” means –

- (a) any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No. 1 of 1999);
- (b) any municipality or municipal entity;
- (c) provincial legislature;
- (d) national Assembly or the national Council of provinces; or

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

(e) Parliament.

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

2.8. Are you presently in the service of the state?

(Tick applicable box)

YES		NO	

2.8.1. If yes, furnish particulars.

.....

¹MSCM 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.

² Shareholder” 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.

2.9. Have you been in the service of the state for the past twelve months?

(Tick applicable box)

YES		NO	

2.9.1. If yes, furnish particulars.....

.....

2.10. 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?

(Tick applicable box)

YES		NO	

2.10.1. If yes, furnish particulars.....

.....

.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

- 2.11. 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? *(Tick applicable box)*

YES	☐	NO	☐

- 2.11.1. If yes, furnish particulars.....

- 2.12. Are any of the company's directors, trustees, managers, principal shareholders or stakeholders in service of the state?

(Tick applicable box)

YES	☐	NO	☐

- 2.12.1. If yes, furnish particulars.....

- 2.13. Are any spouse, child or parent of the company's directors trustees, managers, principle shareholders or stakeholders in service of the state?

(Tick applicable box)

YES	☐	NO	☐

- 2.13.1. If yes, furnish particulars.....

- 2.14. 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.

(Tick applicable box)

YES	☐	NO	☐

- 2.14.1. If yes, furnish particulars.....

Signature

Date

Capacity

Name of Bidder

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

MBD 5

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

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

RLM/RWST/OMM/0102/2024/25 – RE-ADVERT: CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

MBD 5 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

1.1 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.

.....

.....

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

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

☐ *YES ☐ NO

- 2.1 If no, this serves to certify that the bidder has no undisputed commitments for municipal services towards any municipality for more than three months or other service provider in respect of which payment is overdue for more than 30 days.
- 2.2 If yes, provide particulars.

.....

.....

.....

- 3 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

- 3.1 If yes, furnish particulars

.....

.....

4. Will any portion of goods or services be sourced from outside the Republic, and, if so, what portion of payment from the municipality / municipal entity is expected to be transferred out of the Republic?

☐ *YES ☐ NO

- 4.1 If yes, furnish particulars

.....

.....

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME)

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

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

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

.....
Name/s and Surname of Bidder

.....
Signature

.....
Position in the Firm/Company

.....**2025**
Date

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

MBD 6.1 PREFERENCE POINTS CLAIM FORM

**RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK
PIPELINE**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

**MBD 6.1 PREFERENCE CLAIMED IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS,
2022**

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

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

1. GENERAL CONDITIONS

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

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

1.2 To be completed by the organ of state

- a) The applicable preference point system for this tender is the 90/10 preference point system.
- b) The 90/10 will be applicable in this tender.

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

- (a) Price; and
- (b) Specific Goals.

1.4 To be completed by the organ of state:

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	90
SPECIFIC GOALS	10
Total points for Price and SPECIFIC GOALS	100

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

- 1.5 Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed.
- 1.6 The organ of state reserves the right to require of a tenderer, either before a tender is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the organ of state.

2. DEFINITIONS

- (a) **“tender”** means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation.
- (b) **“price”** means an amount of money tendered for goods or services and includes all applicable taxes less all unconditional discounts.
- (c) **“Rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes.
- (d) **“tender for income-generating contracts”** means a written offer in the form determined by an organ of state in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the organ of state and a third party that produces revenue for the organ of state, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions; and
- (e) **“The Act”** means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1. POINTS AWARDED FOR PRICE

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

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

80/20

or

90/10

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

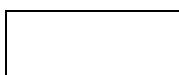
Where

P_s = Points scored for price of tender under consideration

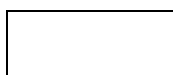
P_t = Price of tender under consideration

P_{min} = Price of lowest acceptable tender

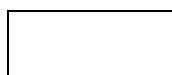
3.2. FORMULAE FOR DISPOSAL OR LEASING OF STATE ASSETS AND INCOME GENERATING PROCUREMENT



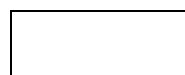
Employer



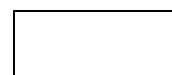
Witness 1



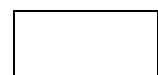
Witness 2



Contractor



Witness 1



Witness 2



3.2.1. POINTS AWARDED FOR PRICE

90/10

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

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

Note to tenderers: *"The tenderer must indicate how they claim points for each preference point system. Points claimed will be verified by RLM using the CSD Report, and preference points will be allocated accordingly. Bidders who fail to complete the table below will NOT be disqualified BUT will not be allocated preference points.*

The specific goals allocated points in terms of this tender	Number of points allocated (90/10 system)	Number of points claimed (90/10 system) (To be completed by the tenderer)	Means of Verification
Rustenburg Jurisdiction	2		Latest (from the previous month determined by the date of tender closure) Municipal Account/Traditional Council letter
Rural /Township Businesses	2		Latest (from the previous month determined by the date of tender closure) Municipal Account/Traditional Council letter
Black People	1		Full CSD Report
Persons with Disability	1		Full CSD Report
Youth	2		Full CSD Report
Women	1		Full CSD Report

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

SMME's	1		Full CSD Report
Total	10		

DECLARATION WITH REGARD TO COMPANY/FIRM

4.3. Name of company/firm.....

4.4. Company registration number:

4.5. TYPE OF COMPANY/ FIRM

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

[TICK APPLICABLE BOX]

4.6. I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I acknowledge that:

- i) The information furnished is true and correct;
- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form.
- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct.
- iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –
 - (a) disqualify the person from the tendering process.
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct.
 - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation.
 - (d) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
 - (e) forward the matter for criminal prosecution, if deemed necessary.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

.....
SIGNATURE(S) OF TENDERER(S)

SURNAME AND NAME:

DATE:

ADDRESS:
.....

MBD 8

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

DECLARATION OF BIDDERS PAST SUPPLY CHAIN MANAGEMENT PRACTICES

**RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK
PIPELINE**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

MBD 8
DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

- 1** This Municipal Bidding Document must form part of all the 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 ☐

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

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

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

MBD 9
CERTIFICATE OF INDEPENDENT BID
DETERMINATION

RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK
PIPELINE

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

MBD 9: CERTIFICATE OF INDEPENDENT BID DETERMINATION



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

- 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. take all reasonable steps to prevent such abuse;
 - b. reject 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. I, the undersigned, in submitting the accompanying bid: **RLM/RWST/OMM/0102/2024/25 – RE-ADVERT: CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**_(Bid Number and Description) in response to the invitation for the bid made by:

RUSTENBURG LOCAL MUNICIPALITY

(Name of Municipality / Municipal Entity)

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): Bidders are required to fill in the name of their company in the space provided above.

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;

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

5. For the purposes of this Certificate and the accompanying bid, I understand that the word “competitor” shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
- (a) has been requested to submit a bid in response to this bid invitation;
 - (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
 - (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder
6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or 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;
 - (e) the submission of a bid which does not meet the specifications and conditions of the bid; or
 - (f) bidding with the intention not to win the bid.
8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
9. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
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.

³ Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

.....
Signature
.....
Position

.....
Date
.....
Name of Bidder

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

CONTENTS LIST

RLM/RWST/OMM/0102/2024/25 - RE-ADVERT: APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

Tender
Part T1: Tendering Procedures

T1.1-8

T1.1
Contents List

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

Contents			
Number	Heading	Volume	Colour
The Tender			
Part T1: Tendering procedures		Volume 1	
T1.1	Tender Notice and Invitation to Tender		White
T1.2	Tender Data		Pink
T1.3	Standard Conditions of Tender		Pink
Part T2: Returnable documents		Volume 1	
T2.1	List of Returnable Documents		Yellow
T2.2	Returnable Schedules		Yellow
T2.3	Technical Schedules	Volume 1	Yellow
The Contract			
Part C1: Agreement and Contract Data		Volume 1	
C1.1	Form of Offer and Acceptance		Yellow
C1.2	Contract Data		Yellow
C1.3	Form of Guarantee		Yellow
C1.4	Occupational Health and Safety Agreement		Yellow
Part C2: Pricing data		Volume 1	
C2.1	Pricing Instructions		Yellow
C2.2	Bills of Quantities		Yellow
C2.2	Summary of Schedules		Yellow
Part C3: Scope of Work		Volume 1	
C3	Scope of Work		Blue
C3.1	Description of Works		Blue
C3.2	Engineering		Blue
C3.3	Procurement		Blue

Tender
Part T1: Tendering Procedures

T1.1-9

T1.1
Contents List

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

C3.4	Construction (Specifications)		Blue
C3.4.1	General Clauses and Requirements		Blue
C3.4.2	Standard Specifications		Blue
C3.4.3	Particular Specifications	Volume 2	Blue
C3.4.4	Variations and Additions to Standard and Particular Specifications	Volume 1	Blue
C3.5	Management		Blue
C3.5.1	Management of the Works		Blue
C3.5.2	Reference to the Scope of Works in Terms of the Occupational Health and Safety Act and Regulations: Health and Safety Specification	Volume 2	Blue
C3.5.3	Environmental Management Plan	Volume 2	Blue
Part C4: Site information		Volume 2	
C4.2	Conditions assessment of existing Bospoort pipeline		Green
C4.1	Geotechnical information		Green
Book of Drawings		Volume 3	

Tender
Part T1: Tendering Procedures

T1.1-10

T1.1
Contents List

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

T1.3 STANDARD CONDITIONS OF TENDER

RLM/RWST/OMM/0102/2024/25 - RE-ADVERT: APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

Tender
Part T1: Tendering Procedure

T1.3-1

T1.3
Standard Conditions of Tender

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

Annexure C: Standard Conditions of Tender as contained in Annex C of the CIDB Standard for Uniformity in Construction Procurement (contained in Government Gazette No. 42622 of 08 August 2019)

T1.3 STANDARD CONDITIONS OF TENDER

1. GENERAL

1.1 Actions

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

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

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

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

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

Tender
Part T1: Tendering Procedure

T1.3-2

T1.3
Standard Conditions of Tender

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

1.2 Tender Documents

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

1.3 Interpretation

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

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

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

- a) **conflict of interest** means any situation in which:
 - i) someone in a position of trust has competing professional or personal interests which make it difficult to fulfill his or her duties impartially;
 - ii) an individual or organisation is in a position to exploit a professional or official capacity in some way for their personal or corporate benefit; or
 - iii) incompatibility or contradictory interests exist between an employee and the organisation which employs that employee.
- b) **comparative offer** means the price after the factors of a non-firm price and all unconditional discounts it can be utilised to have been taken into consideration;
- c) **corrupt practice** means the offering, giving, receiving or soliciting of anything of value to influence the action of the employer or his staff or agents in the tender process;
- d) **fraudulent practice** means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the employer, including collusive practices intended to establish prices at artificial levels;

1.4 Communication and employer's agent

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

Tender
Part T1: Tendering Procedure

T1.3-3

T1.3
Standard Conditions of Tender

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

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

1.5.1 An organ of state may, prior to the award of the tender, cancel a tender if-

- (a) due to changed circumstances, there is no longer a need for the services, works or goods requested; or
- (b) funds are no longer available to cover the total envisaged expenditure; or
- (c) no acceptable tenders are received.

1.5.2 The decision to cancel a tender must be published in the CIDB website and in the government Tender Bulletin for the media in which the original tender invitation was advertised.

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

1.6 Procurement procedures

1.6.1 General

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

1.6.2 Competitive negotiation procedure

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

1.6.2.2 All responsive tenderers, or not less than three responsive tenderers that are highest ranked in terms of the evaluation method and evaluation criteria stated in the tender data, shall be invited in each round to enter into competitive negotiations, based on the principle of equal treatment and keeping confidential the proposed solutions and associated information. Notwithstanding the provisions of 2.17, the employer may request that tenders be clarified, specified and fine-tuned in order to improve

**Tender
Part T1: Tendering Procedure**

T1.3-4

**T1.3
Standard Conditions of Tender**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

a tenderer's competitive position provided that such clarification, specification, fine-tuning or additional information does not alter any fundamental aspects of the offers or impose substantial new requirements which restrict or distort competition or have a discriminatory effect.

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

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

1.6.3 Proposal procedure using the two stage-system

1.6.3.1 Option 1

Tenderers shall in the first stage submit technical proposals and, if required, cost parameters around which a contract may be negotiated. The employer shall evaluate each responsive submission in terms of the method of evaluation stated in the tender data, and in the second stage negotiate a contract with the tenderer scoring the highest number of evaluation points and award the contract in terms of these conditions of tender.

1.6.3.2 Option 2

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

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

2. TENDERER'S OBLIGATIONS

2.1 Eligibility

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

**Tender
Part T1: Tendering Procedure**

T1.3-5

**T1.3
Standard Conditions of Tender**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

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

2.2 Cost of tendering

- 2.2.1 Accept that, unless otherwise stated in the tender data, the employer will not compensate the tenderer for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer complies with requirements.
- 2.2.2 The cost of the tender documents charged by the employer shall be limited to the actual cost incurred by the employer for printing the documents. Employers must attempt to make available the tender documents on its website so as not to incur any costs pertaining to the printing of the tender documents.

2.3 Check documents

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

2.4 Confidentiality and copyright of documents

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

2.5 Reference documents

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

2.6 Acknowledge addenda

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

**Tender
Part T1: Tendering Procedure**

T1.3-6

**T1.3
Standard Conditions of Tender**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

2.7 Clarification meeting

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

2.8 Seek clarification

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

2.9 Insurance

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

2.10 Pricing the tender offer

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

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

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

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

2.11 Alterations to documents

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

**Tender
Part T1: Tendering Procedure**

T1.3-7

**T1.3
Standard Conditions of Tender**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

2.12 Alternative tender offers

- 2.12.1 Unless otherwise stated in the tender data, submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted as well as a schedule that compares the requirements of the tender documents with the alternative requirements that are proposed.
- 2.12.2 Accept that an alternative tender offer may be based only on the criteria stated in the tender data or criteria otherwise acceptable to the employer.
- 2.12.3 An alternative tender offer may only be considered in the event that the main tender offer is the winning tender.

2.13 Submitting a tender offer

- 2.13.1 Submit one tender offer only, either as a single tendering entity or as a member in a joint venture to provide the whole of the works, services or supply identified in the contract data and described in the scope of works, unless stated otherwise in the tender data.
- 2.13.2 Return all returnable documents to the employer after completing them in their entirety, either electronically (if they were issued in electronic format) or by writing legibly in non-erasable ink.
- 2.13.3 Submit the parts of the tender offer communicated on paper as an original plus the number of copies stated in the tender data, with an English translation of any documentation in a language other than English, and the parts communicated electronically in the same format as they were issued by the employer.
- 2.13.4 Sign the original and all copies of the tender offer where required in terms of the tender data. The employer will hold all authorized signatories liable on behalf of the tenderer. Signatories for tenderers proposing to contract as joint ventures shall state which of the signatories is the lead partner whom the employer shall hold liable for the purpose of the tender offer.
- 2.13.5 Seal the original and each copy of the tender offer as separate packages marking the packages as "ORIGINAL" and "COPY". Each package shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.

**Tender
Part T1: Tendering Procedure**

T1.3-8

**T1.3
Standard Conditions of Tender**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

- 2.13.6 Where a two-envelope system is required in terms of the tender data, place and seal the returnable documents listed in the tender data in an envelope marked "financial proposal" and place the remaining returnable documents in an envelope marked "technical proposal". Each envelope shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.
- 2.13.7 Seal the original tender offer and copy packages together in an outer package that states on the outside only the employer's address and identification details as stated in the tender data.
- 2.13.8 Accept that the employer will not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated.
- 2.13.9 Accept that tender offers submitted by facsimile or e-mail will be rejected by the employer, unless stated otherwise in the tender data.

2.14 Information and data to be completed in all respects

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

2.15 Closing time

- 2.15.1 Ensure that the employer receives the tender offer at the address specified in the tender data not later than the closing time stated in the tender data. Accept that proof of posting shall not be accepted as proof of delivery.
- 2.15.2 Accept that, if the employer extends the closing time stated in the tender data for any reason, the requirements of these conditions of tender apply equally to the extended deadline.

2.16 Tender offer validity

- 2.16.1 Hold the tender offer(s) valid for acceptance by the employer at any time during the validity period stated in the tender data after the closing time stated in the tender data.
- 2.16.2 If requested by the employer, consider extending the validity period stated in the tender data for an agreed additional period with or without any conditions attached to such extension.

**Tender
Part T1: Tendering Procedure**

T1.3-9

**T1.3
Standard Conditions of Tender**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

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

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

2.17 Clarification of tender offer after submission

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

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

2.18 Provide other material

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

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

2.19 Inspections, tests and analysis

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

2.20 Submit securities, bonds, policies, etc.

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

Tender
Part T1: Tendering Procedure

T1.3-10

T1.3
Standard Conditions of Tender

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

2.21 Check final draft

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

2.22 Return of other tender documents

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

2.23 Certificates

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

3. THE EMPLOYER'S UNDERTAKINGS

3.1 Respond to requests from the tenderer

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

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

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

**Tender
Part T1: Tendering Procedure**

T1.3-11

**T1.3
Standard Conditions of Tender**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

3.2 Issue Addenda

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

3.3 Return late tender offers

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

3.4 Opening of tender submissions

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

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

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

3.5 Two-envelope system

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

3.5.2 Evaluate functionality of the technical proposals offered by tenderers, then advise tenderers who remain in contention for the award of the contract of the time and place when the financial proposals will be opened. Open only the financial proposals of tenderers, who score in the functionality evaluation more than the minimum number of points for functionality stated in the tender data, and

**Tender
Part T1: Tendering Procedure**

T1.3-12

**T1.3
Standard Conditions of Tender**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

announce the score obtained for the technical proposals and the total price and any points claimed on BBBEE status level. Return unopened financial proposals to tenderers whose technical proposals failed to achieve the minimum number of points for functionality.

3.6 Non-disclosure

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

3.7 Grounds for rejection and disqualification

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

3.8 Test for responsiveness

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

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

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

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

**Tender
Part T1: Tendering Procedure**

T1.3-13

**T1.3
Standard Conditions of Tender**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

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

3.9 Arithmetical errors, omissions and discrepancies

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

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

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

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

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

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

**Tender
Part T1: Tendering Procedure**

T1.3-14

**T1.3
Standard Conditions of Tender**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

3.10 Clarification of a tender offer

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

3.11 Evaluation of tender offers

The Standard Conditions of Tender standardize the procurement processes, methods and procedures from the time that tenders are invited to the time that a contract is awarded. They are generic in nature and are made project specific through choices that are made in developing the Tender Data associated with a specific project. Conditions of tender are by definition the document that establishes a tenderer's obligations in submitting a tender and the employer's undertakings in soliciting and evaluating tender offers. Such conditions establish the rules from the time a tender is advertised to the time that a contract is awarded and require employers to conduct the process of offer and acceptance in terms of a set of standard procedures.

The CIDB Standard Conditions of Tender are based on a procurement system that satisfies the following system requirements:	
Requirement	Qualitative interpretation of goal
Fair	The process of offer and acceptance is conducted impartially without bias, providing simultaneous and timely access to participating parties to the same information.
Equitable	Terms and conditions for performing the work do not unfairly prejudice the interests of the parties.
Transparent	The only grounds for not awarding a contract to a tenderer who satisfies all requirements are restrictions from doing business with the employer, lack of capability or capacity, legal impediments and conflicts of interest.
Competitive	The system provides for appropriate levels of competition to ensure cost effective and best value outcomes.
Cost effective	The processes, procedures and methods are standardized with sufficient flexibility to attain best value outcomes in respect of quality, timing and price, and least resources to effectively manage and control procurement processes.

The activities associated with evaluating tender offers are as follows:

- Open and record tender offers received
- Determine whether or not tender offers are complete
- Determine whether or not tender offers are responsive
- Evaluate tender offers
- Determine if there are any grounds for disqualification
- Determine acceptability of preferred tenderer
- Prepare a tender evaluation report
- Confirm the recommendation contained in the tender evaluation report

Tender
Part T1: Tendering Procedure

T1.3-15

T1.3
Standard Conditions of Tender

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

3.11.1 General

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

3.12 Insurance provided by the employer

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

3.13 Acceptance of tender offer

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

- a) is not under restrictions, or has principals who are under restrictions, preventing participating in the employer's procurement,
- b) can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract,
- c) has the legal capacity to enter into the contract,
- d) is not insolvent, in receivership, under Business Rescue as provided for in chapter 6 of the Companies Act, 2008, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his business activities, or is subject to legal proceedings in respect of any of the foregoing,
- e) complies with the legal requirements, if any, stated in the tender data, and
- f) is able, in the opinion of the employer, to perform the contract free of conflicts of interest.

3.14 Prepare contract documents

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

Tender
Part T1: Tendering Procedure

T1.3-16

T1.3
Standard Conditions of Tender

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

- a) addenda issued during the tender period,
- b) inclusion of some of the returnable documents, and
- c) other revisions agreed between the employer and the successful tenderer.

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

3.15 Complete adjudicator's contract

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

3.16 Registration of the award

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

3.17 Provide copies of the contracts

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

3.18 Provide written reasons for actions taken

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

END OF SECTION

**Tender
Part T1: Tendering Procedure**

T1.3-17

**T1.3
Standard Conditions of Tender**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

T2.1 LIST OF RETUNABLE DOCUMENTS

RLM/RWST/OMM/0102/2024/25 - RE-ADVERT: APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

Tender
Part T2: Returnable Documents

T2.1-1

T2.1
List of Returnable Documents

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

T2.1 List of Additional Returnable Documents

1. Tenderers are required to submit the following with their tenders.
 - (a) Certified copy of a Workmen's Compensation Certificate, Act 4 of 2002,
 - (b) Certified copy of Unemployment Insurance Certificate, Act 4 of 2002,
 - (c) Curriculum vitae of the person who prepares the Contractor's Health and Safety Plan.
 - (d) Curriculum vitae of the Health and Safety Officer the successful tenderer intends appointing in accordance with the Occupational Health and Safety Act (Act 85 of 1993).
 - (e) Curriculum Vitae of all supervisory staff.
 - (f) Contractors Project Quality Plan.
 - (g) Proof of validity and accreditation of its quality management system for the Contractor

END OF SECTION

**Tender
Part T2: Returnable Documents**

T2.1-2

**T2.1
List of Returnable Documents**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

T2.2 RETUNABLE SCHEDULES

RLM/RWST/OMM/0102/2024/25 - RE-ADVERT: APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

Tender
Part T2: Returnable Documents

T2.2-3

T2.2.2
Returnable Schedules

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

T2.2.1: Record of Addenda to tender documents

We confirm that the following communications received from the Employer 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.		

Attach additional pages if more space is required.

Signed

Date

Name

Position

Tenderer

Tender
Part T2: Returnable Documents

T2.2.1-4

T2.2.1
Record of Addenda to Tenders

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

T2.2.2: Compulsory Enterprise Questionnaire

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

Section 1: Name of enterprise:

Section 2: VAT registration number, if any:

Section 3: CIDB registration number, if any:

Section 4: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*

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

Section 5: Particulars of companies and close corporations

Company registration number

Close corporation number

Tax reference number

Section 6: Record of service of the state

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

☐ a member of any municipal council	☐ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999)
☐ a member of any provincial legislature	
☐ a member of the National Assembly or the National Council of Province	☐ a member of an accounting authority of any national or provincial public entity
☐ a member of the board of directors of any municipal entity	☐ an employee of Parliament or a provincial legislature
☐ an official of any municipality or municipal entity	

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

Tender
Part T2: Returnable Documents

T2.2.2-5

T2.2.2
Compulsory Enterprise Questionnaire

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

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

*insert separate page if necessary

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

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

☐ a member of any municipal council	☐ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999)
☐ a member of any provincial legislature	
☐ a member of the National Assembly or the National Council of Province	☐ a member of an accounting authority of any national or provincial public entity
☐ a member of the board of directors of any municipal entity	☐ an employee of Parliament or a provincial legislature
☐ an official of any municipality or municipal entity	

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

*insert separate page if necessary

Tender
Part T2: Returnable Documents

T2.2.2-6

T2.2.2
Compulsory Enterprise Questionnaire

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

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

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

Signed

Date

Name

Position

Tenderer

**Tender
Part T2: Returnable Documents**

T2.2.2-7

**T2.2.2
Compulsory Enterprise Questionnaire**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

T2.2.3: 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	ADDRESS	DULY AUTHORISED SIGNATORY
Lead partner		Signature. Name Designation
		Signature. Name Designation
		Signature. Name Designation
		Signature. Name Designation

Tender
Part T2: Returnable Documents

T2.2.3-8

T2.2.3
Certificate of Authority for Joint Ventures

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

T2.2.4: Schedule of Proposed Subcontractors

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

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

We confirm that all subcontractors who are contracted to construct a house are registered as home builders with the National Home Builders Registration Council.

	Name and address of proposed Subcontractor	Nature and extent of work	Previous experience with Subcontractor.	% Allocation
1.				
2.				
3.				
4.				
5.				

Tender
Part T2: Returnable Documents

T2.2.5-9

T2.2.5
Schedule of Plant and Equipment

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

Signed _____ Date _____
Name _____ Position _____
Tenderer _____

Tender
Part T2: Returnable Documents

T2.2.5-10

T2.2.5
Schedule of Plant and Equipment

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

T2.2.5: Schedule of Plant and Equipment

The following are lists of major items of relevant equipment that I/we presently own or lease and will have available for this contract or will acquire or hire for this contract if my/our tender is accepted.

(a) Details of major equipment that is owned by and immediately available for this contract.

Quantity	Description, size, capacity, etc.

Attach additional pages if more space is required.

(b) Details of major equipment that will be hired, or acquired for this contract if my/our tender is acceptable.

Quantity	Description, size, capacity, etc.

Attach additional pages if more space is required.

Tender
Part T2: Returnable Documents

T2.2.5-11

T2.2.5
Schedule of Plant and Equipment

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

Signed

Date

Name

Position

Tenderer

Tender
Part T2: Returnable Documents

T2.2.5-12

T2.2.5
Schedule of Plant and Equipment

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

T2.2.6: Schedule of the Tenderer's Experience – Bulk Water Pipeline

The Tenderer shall list in the spaces provided below similar and comparative projects (i.e construction of steel pipelines with nominal diameter equal or larger than 500 mm and longer than 5 km).

(Note: Points for each completed project to be scored with attachment of appointment letter and a signed completion certificate, failure to attach both will result in zero scoring).

The information provided below must be provided in sufficient detail to allow the evaluation of the tender in terms of functionality criteria pre-scribed for the tender and it is therefore imperative that the schedule is completed as comprehensively as possible.

Employer, contact person and telephone number.	Description of contract	Value of work inclusive of VAT (Rand)	Date completed

Tender
Part T2: Returnable Documents

T2.2.6-13
Schedule of Tenderer's Experience – Bulk Water Pipeline

T2.2.6

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

Signed Date
Name Position
Tenderer

Tender
Part T2: Returnable Documents

T2.2.6-14
Schedule of Tenderer's Experience – Bulk Water Pipeline

T2.2.6

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

T2.2.7: Financial References

(a) FINANCIAL STATEMENTS

I/We agree, if required, to furnish an audited copy of the latest set of financial statements together with my/our Directors' and Auditors' report for consideration by the Employer.

(b) DETAILS OF COMPANY'S BANK

I/We hereby authorise the Employer/Engineer to approach all or any of the following banks for a reference:

DESCRIPTION OF BANK DETAIL	BANK DETAIL APPLICABLE TO COMPANY HEAD OFFICE	BANK DETAIL APPLICABLE TO THE SITE OF THE WORKS
Name of bank		
Branch name		
Branch code		
Street address		
Postal address		
Name of manager		
Telephone number	()	()
Fax number	()	()
Account number		

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

Tender
Part T2: Returnable Documents

T2.2.7-15
Schedule of Tenderer's Experience – Financial References

T2.2.7

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

T2.2.8: Proposed amendments and qualifications

The Tenderer should record any deviations or qualifications he may wish to make to the tender documents in this Returnable Schedule. Alternatively, a tenderer may state such deviations and qualifications in a covering letter to his tender and reference such letter in this schedule.

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

Page	Clause or item	Proposal

Tender
Part T2: Returnable Documents

T2.2.8-16

T2.2.8
Proposed Amendments and Qualifications

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

Signed

Date

Name

Position

Tenderer

Tender
Part T2: Returnable Documents

T2.2.8-17

T2.2.8
Proposed Amendments and Qualifications

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

T2.2.9: Supervisory and Safety Personnel

PREVIOUS EXPERIENCE ON WORKS OF A SIMILAR NATURE DURING THE SPECIFIED NUMBER OF YEARS

Name	% Time on Site	Position (Current)	Service (Years)	Name of Project And year executed	Value of Works	Position Occupied
Contracts Manager						
Contractor's Site Agent	100%					
Contractor's Foremen						
Construction Health and Safety Officer	100%					

Tenderers shall indicate the percentage of working time these persons will be engaged on site. Tenderers are required to provide copies of curriculum vitas of all supervisory and safety personnel.

Signed _____

Date

Name _____

Position

Tenderer

Tender
Part T2: Returnable Documents

T2.2.9-18

T2.2.9
Supervisory and Safety Personnel

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

T2.2.10: Labour Utilisation

Labour Categories - Definitions

NOTE: These definitions serve as a guideline to complete the following table and will in no respect alter the Project Specifications or Standardised Specifications

1. General Foreman / Foreman

An employee who gives out work to and directly co-ordinates and supervises employees. His duties encompass any one or more of the following activities:

- a) Supervision;
- b) Maintaining discipline;
- c) Ensuring safety on the workplace;
- d) Being responsible to the Contractor for efficiency and production for his portion of the works; and
- e) Performing skilled work, whether in an instructional capacity or otherwise.

2. Charge hand

An employee engaged in any one or more of the following activities:

- a) Being primarily employed in a supervisory capacity, but who may also be doing the work of an artisan;
- b) Giving out work to other employees under his control and supervision;
- c) Ensuring safety on the workplace;
- d) Maintaining discipline; and
- e) Being directly responsible to a general foreman or foreman or the Contractor or the Contractor's representative for efficiency and production for his portion of the works.

3. Artisan

An employee who has successfully completed all prescribed courses at a practical institutional training centre for a particular trade and who has successfully completed the on-site period of training as prescribed and who has successfully passed the prescribed trade tests.

4. Team Leader

An employee engaged in any one or more of the following activities:

- a) Being employed in a supervisory capacity, but who may also be doing the work of a skilled person;
- b) Giving out work to other employees under his control and supervision;
- c) Maintaining discipline;
- d) Being directly responsible to a Charge hand or a foreman or a general foreman or the employer's authorised representative for efficiency and production for his portion of the works.

5. Skilled Employee

An employee engaged in an ancillary trade or an assistant artisan.

**Tender
Part T2: Returnable Documents**

T2.2.10-19

**T2.2.10
Labour Utilisation**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

6. Semi-Skilled Employee

An employee with any specified skills, an apprentice or a trainee-artisan.

7. Unskilled Employee

An employee engaged on any task or operation not specified above.

8. Imported Employee

Personnel permanently employed by Contractor.

9. Local Employee

Temporary workforce employed through Labour Desk.

**Tender
Part T2: Returnable Documents**

T2.2.10-20

**T2.2.10
Labour Utilisation**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

MAN DAYS

Categories	a) No. of Man Days		d) HDI (Y/N)
	b) Imported	c) Local	
1. Contracts Manager			
2. Site Agent			
3. Foreman/Supervisors (specify type)			
3.1 _____			
3.2 _____			
3.3 _____			
4. Safety Inspectors (specify type)			
4.1 _____			
4.2 _____			
5. Charge hands			

Tender
Part T2: Returnable Documents

T2.2.10-21

T2.2.10
Labour Utilisation

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

Categories	a) No. of Man Days		d) HDI (Y/N)
	b) Imported	c) Local	
6. Artisans			
7. Operators/Drivers			
8. Clerks/ Storeman			
9. Team Leader			
10. Skilled Labour			
11. Semi-skilled Labour			
12. Unskilled Labour			

Signed _____

Date

Name _____

Position

Tenderer

Tender
Part T2: Returnable Documents

T2.2.10-22

T2.2.10
Labour Utilisation

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

**T2.2.11: Occupational Health and Safety Act:
Statement by Tendering Entity**

I, _____ duly authorised

to represent _____ (company name)

in my capacity as _____ hereby confirm that I
accept full and exclusive responsibility for compliance by myself and all persons who perform work for me with the provisions
of the Occupational Health and Safety Act, No. 85 of 1993 (as amended) and all regulations promulgated from time to time,
whilst performing work on _____

I confirm that all employees who perform work on the site shall be properly trained to do this in a manner which is safe and
without risk to health and safety to themselves and others in the vicinity and undertake to have our activities adequately
supervised in the interest of health and safety.

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

Tender
Part T2: Returnable Documents

T2.2.11-23

T2.2.11
OHSA: Statement by Tenderer

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

T2.2.12: Site Inspection Certificate

As required by Clause 2.7 of the Tender Data, I/we certify that I/we have visited the site of the Works and attended the site visit and clarification meeting on the date certified below.

I/we further certify that I am / we are satisfied with the description of the Work and the explanations given by the Engineer at the site visit and clarification meeting.

Signature of Tenderer

Date

Site Visit

This will certify that _____

representing _____

attended a Site Inspection for this Contract on _____ 20_____

_____(signed)

For the Engineer

**Tender
Part T2: Returnable Documents**

T2.2.12-24

**T2.2.12
Site Inspection Certificate**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

T2.2.13 Authority of Signatory

With reference to Clause 2.13.4 of the Tender Data, I/we herewith certify that this tender is submitted by: *(Mark applicable block)*

a company, and attach hereto a certified copy of the required resolution of the Board of Directors

☐

a partnership, and attach hereto a certified copy of the required resolution by all partners

☐

a close corporation, and attach hereto a certified copy of the required resolution of the Board of Officials

☐

a one-man business, and attach hereto certified proof that I am the sole owner of the business
submitting this tender

☐

a joint venture, and attach hereto

☐

- an notarially certified copy of the original document under which the joint venture was constituted; and
- certified authorisation by the participating members of the undersigned to submit tenders and conclude contracts on behalf of the joint venture

SIGNED ON BEHALF OF TENDERER:

PLEASE NOTE:

Failure to complete all blank spaced on this form or attend to other details mentioned therein will render the Bid liable to rejection.

The signatory shall confirm his/her authority thereto by attaching on the tendering company's letterhead a duly signed and dated copy of the relevant resolution of the board of directors / partners.

Tender
Part T2: Returnable Documents

T2.2.13-25

T2.2.13
Authority of Signatory

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

T2.3 TECHNICAL SCHEDULES

RLM/RWST/OMM/0102/2024/25 - RE-ADVERT: APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

Tender
Part T2: Returnable Documents

T2.3-1

T2.3
Technical Schedules

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

IMPORTANT NOTE:

Refer to the Particular Specifications

No.	Item	Technical Particulars
1. RESILIENT SEAL GATE VALVE		
1.1	General Data	
1.1.1	Country of origin	
1.1.2	Manufacturer (name & country)	
1.1.3	Supplier	
1.1.4	Product name	
1.2	Materials	
1.2.1	Valve body	
1.2.2	Spindle	
1.2.3	Disc	
1.2.4	Valve seat	
2. WEDGE GATE VALVE		
2.1	General data	
2.1.1	Country of origin	
2.1.2	Manufacturer (name & country)	
2.1.3	Supplier	
2.1.4	Product name	
2.2	Materials	
2.2.1	Valve body	
2.2.2	Spindle	
2.2.3	Disc	
2.2.4	Valve seat	

Tender
Part T2: Returnable Documents

T2.3-2

T2.3
Technical Schedules

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

No.	Item	Technical Particulars
3. BUTTERFLY VALVES		
3.1	General Data	
3.1.1	Country of origin	
3.1.2	Manufacturer (name & country)	
3.1.3	Supplier	
3.1.4	Product name	
3.2	Materials	
3.2.1	Valve body	
3.2.2	Sub-shaft	
3.2.3	Disc	
3.2.4	Valve seat	
4. CHECK/NON-RETURN VALVES		
4.1	General data	
4.1.1	Country of origin	
4.1.2	Manufacturer (name & country)	
4.1.3	Supplier	
4.1.4	Product name	
4.2	Materials	
4.2.1	Valve body	
4.2.2	Spindle	
4.2.3	Disc	
4.2.4	Valve seat	
5. AIR VALVES		
5.1	General data	

Tender
Part T2: Returnable Documents

T2.3-3

T2.3
Technical Schedules

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

No.	Item	Technical Particulars
5.1.1	Country of origin	
5.1.2	Manufacturer (name & country)	
5.1.3	Supplier	
5.1.4	Model number	
5.1.5	Product name	
5.2	Materials	
5.2.1	Valve body	
5.2.2	Float	
6. HYDRAULIC CONTROL VALVES		
6.1	General Data	
6.1.1	Country of origin	
6.1.2	Manufacturer (name & country)	
6.1.3	Product name	
6.2	Materials	
6.2.1	Valve body	
6.2.2	Spindle	
6.2.3	Disc	
6.2.4	Valve seat	
6.2.5	Others (Tenderer to specify)	
7. ULTRASONIC FLOW METERS		
7.1	Manufacturer (name & country)	
7.2	Supplier	
7.3	Type	
7.4	Model	

Tender
Part T2: Returnable Documents

T2.3-4

T2.3
Technical Schedules

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

No.	Item	Technical Particulars
7.5	Country of manufacturer	
7.6	Installation contractor	
8. TURBINE FLOW METERS		
8.1	Manufacturer (name & country)	
8.2	Supplier	
8.3	Type	
8.4	Model	
8.5	Country of manufacturer	
8.6	Installation contractor	
9. MAGNETIC FLOW METERS		
9.1	Manufacturer (name & country)	
9.2	Supplier	
9.3	Type	
9.4	Model	
9.5	Country of manufacturer	
9.6	Installation contractor	
10. PIPE FITTINGS AND SPECIALS		
10.1	Steel	
10.1.1	Country of origin	
10.1.2	Manufacturer (name & country)	
10.1.3	Place of manufacture	
10.1.4	Supplier	
10.1.5	Material grade	
10.2	Stainless Steel	

Tender
Part T2: Returnable Documents

T2.3-5

T2.3
Technical Schedules

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

No.	Item	Technical Particulars
10.2.1	Country of origin	
10.2.2	Manufacturer (name & country)	
10.2.3	Place of manufacture	
10.2.4	Supplier	
10.2.5	Material grade	
10.3	Coating and Lining	
10.3.1	Application factory name	
10.3.2	Location of factory	
10.3.3	Epoxy lining product name	
10.3.4	Epoxy coating product name	
10.3.5	UV-Resistant multi-purpose epoxy product name	
10.3.6	Aliphatic polyurethane product name	
10.3.7	Polymer modified bitumen (Bituguard or Densotherm) product name	
10.3.8	Rigid polyurethane product name	
11. STEEL PIPE LENGTHS		
11.1	General Data	
11.1.1	Country of origin	
11.1.2	Manufacturer (name & country)	
11.1.3	Place of manufacture	
11.1.4	Supplier	
11.1.5	Material grade	
11.2	Coating	
11.2.1	Polymer modified bitumen (Bituguard)	

Tender
Part T2: Returnable Documents

T2.3-6

T2.3
Technical Schedules

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

No.	Item	Technical Particulars
	Application factory	
	Name of product	
11.2.2	3 Layer high density polyethylene	
	Application factory	
	Names of products	
11.2.3	Fusion bonded medium density polyethylene (Sintakote)	
	Application factory	
	Name of product	
11.2.4	Rigid Polyurethane	
	Application factory	
	Name of product	
11.3	Lining	
11.3.1	Epoxy (product name)	
11.3.2	Epoxy application factory	
11.3.3	Cement mortar application factory	

Tender
Part T2: Returnable Documents

T2.3-7

T2.3
Technical Schedules

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0101/2024/25 – RE-ADVERT:
CONSTRUCTION OF BOSPOORT NORTH RESERVOIR AND ACCESS ROAD**

TENDERER

.....
Name

.....
Date

.....
Position

.....
Signature

Duly authorised to sign on behalf of:

Telephone :

END OF SECTION

**Tender
Part T2: Returnable Documents**

T2.3-8

**T2.3
Technical Schedules**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

C1 AGREEMENT AND CONTRACT DATA

**RLM/RWST/OMM/0102/2024/25 - RE-ADVERT:
APPOINTMENT OF A CONTRACTOR FOR THE
CONSTRUCTION OF THE BOSPOORT BULK
PIPELINE**

Tender
Part C1: Agreement

C1-1

C1

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

CONTRACT

PART 1 (OF 4): AGREEMENTS AND CONTRACT DATA

- C1.1 Form of Offer and Acceptance
- C1.2 Contract Data
- C1.3 Performance Guarantee
- C1.4 Occupational Health and Safety Agreement

Tender
Part C1: Agreement

C1-2

C1

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

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:

CONTRACT No.: RLM/RWST/OMM/0102/2024/25 - RE-ADVERT: CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

The Tenderer, identified in the Offer Signature block, has examined the documents listed in the Tender Data and addenda thereto as listed in the Tender 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 to the Tenderer before the end of the period of validity stated in the Tender Data, whereupon the Tenderer becomes the party named as the Contractor in the Conditions of Contract identified in the Contract Data.

For the Tenderer:

Signature(s)	_____	_____
Name(s)	_____	_____
Capacity	_____	_____

Tender
Part C1: Agreement

C1.1-1

C1.1
Form of Offer

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

Name and address of organisation:

Signature and Names of witnesses:

Signature(s)

Name(s)

Date

Tender
Part C1: Agreement

C1.1-2

C1.1
Form of Offer

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

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 T2 Returnable documents

- Section T2.1 List of Returnable Documents
- Section T2.2 Returnable Schedules
- Section T2.3 Technical Schedules

Part C1 Agreements and Contract Data, (which includes this agreement)

Part C2 Pricing Data

Part C3 Scope of Work

Part C4 Site Information

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

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Tender Schedules as well as any changes to the terms of the Offer agreed by the Tenderer and the Employer during this process of Offer and Acceptance, are contained in the Schedule of Deviations attached to and forming part of this Agreement. No amendments to or deviations from 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 two weeks after receiving a completed copy of this Agreement, including the Schedule of Deviations (if any), contact the Employer's agent (whose details are given in the Contract Data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data, or just after the date

**Tender
Part C1: Agreement**

C1.1-3

**C1.1
Acceptance**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

this Agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this Agreement.

Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Tenderer receives one fully completed original copy of this document, including the Schedule of Deviations (if any). Unless the Tenderer (now Contractor) within five 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:

Signature(s) _____

Name(s) _____

Capacity _____

Name and address of organisation:

Signature and Names of witnesses:

Signature(s) _____

Name(s) _____

Date _____

**Tender
Part C1: Agreement**

C1.1-4

**C1.1
Acceptance**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

SCHEDULE OF DEVIATIONS

Notes:

1. The extent of deviations from the Tender Document issued by the Employer prior to the Tender closing date is limited to those permitted in terms of the Conditions of Tender.
2. The Tenderer covering letter shall form part of 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 the Contract.

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

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

Tender
Part C1: Agreement

C1.1-5

C1.1
Schedule of Deviations

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

during this process of Offer and Acceptance.

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

For the Tenderer:

Signature(s) _____

Name(s) _____

Capacity _____

Name and address of organisation:

Signature and Names of witnesses:

Signature(s) _____

Name(s) _____

Date _____

For the Employer:

Signature(s) _____

Name(s) _____

Capacity _____

Name and address of organisation:

Tender
Part C1: Agreement

C1.1-6

C1.1
Schedule of Deviations

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

Signature and Names of witnesses:

Signature(s) _____

Name(s) _____

Date _____

Tender
Part C1: Agreement

C1.1-7

C1.1
Schedule of Deviations

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

C1.2 CONTRACT DATA

C1.2.1 GENERAL CONDITIONS OF CONTRACT

The General Conditions of Contract applicable to this Contract shall be the *Conditions of Contract for Construction – for Building and Engineering Works Designed by the Employer* (FIDIC (Red Book) *First Edition, 1999*), which shall be read together with the Variations and Additions to the Conditions of Contract (referred to as Particular Conditions of Contract) as well as the Data provided by Employer and the Contractor.

Tenderers, Contractors and Subcontractors shall obtain their own copies of the abovementioned document for tendering purposes and for use for the duration of the Contract from the International Federation of Consulting Engineers (FIDIC) (refer to website www.fidic.org) and shall bear all expenses in this regard.

The General Conditions make reference to the Appendix to Tender and Particular Conditions (contained in the Contract Data) which together with these conditions collectively describe the risks, liabilities and obligations of the contracting parties and the procedures for the administration of the Contract. The Contract Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the general conditions of contract.

The General Conditions shall be read in conjunction with the variations, amendments and additions set out in the Appendix to Tender and Particular Conditions below. Each item of data given below is cross-referenced to the Clause or Sub-Clause in the General Conditions to which it mainly applies.

Tender
Part C1: Contract Data

C1.2-8

C1.2
General Conditions of Contract

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

C1.2.2 VARIATIONS AND ADDITIONS TO THE GENERAL CONDITIONS OF CONTRACT (PARTICULAR CONDITIONS)

In terms of Clause 1(1) of the **General Conditions of Contract for Building and Engineering Works Designed by the Employer – FIDIC (Red Book) First Edition (1999)**, the following Particular Conditions shall apply to the Contract. Certain standard forms of agreement that are contained in the FIDIC Red Book are replaced by new forms of agreement bound into this document.

CLAUSE/ SUB- CLAUSE	PARTICULAR CONDITION
1.1.1.1	<i>Replace this Sub-Clause with:</i> “ Contract ” means the Form of Offer and Acceptance, Contract Data, these Conditions, the Specifications, the Drawings, the Schedules, and the further documents (if any), which are listed in the Form of Offer and Acceptance, and further includes drawings and documents or parts thereof, which any of the aforesaid documents incorporate by reference.
1.1.1.2	<i>Replace this Sub-Clause with:</i> “ Contract Agreement ” means the document called <i>C1.1 Form of Offer and Acceptance</i> .
1.1.1.3	<i>Replace the Sub-Clause with:</i> “ Letter of Acceptance ” means that section of form C1.1 Form of Offer and Acceptance called ‘Acceptance’.
1.1.1.4	<i>Replace the Sub-Clause with:</i> “ Letter of Tender ” means that section of form C1.1 Form of Offer and Acceptance called ‘Offer’.
1.1.1.5	<i>Replace the Sub-Clause with:</i> “ Specifications ” means the document entitled Scope of Works, as included in the Contract, and any additions and modifications to the Scope of Work in accordance with the Contract. Such document specifies the Works.
1.1.1.7	<i>Replace the Sub-Clause with:</i> “ Schedules ” means the document(s) entitled Tender Schedules, completed by the Contractor and submitted with his Tender Offer, as included in the Contract. Such document(s) may include the Bill of Quantities, data, lists and schedules of rates and/or prices.
1.1.1.8	<i>Replace the Sub-Clause with:</i>

Tender
Part C1: Contract Data

C1.2-9

C1.2.2
Variations and Additions

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

CLAUSE/ SUB- CLAUSE	PARTICULAR CONDITION
	“Tender” means that section of form C1.1 Form of Offer and Acceptance called ‘Offer’ and all other documents which the Contractor submitted as Returnable Documents, as included in the Contract.
1.1.1.9	<i>Replace the Sub-Clause with:</i> “Appendix to Tender” means the completed section entitled Appendix to Tender included in this Contract Data.
1.4	Law and Language The law of the Contract shall be the law of the Republic of South Africa. The parties hereby consent to the jurisdiction of the High Court of South Africa (Gauteng local division) in respect of any proceedings instituted under this Contract.
1.5	Priority of Documents <i>Replace the Sub-Clause with:</i> “The documents forming the Contract are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of the documents shall be in accordance with the following sequence: (a) the Form of Offer and Acceptance. (b) the Appendix to Tender within the Contract Data. (c) the Particular Conditions within the Contract Data. (d) the General Conditions of Contract. (e) the Specifications in descending order: Project Specification, Particular Specification, Standard Specification. (f) the Drawings. (g) the Schedules. (h) any other documents forming part of Contract contained in the Scope of Work and the Site Information. All Addenda, if any, which modify the terms of the Tender Documents take precedence only over the document to which they relate. If an ambiguity or discrepancy is found in the documents, the Engineer shall issue any necessary clarification or instruction.”
1.13	Compliance with Laws <i>Add the following at the end of this Sub-Clause:</i>

Tender
Part C1: Contract Data

C1.2-10

C1.2.2
Variations and Additions

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



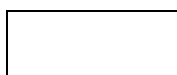
CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

CLAUSE/ SUB- CLAUSE	PARTICULAR CONDITION
	The Contractor shall comply with the Occupational Health and Safety Specification prepared by the Employer in terms of the Construction Regulations, 2014 promulgated in terms of Section 43 of the Occupational Health and Safety Act (Act No. 85 of 1993). The Contractor shall submit its Health and Safety Plan to the Engineer within 14 days from the Commencement Date. Without limiting the Contractor's obligations in terms of the Contract, the Contractor shall before commencement of the Works or any part thereof, be in the possession of an approved Health and Safety Plan.
1.14	Joint and Several Liability <i>Add the following at the end of this Sub-Clause:</i> "(d) In case of a joint venture agreement the particular agreement which was included in the Tender and accepted by the Employer shall be incorporated in the Contract."
1.15	<i>Add the following new clause:</i> Contractor's liability as mandatory Notwithstanding any actions which the Employer may take, the Contractor accepts sole liability for due compliance with the relevant duties, obligations, prohibitions, arrangements and procedures imposed by the Occupational Health and Safety Act, 1993 (Act 85 of 1993), and all its regulations, including the Construction Regulations, 2014, for which he is liable as mandatory. By entering into this Contract it shall be deemed that the parties have agreed to the above provisions in terms of Section 37 (2) of the Act and shall complete and sign the Occupational Health and Safety Agreement in Section C1.4.
3.1	Engineer's Duties and Authority <i>At the end of Sub-Clause 3.1 add the following:</i> "(d) The Engineer shall obtain the specific approval of the Employer before carrying out the following duties in accordance with the Contract: (i) Giving notice of the Commencement Date in terms of Sub-Clause 8.1 [Commencement of Works]. (ii) Issuing an instruction in terms of Sub-Clause 8.8 [Suspension of Work] to suspend the progress of part or all of the Works. (iii) Instructing or approving a Variation in terms of Sub-Clause 13.1 [Right to Vary], the estimated effect of which will be to increase the Contract Price by an amount exceeding R250 000.

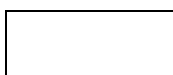
Tender
Part C1: Contract Data

C1.2-11

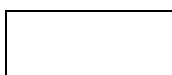
C1.2.2
Variations and Additions



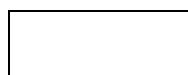
Employer



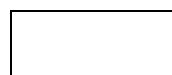
Witness 1



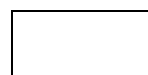
Witness 2



Contractor



Witness 1



Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

CLAUSE/ SUB- CLAUSE	PARTICULAR CONDITION
	Provided that such approval by the Employer shall not be required for instructions or notices which, in the sole opinion of the Engineer, are required to meet an emergency or are otherwise required to ensure the safety or security of the Works or of any person or property.”
3.2	Delegation by the Engineer <i>In the last paragraph, delete the text of sub-paragraph (b) and substitute:</i> “if the Contractor questions any certificate, determination, instruction, opinion or valuation of an assistant, the Contractor shall refer the matter to the Engineer, who shall, promptly confirm, reverse or vary the certificate, determination, instruction, opinion or valuation.”
4.1	Contractor’s General Obligations <i>At the end of the first paragraph, add:</i> “Although the Engineer has specified the equipment to be provided for tendering purposes, the Contractor shall be responsible for the detail design of all proprietary Plant and Materials in order to ensure that these are appropriately selected for their intended use and installed to meet the particular installation conditions on Site. When completed, the parts of the Works designed by the Contractor, to the extent specified in the Contract, shall be fit for the purposes for which the Works are intended.” <i>After the third paragraph, add a new paragraph:</i> “The Contractor shall liaise and co-operate with the Engineer and his assistants and provide them with such access, information and facilities as they may reasonably require in order to enable them to perform their duties under the Contract.” <i>Add the following to Sub-Clause 4.1(a):</i> “The Contractor’s Documents shall include: (i) A Certificate of Stability of the Works signed by a registered Professional Engineer confirming that all such works have been designed in accordance with the appropriate codes of practice. (ii) Proof of registration and of adequate and current professional indemnity insurance cover held by the Contractor’s designer(s) (iii) Design calculations should the Engineer request a copy thereof.” <i>Add the following to Sub-Clause 4.1(b):</i> “Engineering drawings and workshop details (both signed by the relevant professional

Tender
Part C1: Contract Data

C1.2-12

C1.2.2
Variations and Additions

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

CLAUSE/ SUB- CLAUSE	PARTICULAR CONDITION
	engineer) shall be submitted in order to allow the Engineer to compare the design with the specified requirements and to record any comments he may have with respect thereto.” <i>Add the following at the end of this Sub-Clause</i> “Unless otherwise stated in the Employer’s Requirements or the Specification, each review period shall not exceed 21 days, calculated from the date on which the Engineer receives a Contractor’s Document and the Contractor’s notice. This notice by the Contractor shall state that the Contractor’s Document is considered ready, both for review (and approval, if so specified) in accordance with this Sub-Clause and for use in the Contract. The notice shall also state that the Contractor’s Document complies with the Contract, or the extent to which it does not comply. Execution of such part of the Works shall not commence prior to the expiry of the review periods for all the Contractor’s Documents which are relevant to its design and execution. If the Engineer instructs that further Contractor’s Documents are required, the Contractor shall prepare them promptly. Any such approval or consent, or any review (under this Sub-Clause or otherwise), shall not relieve the Contractor from any obligation or responsibility.”
4.2	Performance Security <i>Add the following to the second paragraph:</i> “Guarantees submitted must be issued by either an insurance company duly registered in terms of the Short-Term Insurance Act, 1998 (Act 35 of 1998) or by a bank duly registered in terms of the Banks Act, 1990 (Act 94 of 1990) on the pro-forma referred to above. No alterations or amendments of the wording of the pro-forma will be accepted. The institution providing the performance security [Bank or Insurance Company] will be subject to the sole approval of the Employer.”
4.4	Sub-contractors <i>Add the following to this Sub-Clause:</i> “The Contractor shall employ the specific Sub-Contractors proposed in the Schedules [at tender stage] and included in the Contract and he shall include these Sub-Contractor in his arrangements for the execution of the Works.”

Tender
Part C1: Contract Data

C1.2-13

C1.2.2
Variations and Additions

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



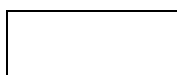
CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

CLAUSE/ SUB- CLAUSE	PARTICULAR CONDITION
4.12	Unforeseeable Physical Conditions <i>At the end of the first paragraph add after” ...climatic conditions...” the words “...and conditions arising as a consequence of climatic conditions.”</i>
6.5	Working hours <i>Amend “locally recognised days of rest” to “Sundays, South African statutory holidays and the annual December builder’s break as recommended by the South African Federation of Civil Engineering Contractors (SAFCEC)”.</i>
8.4	Extension of Time due to Abnormal Rainfall <i>At the end of sub-paragraph (c), add:</i> “including conditions arising as a consequence of exceptionally adverse climatic conditions, in excess of the number of working days’ delay per annum as stated in the Appendix to Tender, which must be allowed for by the Contractor in his programme on a cumulative basis over the whole Contract period,”. <i>Add the following to the end of this Sub-Clause:</i> “With reference to sub-paragraph (c) above the Contractor shall make allowance in his programmes (submitted pursuant to Sub-Clause 8.3 [Programme]) for delay to the progress of the whole of the Works or a Section due to climatic conditions or conditions arising as a consequence of climatic conditions for the number of working days as stated in the Appendix to Tender. Any delay in excess of the number of working days stated in the Appendix to Tender shall, for the purpose of this Sub-Clause, constitute exceptionally adverse climatic conditions. Provided that all such delays shall be recorded and agreed with the Engineer daily from the commencement to the conclusion of each occurrence and the allowance shall be cumulative over the entire Contract period up to the commencement of the Defects Notification Period for the whole of the Works. Extension of Time for Completion of the Contract in the event of abnormal rainfall shall only be allowed in accordance with the formula below. No additional Extension of Time for Completion caused by abnormal climatic conditions will be allowed, irrespective of the cause thereof or the effect it may have on the execution of the Works: $V = (N_w N_n) + (R_w R_n)/20$ <i>Where:</i> $V = \text{Extension of time in calendar days for the calendar month under consideration}$

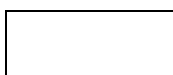
Tender
Part C1: Contract Data

C1.2-14

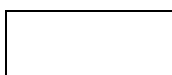
C1.2.2
Variations and Additions



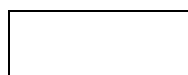
Employer



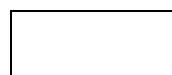
Witness 1



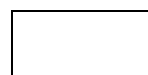
Witness 2



Contractor



Witness 1



Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

CLAUSE/ SUB- CLAUSE	PARTICULAR CONDITION
	N_w = Actual number of days during the calendar month under consideration on which a rainfall of 10mm and more is recorded R_w = Actual total rainfall in mm recorded during the calendar month under consideration N_n = Average number of days, derived from rainfall records, on which a rainfall of 10mm and more was recorded during the relevant calendar month as per the data tabulated hereinafter R_n = Average total rainfall in mm for the relevant calendar month, derived from rainfall records, as tabulated hereinafter Where the extension of time due to abnormal rainfall has to be calculated for portion of a calendar month, pro rata values shall be used. Should V be negative for any particular month, and should its absolute value exceed the corresponding value of N_n, then V shall be taken as being equal to minus N_n. The total extension of time to be granted shall be the algebraic sum of all the monthly extensions, less the amount of days allowed in the Appendix to Tender, provided that if this total is negative then the time for completion shall not be reduced due to subnormal rainfall. Rainfall records for the period of construction shall be taken on Site. The Contractor shall provide and install all the necessary equipment for accurately measuring the rainfall. The Contractor shall also provide, erect and maintain a security fence plus gate, padlock and keys at each measuring station, all at his own cost. The Engineer or his delegated assistant shall take and record the daily rainfall readings. The Contractor shall be permitted to attend these readings, in the company of the Engineer or his assistant. Access to the measuring gauge(s) shall at all times be under the Engineer's control. Notwithstanding anything to the contrary in the Contract, the Contractor shall not be entitled to an extension of the Time for Completion where he has not used all reasonable endeavours to prevent, reduce or mitigate the delay, including providing such temporary measures as may be necessary to enable work to continue and the Works and Contractor's Equipment to be protected during exceptionally adverse climatic conditions Notwithstanding anything contained elsewhere in the Contract no extension of the Time for Completion of the Works or any Section or part thereof on account of exceptionally adverse climatic conditions or conditions arising as a consequence of climatic conditions will be considered as cause for additional payment to the Contractor. The rainfall records applicable to this Contract are those recorded at Weather Station Rustenburg AGR 0511/672. The following values of N_n and R shall apply:

Tender
Part C1: Contract Data

C1.2-15

C1.2.2
Variations and Additions

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



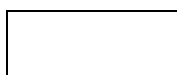
CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

CLAUSE/ SUB- CLAUSE	PARTICULAR CONDITION																																										
	<table><tr><th>Month</th><th>R_n (mm)</th><th>N_n (days)</th></tr><tr><td>January</td><td>130,1</td><td>4</td></tr><tr><td>February</td><td>94,2</td><td>3</td></tr><tr><td>March</td><td>75,1</td><td>2</td></tr><tr><td>April</td><td>60,3</td><td>2</td></tr><tr><td>May</td><td>9,8</td><td>0</td></tr><tr><td>June</td><td>5,9</td><td>0</td></tr><tr><td>July</td><td>1,6</td><td>0</td></tr><tr><td>August</td><td>7,2</td><td>0</td></tr><tr><td>September</td><td>18,8</td><td>0</td></tr><tr><td>October</td><td>57,5</td><td>2</td></tr><tr><td>November</td><td>89,4</td><td>3</td></tr><tr><td>December</td><td>105,8</td><td>3</td></tr><tr><td>Total</td><td>655,7</td><td>19</td></tr></table>	Month	R _n (mm)	N _n (days)	January	130,1	4	February	94,2	3	March	75,1	2	April	60,3	2	May	9,8	0	June	5,9	0	July	1,6	0	August	7,2	0	September	18,8	0	October	57,5	2	November	89,4	3	December	105,8	3	Total	655,7	19
Month	R _n (mm)	N _n (days)																																									
January	130,1	4																																									
February	94,2	3																																									
March	75,1	2																																									
April	60,3	2																																									
May	9,8	0																																									
June	5,9	0																																									
July	1,6	0																																									
August	7,2	0																																									
September	18,8	0																																									
October	57,5	2																																									
November	89,4	3																																									
December	105,8	3																																									
Total	655,7	19																																									
13.8	Adjustment for Changes in Cost <i>Replace this Sub-Clause in its entirety with new heading Contract Price Adjustment for Civil, Mechanical and Electrical Plant.</i> Any reference to “Adjustment for Changes in Cost” in the Contract shall have the same meaning as Contract Price Adjustment. “Except as hereinafter provided for in this Sub-Clause and subject to Clause 12.3, the rates and prices in the Contract shall be final and binding throughout the Contract. Where in this Sub-Clause 13.8 reference is made to the indices published by Statistics South Africa or by the Steel and Engineering Industries Federation of South Africa (SEIFSA), such indices shall be final and binding on the Parties unless one of the Parties queries any such index to the engineer within 28 days of its final publication. The Engineer shall [at its sole discretion] employ its best endeavours to obtain clarification, ratification or modification to such index from Statistics South Africa or SEIFSA, whereupon the index shall become final and binding on the Parties. If no such clarification, ratification or modification is received within 90 days of the query to the Engineer then the last published index shall be final and binding on the Parties. As sole compensation for any/all variations in the cost of labour and materials excluding any amount subject to variance in rate of exchange as per new Sub-Clause 13.9, from any cause whatsoever after the date of tendering, adjustment of the Contract Price shall be calculated for each monthly statement pursuant to Sub-Clause 14.3, the Statement at Completion pursuant to Sub-Clause 14.10 and the final Statement pursuant to Sub-Clause 14.11 in accordance with																																										

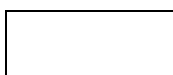
Tender
Part C1: Contract Data

C1.2-16

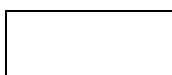
C1.2.2
Variations and Additions



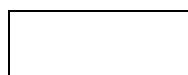
Employer



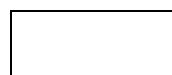
Witness 1



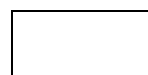
Witness 2



Contractor



Witness 1



Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

CLAUSE/ SUB- CLAUSE	PARTICULAR CONDITION
	the provisions of this Sub-Clause as detailed below. If the Contractor fails to complete the Works within the Time for Completion, adjustment of prices thereafter shall be made using either (i) each index or price applicable on the date 30 days prior to the expiry of the Time for Completion of the Works, or (ii) the current index or price: whichever is more favourable to the Employer. Price adjustment of preliminary and general charges as measured under the schedule shall be as described under point (vi) of Sub-Section (b) Mechanical and Electrical Works. Civil Engineering and Building Works (i) The value of the Civil Engineering works portion of the certificate issued in terms of Clause 14.3 hereof, shall be increased or decreased by the amount obtained by multiplying “Ac” defined in (x) below by the Contract Price adjustment factor (f_1) determined according to the formula: $f_1 = (1 - x)(a \frac{L_t}{L_o} + b \frac{P_t}{P_o} + c \frac{M_t}{M_o} + d \frac{F_t}{F_o} - 1)$ In which the symbols have the following meaning: (ii) “x” shall be the proportion of “Ac” which is not subject to adjustment. This proportion shall be 0.15 (iii) “a”, “b”, “c” and “d” shall be the coefficients nominated by the Engineer in the Contract Data (Part C1.2.2: Appendix to Tender), which are deemed, irrespective of the actual constituents of the work, to represent the proportionate value of respectively, labour, Contractor’s Equipment, materials and fuel. The arithmetical sum of “a”, “b”, “c” and “d” shall in all cases be unity. “L” is the “Labour Index” and shall be the “Consumer Price Index” for the urban area nearest to the Site as specified by the Engineer in the Appendix to the Tender and as published in SAFCEC, P0141, Table A. (iv) “P” is the “Plant Index” and shall be the “Civil Engineering Materials, Mining and Construction Plant and Equipment Index” as published in SAFCEC, P0151.1, Table 4. (v) “M” is the “Materials Index” and shall be the “Civil Engineering Materials Total Index” as published in the SAFCEC, P0151.1, Table 6. (vi) “F” is the “Fuel Index” and shall be the “Diesel Fuel Index” as published in the SAFCEC, P0142.1, Table 1.

Tender
Part C1: Contract Data

C1.2-17

C1.2.2
Variations and Additions

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

CLAUSE/ SUB- CLAUSE	PARTICULAR CONDITION
	(vii) The suffix “o” denotes the base indices applicable to the base month which shall be the month prior to the month in which falls the closing date for the tender. (viii) The suffix “t” denotes the current indices applicable to the month in which falls the last day of the period to which the relevant payment certificate relates, which shall not be earlier than the twentieth day of the month unless otherwise agreed by the Engineer in writing. (ix) For the purpose of calculating the adjustment to the value of the relevant certificates, the amount “Ac” shall be determined by the formula: $Ac = T - S - D - E - Ap$ in which the symbols have the following meanings: (x) “T” shall be the total value of the portion of the certificate under consideration excluding any advance payments before the deduction of any retention monies, delay damages, or repayment of advances and before any adjustments made in terms of the Sub-Clause 13.8. (xi) “S” shall be the aggregate of (a), (b) and (c) referred to below and included in “T”. (a) the value of any work done by Nominated Subcontractor/s and not subject to the Contractor price adjustment provision of the principal Contractor; (b) the value of any extra or additional work; (c) the value of any work done against Provisional Sums; where special arrangements for price adjustments in respect of these amounts were made and recorded at the time the work was ordered. (xii) “D” shall be the value of work included in “T” done at new rates or prices fixed in terms of Sub-Clause 12.3 where those rates or prices are not based on labour, Contractor’s Equipment or material costs in force at the time of tendering. When new rates or prices are based on tendered rates or prices applicable at the base month of the indices, the value of work done at such new rates or prices shall not be included in the value of “D”. (xiii) “E” shall be the amount included in “T” paid for any daywork executed at current rates plus percentage allowances as set out in Sub-Clause 13.6, where those rates are not based on Labour Contractor’s Equipment or Material costs in force at the time of tendering and indicated in the Daywork Schedule which is included in Volume 1 hereof. Generally when Daywork rates are based on tendered rates or on current costs de-escalated to the base month of the indices, the value of work done at these rates shall not be included in the value of “E”. (xiv) “Ap” shall be the sum of “Ac” amounts determined in terms of this Sub-Clause for all

Tender
Part C1: Contract Data

C1.2-18

C1.2.2
Variations and Additions

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

CLAUSE/ SUB- CLAUSE	PARTICULAR CONDITION
	certificates issued in accordance with Clause 14 preceding in time the certificate under consideration. (xv) Save only for additional work or variations ordered to be carried out after the Time for Completion, (as extended, if applicable under Sub-Clause 8.4) if the Contractor fails to complete the Works within the Time for Completion, adjustment of prices thereafter shall be made using either (i) each index or price appliance on the date 49 days prior to the expiry of the Time for Completion of the Works, or (ii) the current index or price: whichever is more favourable to the Employer. (xvi) If any index relevant to any particular certificate is not known at the time the certificate is valued the latest available index shall be used and an adjustment made when the index relevant to that particular certificate is published.
13.9	<i>Adjustment in prices due to Variations in Rates of Exchange [ROE]</i> <i>Add new Sub Clause 13.9:</i> “Where prices are liable to be affected by variations in Rates of Exchange [RoE], including devaluation of currencies, the Contractor shall state: (1) the specific items, (2) the affected amounts, (3) the applicable foreign currency, (4) the associated rate of exchange, (5) the date at which the rates of exchange were determined and (6) the value in South African Rand in his Proposal. Provided this information is furnished in the tender and the Contract is completed within the Time for Completion, the Employer will accept for its account in respect of the amounts involved, as a result of the variations between the Rate of Exchange stated in the tender, the forward cover rate or the actual Rate of Exchange. Any increase/decrease in these rates must be substantiated with a bank certificate. The Contractor will be required to provide the Engineer with a quotation to procure forward cover on all Plant subject to ROE [within 30 days after the Commencement Date] for consideration by the Employer. Failure to provide such quotation will transfer the risk of the full cost impact of any Rate of Exchange fluctuation on the Contractor. The Employer may elect to either pay the forward cover costs or the actual change in costs as a result of the fluctuation of the ROE. Plant listed as subject to Rate of Exchange will not qualify for Contract Price Adjustment in terms of Sub Clause 13.8.

Tender
Part C1: Contract Data

C1.2-19

C1.2.2
Variations and Additions

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



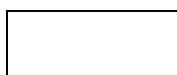
CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

CLAUSE/ SUB- CLAUSE	PARTICULAR CONDITION
14.5	Plant and Materials intended for the Works <i>Delete the second paragraph and replace with the following:</i> “The relevant plant and materials are all those plant and materials: (i) Brought to Site by or on behalf of the Contractor for incorporating into the Permanent Works, or (ii) Fabricated and stored at places other than the Site and agreed in writing by the Employer and the Contractor that it is intended for incorporating into the Permanent Works, provided that (iii) The Contractor has produced documentary evidence of ownership of such plant and materials and has delivered to the Employer an indemnity, approved in writing by the Employer, against any claim to or in respect of such plant and materials by reason of the Contractor’s sequestration or liquidation, or of any defect in the Contractor’s title to the plant and materials, and (iv) That the plant and materials shall immediately on delivery to Site or, immediately on the conclusion of the said written agreement, be deemed to have become the Employer’s property and have been delivered to the Contractor to be held by him on behalf of the Employer, and (v) That the plant and materials are covered by the insurance specified in Sub Clause 18.2.” <i>Delete Sub-Clause 14.5(b) and Sub-Clause 14.5(c)</i>
14.6	Issue of Interim Payment Certificates <i>Change “28 days” in the first paragraph to “7 days”.</i>
14.7	Payment <i>Change “56 days” in sub-clause (b) to “42 days”.</i>
14.8	<i>Add the following to this sub-clause:</i> No interest shall be payable to the Contractor on any Retention Money retained in terms of the Contract up to the limit of Retention Money.
17.2	Contractor’s Care of the Works <i>Add the following at the end of this Sub-Clause:</i> The Contractor is required to insure the Works with SASRIA.

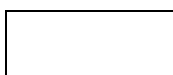
Tender
Part C1: Contract Data

C1.2-20

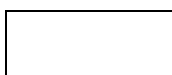
C1.2.2
Variations and Additions



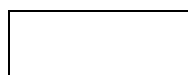
Employer



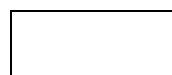
Witness 1



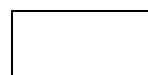
Witness 2



Contractor



Witness 1



Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

CLAUSE/ SUB- CLAUSE	PARTICULAR CONDITION
17.6	Limitation of Liability <i>Delete the second paragraph of Sub-Clause 17.6 and replace with:</i> “The total liability of the Contractor to the Employer, under or in connection with the Contract, other than under Sub-Clause 4.19 [Electricity, Water and Gas], Sub-Clause 4.20 [Employer’s Equipment and Free Issue Material], Sub-Clause 17.1 [Indemnities] and Sub-Clause 17.5 [Intellectual and Industrial Property Rights], and for any latent defects shall not exceed the Accepted Contract Amount. The Employer shall have no claim under this clause against the Contractor for latent defects which manifest itself later than 10 years after the issue of the Taking Over Certificate by the Engineer.”
20.1	Contractor’s Claims <i>Change “28 days” in the first and second paragraph to “7 days”.</i>
20.6	Arbitration <i>Replace the first paragraph of this Sub-Clause with the following:</i> “Unless settled amicably, any dispute in respect of which the DAB’s decision (if any) has not become final and binding shall be finally settled by arbitration in the Country in which the Site is located. Unless otherwise agreed by both Parties: a) the dispute shall be settled by a single arbitrator to be agreed upon between the Parties or, failing such agreement within 28 days after the request by either Party for arbitration on the matter, a person nominated by the President of the Association of Arbitrators (Southern Africa); b) arbitration shall take place in accordance with the Rules for the Conduct of Arbitrations issued by the Association of Arbitrators (Southern Africa) ; a) the arbitration shall be conducted in the language for communications defined in Sub-Clause 1.4 [<i>Law and Language</i>]; and d) the arbitrator shall, in his award, set out the facts and the provisions of the Contract upon which his award is based.”

Tender
Part C1: Contract Data

C1.2-21

C1.2.2
Variations and Additions

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

C1.2.3 APPENDIX TO TENDER
(CONTRACT DATA COMPLETED BY EMPLOYER)

Item	Clause	Entry
Employer's Name and Address	1.1.2.2 & 1.3	Rustenburg Water Services Trust <u>Postal Address:</u> PO Box 16 RUSTENBURG 0300 <u>Physical Address:</u> 1A Kock Street RUSTENBURG 0300
Engineer's Name and Address	1.1.2.4 & 1.3	Rustenburg Consulting Consortium <u>Postal Address:</u> PO Box 29 The Innovation Hub PRETORIA 0087 <u>Physical Address:</u> Allan Cormack Street, The Innovation Hub PRETORIA
Time for Completion of the Works	1.1.3.3	18 months max [546 calendar days] The maximum time for completion stated includes any/all builders holidays and non-working days.
Defects Notification Period	1.1.3.7	12 months [365 calendar days]
Electronic Transmission System	1.3	E-mail
Governing Law	1.4	Republic of South Africa

Tender
Part C1: Contract Data

C1.2-22

C1.2.3
Appendix to Tender

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

Item	Clause	Entry
Ruling language	1.4	English
Language of communications	1.4	English
Time for access to the Site	2.1	On the Commencement Date
Amount of Performance Security	4.2	10% of the Accepted Contract Amount (excl. VAT).
Normal working hours	6.5	Monday to Saturday from sunrise to sunset, not exceeding 45 hours/week
Number of working days delay to be allowed for in programme	8.4	60 calendar days belonging to the Employer for purposes of accommodating potential Employer's delays due to unforeseen circumstances and the application of the work permit.
Delay damages for the Works	8.7 & 14.15(b)	0.10% of the Accepted Contract Amount per calendar day
Maximum Amount of Delay Damages	8.7	Limited to 10% of Accepted Contract Amount
Percentage for adjustment of Provisional Sums	13.5(b)	7.5% if not specifically stated
Adjustment for Changes in Cost	13.8	<u>Civil Works</u> The value of 'x' shall be 0.15. Values of coefficients: 'a' = 0.25 (labour) 'b' = 0.15 (plant) 'c' = 0.55 (materials) 'd' = 0.05 (fuel) <u>General</u> The base month shall be the month prior to the closing of tenders.
Advance Payment	14.2	Nil

Tender
Part C1: Contract Data

C1.2-23

C1.2.3
Appendix to Tender

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

Item	Clause	Entry
Percentage of retention	14.3	10% deduction A retention money guarantee <i>in lieu</i> of retention will not be accepted.
Limit of Retention Money	14.3	10% of Accepted Contract Amount
Minimum amount of Interim Payment Certificate	14.6	No minimum
Currency of payment	14.15	South African Rand (ZAR)
Periods for submission of insurance: (a) Evidence of insurance (b) Relevant policies	18.1	The Contractor shall be the insuring Party. 14 days 35 days
Minimum amount of third-party insurance	18.3	R 15 million per occurrence
Date by which the DAB shall be appointed	20.2	Ad Hoc appointment (If/when required by parties)
The DAB shall be	20.2	A single mutually agreed specialist adjudicator
Appointment (if not agreed) to be made by	20.3	The President of Consulting Engineers South Africa (CESA)

Tender
Part C1: Contract Data

C1.2-24

C1.2.3
Appendix to Tender

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

C1.2.4 APPENDIX TO TENDER (continued)

(CONTRACT DATA PROVIDED BY THE CONTRACTOR)

Item	Clause	Entry																		
Contractor's Name and Address	1.1.2.3 & 1.3	 																		
Time for Completion (offered)	1.1.3.3	 Months (subject to acceptance by Employer)																		
Contract Price Adjustment	13.8	For Civil Works: x = 0.15 <table><thead><tr><th></th><th>Default</th><th>Contractor</th></tr></thead><tbody><tr><td>a (labour)</td><td>0.25</td><td>.....</td></tr><tr><td>b (plant)</td><td>0.15</td><td>.....</td></tr><tr><td>c (materials)</td><td>0.55</td><td>.....</td></tr><tr><td>d (fuel)</td><td>0.05</td><td>.....</td></tr><tr><td></td><td>1.00</td><td>.....</td></tr></tbody></table> Above values must total to one (1).		Default	Contractor	a (labour)	0.25		b (plant)	0.15		c (materials)	0.55		d (fuel)	0.05			1.00	
	Default	Contractor																		
a (labour)	0.25																			
b (plant)	0.15																			
c (materials)	0.55																			
d (fuel)	0.05																			
	1.00																			
Special Materials	13.9 (new)	Special Materials or Items Rate/Price at Base Month (a)..... (b)..... (c)..... (d)..... Method by which variations shall be determined: 																		

Tender
Part C1: Contract Data

C1.2-25

C1.2.4
Appendix to Tender

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

Item	Clause	Entry		
				
Items subject to rate of exchange variations	13.9 (new)	Only items indicated in the table below will qualify for adjustment in terms of this Sub-Clause		
Sub-Clause 13.9 - Items subject to Adjustment in prices due to Variations in Rates of Exchange				
<u>Item</u>	<u>Amount (Rand)</u>	<u>Foreign Currency</u>	<u>Rate of Exchange [ROE]</u>	<u>Date</u>
.....	.....	.....	R 1.00 = .....	.....
.....	.....	.....	R 1.00 = .....	.....
.....	.....	.....	R 1.00 = .....	.....
.....	.....	.....	R 1.00 = .....	.....
.....	.....	.....	R 1.00 = .....	.....
.....	.....	.....	R 1.00 = .....	.....
.....	.....	.....	R 1.00 = .....	.....
.....	.....	.....	R 1.00 = .....	.....

Signature

On behalf of

Date:

Tender
Part C1: Contract Data

C1.2-26

C1.2.4
Appendix to Tender

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

C1.3 FORM OF GUARANTEE

WHEREAS

RUSTENBURG WATER SERVICES TRUST
(hereinafter referred to as the “Employer”),

enters into a Contract RLM/RWST/OMM/0102/2024/25 with

.....
(hereinafter referred to as the “Contractor”)

For *CONSTRUCTION OF THE BOSPOORT BULK PIPELINE*

WHEREAS in terms of the General Conditions of the Contract the Contractor is required to furnish an acceptable security for the due and proper fulfilment by him of all his duties and obligations in terms of the Contract.

NOW THEREFORE, we the undersigned

..... [full names of authorized agent(s)]

and acting in my/our capacity as and as such duly authorized thereto, do hereby bind the said (hereinafter referred to as the “Guarantor”) as guarantor and co-principal debtor in solidum for the sum of

R (.....

.....)

for the due and proper fulfilment by the Contractor of all or any of his duties and obligations in terms of the said Contract.

The Guarantor further undertakes, in the event of the Contractor failing duly and properly to fulfil any of his duties and obligations in terms of the said Contract or in the event of termination of the Contract by the Employer in terms of the General Conditions of Contract, to

pay to the Employer the said sum of R (.....
.....) or such portion

Tender
Part C1: Contract Data

C1.3-27

C1.3
Form of Guarantee

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

thereof as may be required by the Employer, immediately upon receiving written demand from the Employer which written demand shall be addressed to the Guarantor at (domicilium address)

.....

.....

The Guarantor further hereby renounces the benefits of the legal exceptions:

Exceptio non numerate pecuniae
Exception non causa debiti
Beneficium duobus vel pluribus reis debendi
Beneficium ordinis de excussionis
Beneficium Divisionis

and all other defence which could be pleaded against the validity of this security, with the meaning and effect of which the Guarantor declares itself to be fully acquainted.

This undertaking shall remain in full force and effect up to and including the date of issue of the Performance Certificate, as provided for in the General Conditions of Contract, unless the Guarantor is advised in writing by the Employer of his intention to institute claims, and the particulars thereof, in which event this security shall remain in full force and effect until all such claims have been paid or liquidated.

This document is not negotiable or transferable.

SIGNED AT on this day of 20

.....
Signature of authorized agent(s)

.....
Full name and capacity of authorized agent(s)

AS WITNESSES:

1. 2.

Tender
Part C1: Contract Data

C1.3-28

C1.3
Form of Guarantee

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

PERFORMANCE GUARANTEE

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

Tender
Part C1: Contract Data

C1.3-29

C1.3
Form of Guarantee

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

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 services 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 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).....

Tender
Part C1: Contract Data

C1.3-30

C1.3
Form of Guarantee

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

C1.4 OCCUPATIONAL HEALTH AND SAFETY AGREEMENT

AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT NO 85 OF 1993

THIS AGREEMENT is made between **RUSTENBURG WATER SERVICES TRUST (RWST)** (hereinafter called the Employer) of the one part, herein represented by:

in his capacity as: _____

(hereinafter called the Contractor) of the other part, herein represented by _____

in his capacity as: _____

duly authorized to sign on behalf of the Contractor.

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

CONTRACT NO: **RLM/RWST/OMM/0102/2024/25**

CONTRACT TITLE: **RE-ADVERT: CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

for the construction, completion and maintenance of the works;

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

NOW THEREFORE the parties agree as follows:

1. The CONTRACTOR undertakes to acquaint the appropriate officials and employees of the contractor with all relevant provisions of the act and the regulations promulgated in terms thereof.
2. The CONTRACTOR undertakes to fully comply with all relevant duties, obligations and prohibitions imposed in terms of the ACT and Regulations: Provided that should the Employer have prescribed certain arrangements and procedures that same shall be observed and adhere to by the CONTRACTOR, his officials and employees. The CONTRACTOR shall bear the onus of acquainting himself/herself/itself with such arrangements and procedures.

Tender
Part C1: Contract Data

C1.4-31

C1.4
Occupational Health and Safety Agreement

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

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 authorized officials of the EMPLOYER shall be entitled, although not obligated, 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 investigations, compliant 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 investigations, compliant or criminal charge.

Thus signed at _____ for and on behalf of the **CONTRACTOR**
on this the _____ day of _____ 20 ____ .

SIGNATURE: _____

NAME AND SURNAME: _____

CAPACITY: _____

WITNESSES: 1. _____

2. _____

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

SIGNATURE: _____

Tender
Part C1: Contract Data

C1.4-32

C1.4
Occupational Health and Safety Agreement

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

NAME AND SURNAME: _____

CAPACITY: _____

WITNESSES: 1. _____

2. _____

END OF SECTION

Tender
Part C1: Contract Data

C1.4-33

C1.4
Occupational Health and Safety Agreement

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

C2 PRICING DATA

RLM/RWST/OMM/0101/2024/25 - RE-ADVERT: APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

Tender
Part C2: Pricing Data

C2.1-1

C2

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

C2.1 PRICING INSTRUCTIONS

1. GENERAL

These pricing instructions provide the Tenderer with guidelines and requirements with regard to the completion of the bill of quantities. The Schedule has to be completed in black ink and the tenderer is referred to the Tender Specifications in regard to the corrections of errors.

The Bill of Quantities shall be read with all the documents which form part of this Contract.

The following words have the meaning hereby assigned to them:

- Unit : The unit of measurement for each item of work in terms of the Specifications and the Project Specifications
- Quantity : The number of units for each item.
- Rate : The payment per unit of work at which the tenderer tenders to do the work.
- Amount : The product of the quantity and the rate tendered for an item.
- Lump sum : An amount tendered for an item, the extend of which is described in the
(L.Sum) Pricing Instructions, Bill of Quantities, the Specifications and the Project Specifications, but the quantity of work of which is not measured in any units.

Reference shall be made to the General and Special Conditions of Contract regarding Provisional and Prime Cost items

The Contractor shall determine the contract skills participation goals, expressed in Rand, which shall not be less than the sub-total multiplied by a percentage factor given in Table 2 in the Standard for the applicable class of construction works. This is indicated by the percentage factor in the Final Tender Summary section. Minimum Contract Skills Development Goal (CSDG) = sum Civil Engineering (Infrastructure) CE (0.25%) x Sub-total of the tender amount.

2. PAY ITEMS

The method of measurement published by the South African Bureau of Standards in Clause 8 of the Standardised Specifications for Civil Engineering Construction (SABS 1200) is applicable, subject to the variations and amendments contained in section C3.4.2.

Tender
Part C2: Pricing Data

C2.1-2

C2.1
Pricing Instructions

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

Descriptions in the Bill of Quantities are abbreviated and comply generally with those in the Standard Specifications. The measurement and payment clause of each Standard Specification, read together with the relevant clauses of the Scope of Work, set out what ancillary or associated activities are included in the rates for the operations specified. Should any requirements of the measurement and payment clause of the applicable Standard Specification, or the Scope of Work, conflict with the terms of the Bill of Quantities, the requirements of the Standard Specification or Scope of Work, as applicable, shall prevail.

The units of measurement described in the Bill of Quantities are metric units. Abbreviations used in the Bill of Quantities are as follows:

mm	=	millimetre	h	=	hour
m	=	metre	kg	=	kilogram
km	=	kilometre	t	=	ton (1000kg)
m ²	=	square metre	No.	=	number
m ² .pass	=	square metre pass	sum	=	lump sum
ha	=	hectare	MN	=	meganewton
m ³	=	cubic metre	MN.m	=	meganewton-metre
m ³ .km	=	cubic metre-kilometre	PC sum	=	Prime Cost Sum
l	=	litre	Prov sum	=	Provisional sum
kl	=	kilolitre	%	=	per cent
MPa	=	megapascal	kW	=	kilowatt
kPa	=	kilopascal	wt	=	wall thickness
dia	=	diameter			

3. QUANTITIES

- 3.1 Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
- 3.2 The quantities set out in the Bill of Quantities are the estimated quantities of the Works, and do not necessarily represent the actual amount of work to be done. The quantities certified for payment, and not the quantities given in the Bill of Quantities, shall be used for determining payments to the Contractor. The Contract Price for the completed contract shall be computed from the actual quantities of work done, valued at the relevant unit rates and prices.

Tender
Part C2: Pricing Data

C2.1-3

C2.1
Pricing Instructions

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

4. RATES

- 4.1 The prices and rates to be inserted in the Bill of Quantities are to be full inclusive prices for the work described under the several items. Such prices and rates shall cover all costs and expenses that may be required in and for the execution of the work described, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the documents on which the tender is based, as well as overhead charges and profit. Reasonable prices shall be inserted as these will be used as a basis for assessment of payment for additional work that may have to be carried out.
- 4.2 A price or rate is to be entered against each item in the Bill of Quantities, whether the quantities are stated or not. An item against which no price is entered or where a word or phrase such as “included” or “provided elsewhere” will be accepted as a rate of nil (R0,00) having been entered against such items and covered by the other prices or rates in the schedule.
- Any work executed to which such a pay item applies, shall be measured under the appropriate items in the Bill of Quantities and valued at a rate of nil (R0,00). The rate of nil shall be valid irrespective of any change in the quantities during the execution of the Contract.
- 4.3 The Tenderer shall fill in a rate against all items where the words “rate only” appears in the amount column. The intention is that, although no work is foreseen under such item and no quantities are consequently given in the quantity column, the tendered rate shall apply should work under this item be actually required.
- 4.4 Except where rates only are required, the Tenderer shall insert all amounts to be included in his total tendered price in the “Amount” column and show the corresponding total tendered price.
- 4.5 All rates and sums of money quoted in the Bill of Quantities shall be in rands and whole cents. Fractions of a cent shall be discarded.
- 4.6 All prices and rates entered in the Bill of Quantities must be **excluding Value Added Tax (VAT)**. VAT will be added last on the summary page of the Bill of Quantities.
- 4.7 Should excessively high unit prices be tendered, such prices may be of sufficient importance to warrant rejection of a tender by the Employer.
- 4.8 Where the Contractor is required to furnish detailed drawings and designs or other information in terms of the Contract Documents, all costs thereof shall be deemed to have been provided for

Tender
Part C2: Pricing Data

C2.1-4

C2.1
Pricing Instructions

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



**CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE**

and included in the unit rates and sum amounts tendered for the items scheduled in the Bill of Quantities, and separate additional payments will not be made.

- 4.9 The Contractor shall determine the Contract Skills Development Goal (CSDG), expressed in Rand, which shall not be less than the sub-total multiplied by a percentage (%) factor given in Table 2 of the Standard for Developing Skills through Infrastructure Contracts (Government Gazette No 48491 of 28 April 2023) for applicable class of construction works.

END OF SECTION

Tender
Part C2: Pricing Data

C2.1-5

C2.1
Pricing Instructions

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
	SANS 1200 A	SCHEDULE: 1.1 PRELIMINARY AND GENERAL				
		<u>FIXED-CHARGE ITEMS</u>				
1.1.1	8.3.1	Contractual Requirements	sum	1		
		<u>Establishment of Facilities on Site</u>				
	8.3.2	.1 <u>Facilities for the Engineer</u> <u>Dwg LSO-086-M-TD02</u>				
1.1.2	PSAB2/7	(a,f,h) Furnished offices, latrines and carports	sum	1		
1.1.3	PSAB3	(b) Telephone (Telkom landline)	sum	1		
1.1.4	PSAB1	(c) Nameboards	no	1		
1.1.5	PSAB5	(d) Survey assistant	sum	1		
1.1.6	PSAB6	(e) Survey equipment	sum	1		
1.1.7	PSAB4.2	(g) Laboratory equipment	sum	1		
	8.3.2	.2 <u>Facilities for the Contractor</u>				
1.1.8		(a) Offices and storage sheds	sum	1		
1.1.9		(b) Workshops	sum	1		
1.1.10		(c) Laboratories	sum	1		
1.1.11		(d) Living accommodation	sum	1		
1.1.12		(e) Ablution and latrine facilities	sum	1		
1.1.13		(f) Tools and equipment	sum	1		
1.1.14		(g) Water supplies, power and communication	sum	1		
1.1.15		(h) Dealing with water (Sub-clause 5.5)	sum	1		
1.1.16		(i) Access (Sub-clause 5.8)	sum	1		
1.1.17		(j) Plant	sum	1		
1.1.18	8.3.3	Other fixed-charge obligations	sum	1		
1.1.19	8.3.4	Removal of Contractor's and Engineers site establishment on completion	sum	1		
	8.3.5	<u>Occupational Health and Safety</u>				
1.1.20	PSA7	Compliance with Occupational Health and Safety Act (Act 85 of 1993) and its regulations and with the Employers Health and Safety Specification	sum	1		
	8.3.6	<u>Environmental Management</u>				
1.1.21	PSA9	Compliance with Environmental Management plan	sum	1		
Carried Forward						
Brought Forward						
		<u>TIME-RELATED ITEMS</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
1.1.22	8.4.1	Contractual requirements	sum	1		
		<u>Operation and maintenance of facilities on the Site for the duration of construction</u>				
	8.4.2	.1 <u>Facilities for the Engineer</u> <u>Dwg LSO-086-M-TD02</u>				
1.1.22	PSAB2/7	(a,f,h) Furnished offices, latrines and carports	sum	1		
1.1.23	PSAB3	(b) Telephone (Telkom landline)	sum	1		
1.1.24	PSAB1	(c) Nameboards	sum	1		
1.1.25	PSAB5	(d) Survey assistant	sum	1		
1.1.26	PSAB6	(e) Survey equipment	sum	1		
1.1.27	PSAB4.2	(g) Laboratory equipment	sum	1		
	8.4.2	.2 <u>Facilities for the Contractor</u>				
1.1.28		(a) Offices and storage sheds	sum	1		
1.1.29		(b) Workshops	sum	1		
1.1.30		(c) Laboratories	sum	1		
1.1.31		(d) Living accommodation	sum	1		
1.1.32		(e) Ablution and latrine facilities	sum	1		
1.1.33		(f) Tools and equipment	sum	1		
1.1.34		(g) Water supplies, power and communication	sum	1		
1.1.35		(h) Dealing with water (Sub-clause 5.5)	sum	1		
1.1.36		(i) Access (Sub-clause 5.8)	sum	1		
1.1.37		(j) Plant	sum	1		
1.1.38	8.4.3	Supervision for duration of construction	sum	1		
1.1.39	8.4.4	Company and head office overhead costs for the duration of the contract	sum	1		
1.1.40	8.4.5	Other time-related obligations	sum	1		
	8.4.6	<u>Occupational Health and Safety</u>				
1.1.41	PSA8	Compliance with Occupational Health and Safety Act (Act 85 of 1993) and its regulations and with the Employers Health and Safety Specification	sum	1		
	8.4.7	<u>Environmental Management</u>				
1.1.42	PSA9	Compliance with Environmental Management plan	sum	1		
Carried Forward						
Brought Forward						
	8.4.7	<u>Local Economic Participation Plan</u>				
1.1.43	PSA10	Provision of a suitable Local Economic Participation Plan, auditing and monthly reports	sum	1		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
		<u>Other General Charges</u>				
1.1.44	PPG 8.3.1	Temporary Storage of Equipment	sum	1		
1.1.45	PPG 8.3.4	Training	sum	1		
1.1.46	PPG 8.3.5	Charges and Profit on Maintenance Spares (R 50 000.00)	%	50000		
		<u>SCHEDULE: 1.1</u> <u>PRELIMINARY AND GENERAL</u>				
		Carried forward to Summary of Schedules			Total	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
	SANS 1200 A	BILL NO: 1.2 PROVISIONAL SUMS AND PRIME COST ITEMS SUMS STATED PROVISIONALLY BY THE ENGINEER <u>Note:</u> Expenditure under the following Provisional Sums is for work executed by the Contractor/Sub-contractor or Supplier during the construction phase of the contract. Values paid under these items shall be "nett values" excluding discount and VAT" Invoices shall be supplied for each expenditure and attached to the payment certificates. <u>For work to be executed by the Contractor and valued in terms of the "Valuation of Variations" clause in the Conditions of Contract</u> ALLOWANCES <u>Allowances</u> 8.5 (a) .1 <u>Community requirements</u>				
1.2.1	PSA11.3	.1 CLO/LDO remuneration	Prov sum	1	R275,000.00	R275,000.00
1.2.2		.2 Overheads, charges and profit on above	%	275,000		
1.2.3		.3 Accredited training courses for selected local and other labourers	Prov sum	1	R150,000.00	R150,000.00
1.2.4		.4 Overheads, charges and profit on above	%	150,000		
1.2.5		.5 Wages and salaries of local and other labourers employed during training	Prov sum	1	R150,000.00	R150,000.00
1.2.6		.6 Overheads, charges and profit on above	%	150,000		
1.2.7		.7 Social facilitation	Prov sum	1	R2,000,000.00	R2,000,000.00
1.2.8		.8 Overheads, charges and profit on above	%	2,000,000		
Carried Forward						
Brought Forward						
		ENGINEERS REQUIREMENTS				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
	8.5	(a) .1 <u>Engineers requirements</u>				
1.2.9	PSA11.5	.1 Cellular phones and IT Equipment	Prov sum	1	R50,000.00	R50,000.00
1.2.10		.2 Overheads, charges and profit on above	%	50,000		
1.2.11	PSA11.6	.3 Acceptance control testing	Prov sum	1	R300,000.00	R300,000.00
1.2.12		.4 Overheads, charges and profit on above	%	300,000		
1.2.13		.5 Transport (km charges)	Prov sum	1	R250,000.00	R250,000.00
1.2.14		.6 Overheads, charges and profit on above	%	250,000		
1.2.15	PSA11.7	.7 Site office consumables and personal protective equipment	Prov sum	1	R25,000.00	R25,000.00
1.2.16		.8 Overheads, charges and profit on above	%	25,000		
1.2.17	PSA11.8	.9 Electronic office equipment for Engineers site office	Prov sum	1	R25,000.00	R25,000.00
1.2.18		.10 Overheads, charges and profit on above	%	25,000		
1.2.19		.11 Engineers accommodation at remote construction site	Prov sum	1	R300,000.00	R300,000.00
1.2.20		.12 Overheads, charges and profit on above	%	300,000		
1.2.21	PSA11.9	.13 Locating existing services	Prov sum	1	R500,000.00	R500,000.00
1.2.22		.14 Overheads, charges and profit on above	%	500,000		
1.2.23	PSA11.10	.15 Relocating existing services	Prov sum	1	R300,000.00	R300,000.00
1.2.24		.16 Overheads, charges and profit on above	%	300,000		
Carried Forward						
Brought Forward						
1.2.25	PSA11.11	.17 Specialised services	Prov sum	1	R200,000.00	R200,000.00
1.2.26		.18 Overheads, charges and profit on above	%	200,000		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
1.2.27		.19 Relocating existing archaeological remains	Prov sum	1	R350,000.00	R350,000.00
1.2.28		.20 Overheads, charges and profit on above	%	350,000		
1.2.29		.21 Specialised security services, PSiRA registered	Prov sum	1	R1,200,000.00	R1,200,000.00
1.2.30		.22 Overheads, charges and profit on above	%	1,200,000		
1.2.31		.23 Allowance for the management of local sub-contractors (SMME's) to cover any additional costs incurred, including rate variance	Prov sum	1	R1,000,000.00	R1,000,000.00
	PSA11.12	.2 <u>Cathodic Protection (CP) system</u> <u>Nominated Sub-Contractor</u>				
1.2.32		.3 Supply of material, construction, testing & commissioning of temporary & permanent CP systems, by a sub-subcontractor to be approved by the Engineer	Prov sum	1	R300,000.00	R300,000.00
1.2.33		.4 Overheads, charges and profit on above	%	300,000		
		(c) .1 <u>Surveyor</u>				
1.2.34		.1 Surveyor service (towers and pegs)	Prov sum	1	R200,000.00	R200,000.00
1.2.35		.2 Overheads, charges and profit on above	%			
1.2.36	PPG8.4.1	(d) .1 <u>Maintenance Spares</u>	Prov sum	1	R50,000.00	R50,000.00
1.2.37	PPG8.4.2	(e) .1 <u>Specialist External Inspectorate</u>	Prov sum	1	R3,500,000.00	R3,500,000.00
		.2 Overheads, charges and profit on above	%	3,500,000		
Carried Forward						
Brought Forward						
	8.5	(f) .1 <u>For work to be executed by the Employer or a Nominated Sub-contractor</u>				
1.2.39		.1 Telemetry	Prov sum	1	R200,000.00	R200,000.00
1.2.40		.2 Overheads, charges and profit on				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
		above	%	200,000		
		<u>PRIME COST ITEMS</u>				
		<u>Note:</u> Expenditure under the following Prime Cost Item is for material purchases by the Contractor in the execution of dayworks only. Values paid under these items shall be "nett values excluding discount and VAT" Invoices shall be supplied for each expenditure and attached to the payment certificates.				
	8.6	<u>Materials for dayworks</u>				
	<u>PSA12</u>					
1.2.41		(a) Materials used in the execution of dayworks	PC item	1	R100,000.00	R100,000.00
1.2.42		(b) Overheads, charges and profit on above	%	100,000		
		<u>BILL NO 2</u> <u>PROVISIONAL SUMS AND PRIME COST ITEMS</u>				
Carried forward to Summary of Schedules					Total	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
	SANS 1200 A	BILL NO 1.3 DAYWORKS AND TEMPORARY WORKS				
		DAYWORKS				
		Note: Dayworks executed on instruction of the Engineer only. Supervision of dayworks is not payable under this section and is deemed to be included under Preliminary and General items in 1200A. Daywork sheets shall be delivered to the Engineer at the end of each day for approval, failing this, the Engineer will reject the dayworks.				
	8.7.1	LABOUR				
1.3.1		(a) Skilled	hr	50		
1.3.2		(b) Semi-skilled	hr	100		
1.3.3		(c) Un-skilled	hr	150		
1.3.4		(d) Artisan	hr	20		
1.3.5		(e) Boilermaker (Pipe Fabricator)	hr	20		
1.3.6		(f) Boilermaker Assistant	hr	20		
1.3.7		(g) Qualified Welder	hr	20		
1.3.8		(h) Welder Assistant	hr	20		
1.3.9		(i) Fitter	hr	20		
1.3.10		(j) Fitter Assistant	hr	20		
1.3.11		(k) Grinder	hr	20		
1.3.12		(l) Qualified Electrician	hr	20		
1.3.13		(m) Electrician Assistant	hr	20		
1.3.14		(n) Shutter hand	hr	20		
1.3.15		(o) Steel Fixer	hr	20		
1.3.16		(p) Rigger	hr	20		
1.3.17		(q) Quality Inspector	hr	20		
1.3.18		(r) Quality Inspector Technician	hr	20		
1.3.19		(s) Mechanic	hr	20		
1.3.20		(t) General Operator	hr	20		
1.3.21		(u) LDV Driver	hr	20		
1.3.22		(v) Bus Driver	hr	20		
		TRUCKS				
	8.7.2	.1 <u>Tipper trucks (specify capacity)</u>				
1.3.23		(a) Capacity_____m ³ (small)	hr	10		
1.3.24		(b) Capacity_____m ³ (medium)	hr	10		
1.3.25		(c) Capacity_____m ³ (large)	hr	10		
Carried Forward						
Brought Forward						
	8.7.2	.2 <u>Off highway dump trucks (specify capacity)</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
1.3.26		(a) Capacity_____m ³ (medium)	hr	10		
1.3.27		(b) Capacity_____m ³ (large)	hr	10		
	8.7.2	.3 <u>Flatbed trucks (specify capacity)</u>				
1.3.28		(a) Capacity_____m ³ (small)	hr	10		
1.3.29		(b) Capacity_____m ³ (medium)	hr	10		
1.3.30		(c) Capacity_____m ³ (large)	hr	10		
		<u>LDV'S</u>				
	8.7.2	.4 <u>LDV (specify size)</u>				
1.3.31		(a) LDV_____ton	km	250		
		<u>WATER TANKERS</u>				
	8.7.2	.5 <u>Water tankers (specify capacity)</u>				
1.3.32		(a) Capacity_____liter (small, towable)	hr	10		
1.3.33		(b) Capacity_____liter (medium)	hr	10		
1.3.34		(c) Capacity_____liter (large)	hr	10		
		<u>LOADERS</u>				
	8.7.2	.6 <u>Wheel loaders (specify capacity)</u>				
1.3.35		(a) Capacity_____m ³ (small)	hr	10		
1.3.36		(b) Capacity_____m ³ (medium)	hr	10		
1.3.37		(c) Capacity_____m ³ (large)	hr	10		
		<u>GRADERS</u>				
	8.7.2	.7 <u>Motor graders (specify model/kw)</u>				
1.3.38		(a) Model _____/_____kw	hr	10		
		<u>BULLDOZERS</u>				
	8.7.2	.8 <u>Bulldozers (specify model/mass/kw)</u>				
1.3.39		(a) Model_____/_____/kg_____kw (small)	hr	10		
1.3.40		(b) Model_____/_____/kg_____kw (medium)	hr	10		
1.3.41		(c) Model_____/_____/kg_____kw (large)	hr	10		
Carried Forward						
Brought Forward						
		<u>EXCAVATORS</u>				
	8.7.2	.9 <u>Crawler excavators (specify model/mass/kw)</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
1.3.42		(a) Model____/____/kg____kw (small)	hr	10		
1.3.43		(b) Model____/____/kg____kw (medium)	hr	10		
1.3.44		(c) Model____/____/kg____kw (large)	hr	10		
		<u>TLB'S</u>				
	8.7.2	.10 Tractor loader backhoe (TLB)(specify model)				
1.3.45		(a) Model_____	hr	50		
		<u>RIDE-ON ROLLERS</u>				
	8.7.2	.11 Self propelled vibrating rollers (smooth drum) (specify mass)				
1.3.46		(a) Mass____kg (medium)	hr	10		
1.3.47		(b) Mass____kg (large)	hr	10		
	8.7.2	.12 Self propelled vibrating rollers (padfoot) (specify mass)				
1.3.48		(a) Mass____kg (medium)	hr	10		
1.3.49		(b) Mass____kg (large)	hr	20		
	8.7.2	.13 Pneumatic tyred rollers (specify mass)				
1.3.50		(a) Mass > 9 ton / medium (Dry rate = _____)	hr	10		
1.3.51		(b) Mass > 15 ton / large (Dry rate = _____)	hr	10		
		<u>WALK BEHIND ROLLERS</u>				
	8.7.2	.14 Walk behind vibrating rollers (specify model)				
1.3.52		(a) Model____(BW 61) (small)	hr	10		
1.3.53		(b) Model____(BW 76) (medium)	hr	10		
1.3.54		(c) Model____(BW 90) (large)	hr	10		
		<u>COMPACTORS</u>				
	8.7.2	.15 Plate compactors (specify model)				
1.3.55		(a) Model_____	hr	10		
Carried Forward						
Brought Forward						
1.3.56	8.7.2	.16 Wackers (specify model)				
		(a) Model_____	hr	10		
		<u>CONCRETE MIXERS</u>				
	8.7.2	.17 Concrete mixers (specify mixing volume)				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
1.3.57		(a) Volume _____ liter (small, towable)	hr	10		
1.3.58		(b) Volume _____ liter (medium)	hr	10		
1.3.59		(c) Volume _____ liter (large)	hr	10		
	8.7.2	.18 <u>Concrete mixer truck</u>				
1.3.60		(a) Capacity > 5m ³ (Dry rate = _____)	hr	10		
		<u>COMPRESSORS</u>				
	8.7.2	.18 <u>Portable diesel compressors (specify capacity)</u>				
1.3.61		(a) Capacity _____ cfm (small)	hr	10		
1.3.62		(b) Capacity _____ cfm (medium)	hr	10		
1.3.63		(c) Capacity _____ cfm (large)	hr	10		
		<u>WATERPUMPS</u>				
	8.7.2	.19 <u>Waterpump (specify capacity)</u>				
1.3.64		(a) Capacity _____ liter/sec (small)	hr	10		
1.3.65		(b) Capacity _____ liter/sec (medium)	hr	10		
1.3.66		(c) Capacity _____ liter/sec (large)	hr	10		
	8.7.2	<u>WELDING UNIT</u>				
		.21 <u>Welding Unit</u>				
1.3.67		(a) Size > 200 Amp / small (Dry rate= _____)	hr	10		
1.3.68		(b) Size > 300 Amp / medium (Dry rate= _____)	hr	10		
1.3.69		(c) Size > 800 Amp / large (Dry rate= _____)	hr	10		
		<u>GENERATORS</u>				
	8.7.2	.21 <u>Mobile generator set (specify KVA)</u>				
1.3.70		(a) _____ KVA (small)	hr	20		
1.3.71		(b) _____ KVA (medium)]	hr	20		
1.3.72		(c) _____ KVA (large)	hr	20		
					Carried Forward	
					Brought Forward	
		<u>TRANSPORT (COST TO AND FROM SITE)</u>				
		<u>Note:</u> Distance shall be measured one way only (tender rates shall include for transport in both directions to and from site)				
	8.7.3	.1 <u>Low bed</u>				
		(a) Low-bed (suitable for the largest piece)				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
1.3.73		of equipment above)	km	100		
	8.7.3	.2 <u>Tipper truck</u>				
1.3.74		(a) Small	km	100		
1.3.75		(b) Medium	km	100		
1.3.76		(c) Large	km	100		
	8.7.3	.3 <u>Flatbed truck</u>				
1.3.77		(a) Small	km	100		
1.3.78		(b) Medium	km	100		
1.3.79		(c) Large	km	100		
	8.7.3	.4 <u>Water tanker</u>				
1.3.80		(a) Small	km	100		
1.3.81		(b) Medium	km	100		
1.3.82		(c) Large	km	100		
		<u>ACCOMMODATION OF TRAFFIC</u>				
	PSD7	<u>Accommodation of traffic during construction where work is constructed where public traffic needs to be accommodated during the construction</u>				
1.3.83	8.8.2	Accommodation of traffic	sum			
Carried Forward						
Brought Forward						
		<u>WORK TO EXISTING SERVICES</u>				
	8.8.4	<u>Existing services</u>				
1.3.84		(a) Supply or hire specialist equipment for the detection of services	sum			
1.3.85		(b) The use of equipment referred to above	day			
1.3.86		(c) Excavation by hand in soft material to expose services	m ³	50		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
		<u>BILL NO 1.3</u> <u>DAYWORKS AND TEMPORARY WORKS</u>				
		Carried forward to Summary of Schedules			Total	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
		<u>PORTION - 4</u>				
		<u>PIPELINE - SITE CLEARANCE</u>				
		<u>BILL NO 4.1</u>				
	SANS 1200 C	<u>SITE CLEARANCE</u>				
		<u>CLEAR AND GRUB SITE</u>				
	8.2.1	(b) <u>Clear and grub strips for (where not cleared within other clear and grub areas)</u>				
4.1.1		.1 Pipeline 5m wide	m	320		
4.1.2		.2 Pipeline 6m wide	m	4,350		
4.1.3		.3 Pipeline 14m wide	m	3,750		
4.1.4		.4 Pipeline 18m wide	m	600		
		<u>REMOVE LARGE TREES AND STUMPS</u>				
	8.2.2	<u>Remove and grub large trees and tree stumps of girth</u>				
4.1.5		(a) Exceeding 1m and up to and including 2m	no	15		
4.1.6		(b) Exceeding 2m and up to and including 3m	no	15		
	SANS 1200 DM	<u>TOPSOIL AND LANDSCAPING</u>				
		<u>REMOVE TOPSOIL</u>				
	8.3.2	(a) <u>Remove topsoil to a depth of 150mm for the total width of the trench and</u>				
4.1.7		.1 Stockpile on site and maintain	m³	2,200		
	SANS 1200 D	<u>FINISHING, TOPSOILING AND GRASSING</u>				
	8.3.10	<u>Topsoiling with material from stockpiles on site</u>				
4.1.8		(a) Spread over site	m³	2,200		
Carried Forward						
Brought Forward						
		<u>REMOVE EXISTING STRUCTURES AND SET ASIDE</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
		<u>MATERIAL FOR RE-USE</u>				
	SANS 1200 C	<u>REMOVAL OF FENCES, BOUNDARY WALLS, ETC AND STOCKPILE MATERIAL FOR RE-USE</u>				
		Note: All existing material removed and to be re-used for re-erection later, must be stockpiled neatly on a site designated by the Engineer and protected from damage or theft				
	8.2.5	<u>Taking down existing fences</u>				
4.1.9		(a) 1,2m high fence	m	1,400		
4.1.10		(b) 1,8m high fence	m	200		
4.1.11		(c) 1,8m high palisade fence	m	50		
4.1.12		(d) 1,8m brick wall	m	300		
4.1.13		(e) 1,8m concrete panel wall	m	20		
		<u>REINSTATE EXISTING STRUCTURES</u>				
		<u>REINSTATEMENT OF FENCES, BOUNDARY WALLS, ETC.</u>				
	8.2.15	<u>Take from stockpile on site existing fences and reinstate in similar position including replacing missing or damaged elements, etc</u>				
4.1.14		(a) 1,2m high fence	m	1,400		
4.1.15		(b) 1,8m high fence	m	200		
4.1.16		(c) 1,8m high palisade fence	m	50		
4.1.17		(d) 1,8m brick wall	m	300		
4.1.18		(e) 1,8m concrete panel wall	m	20		
Carried Forward						
Brought Forward						
		<u>REMOVE AND SPOIL EXISTING STRUCTURES</u>				
		<u>REMOVAL OF FENCES, BOUNDARY WALLS, ETC AND SPOIL MATERIAL</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
		<u>Note:</u> All existing material removed and not to be re-used must be spoiled at a spoil site established by the Contractor				
	8.2.6	<u>Taking down existing fences and spoil</u>				
4.1.19		(a) 1,2m high fence	m	50		
4.1.20		(b) 1,8m high fence	m	50		
4.1.21		(d) 1,8m brick wall	m	50		
		<u>DEMOLISH AND SPOIL MATERIAL OFF SITE</u>				
	8.2.8	<u>Demolish and spoil material for structures, buildings, etc at a spoil site established by the Contractor</u>				
		(b) <u>Sundry structures, etc</u>				
4.1.22		.1 Mass concrete structures	m ³	20		
4.1.23		.2 Reinforced concrete structures	m ³	25		
4.1.24		.3 Mass brickwork structures	m ³	50		
		<u>BILL NO: 4.1</u> <u>PIPELINE - SITE CLEARANCE</u>				
Carried forward to Summary of Schedules					Total	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.2.1		<u>PORTION - 4</u>				
		<u>PIPELINES - FENCING</u>				
		<u>BILL NO 4.2</u>				
	SANS 1200 C	<u>FENCING</u>				
		<u>NEW FENCING MEASURED IN ELEMENTS</u>				
		<u>NEW GATES</u>				
	8.2.41	New galvanized gates, including posts, stays and concrete Dwg 1890.11.00.GZA.17.D001				
		(a) 4800x1150mm high	no	6		
		<u>TEMPORARY FENCING</u>				
	8.2.43	Providing temporary fences and gates				
4.2.2		(c) Pedestrian fences	m	50		
		(d) Temporary gates				
4.2.3		(i) Size 900x1800mm high	no	6		
		<u>SUNDRIES</u>				
4.2.4	8.2.45	Drilling and blasting holes for posts and anchors	no	10		
		<u>BILL NO 4.2</u>				
		<u>PIPELINES - FENCING</u>				
Carried forward to Summary of Schedules					Total	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
		<u>PORTION - 4</u>				
		<u>PIPELINES - EARTHWORKS (PIPE TRENCHES)</u>				
		<u>BILL NO 4.3</u>				
	SANS 1200 DB	<u>TRENCHING</u>				
		<u>EXCAVATION AND BACKFILLING</u>				
		<u>Excavate in all materials, backfill and compact to 90% mod AASHTO density, and dispose of surplus unsuitable materials for trenches</u>				
	8.3.2	(a) .2 <u>Over 1m and up to 2m wide (500mm dia pipe)</u>				
4.3.1		.1 Over 1m and up to 2m deep	m³	1,350		
4.3.2		.2 Over 2m and up to 3m deep	m³	1,350		
4.3.3		.3 Over 3m and up to 4m deep	m³	200		
	8.3.2	(a) .3 <u>Over 1m and up to 2m wide (800m dia pipe)</u>				
4.3.4		.1 Over 1m and up to 2m deep	m³	170		
4.3.5		.2 Over 2m and up to 3m deep	m³	30,000		
4.3.6		.3 Over 3m and up to 4m deep	m³	800		
4.3.7		.4 Over 4m and up to 5m deep	m³	410		
4.3.8		.5 Over 5m and up to 6m deep	m³	25		
	8.3.2	(b) <u>Extra over reference 8.3.2 (a) for</u>				
4.3.9		.2 Hard rock excavation	m³	1,650		
4.3.10	8.3.2	(c) Excavate unsuitable material from trench bottom, dispose of material	m³	350		
4.3.11		(d) E.O 8.3.2 (a), (b) & (c) for spoiling unsuitable excess material off site and disposal of at a location identified by the contractor and approved by the engineer	m³	20,000		
Carried Forward						
Brought Forward						
		<u>IMPORT SUITABLE MATERIAL FOR BACKFILLING</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.3.12	8.3.3	<u>IF EXISTING TRENCH MATERIAL IS UNSUITABLE</u>				
		<u>DEFICIENCY IN BACKFILL MATERIAL</u>				
		<u>Excavation ancillaries</u>				
		.1 Make up deficiency in main backfill material where excavated material is not suitable				
		(c) By importation of suitable material from commercial sources selected by the Contractor	m³	1,000		
		<u>ADDITIONAL COMPACTION</u>				
		.3 <u>Additional compaction in road reserves</u>				
		.1 Additional compaction (90% compaction included elsewhere) to obtain 93% mod AASHTO density	m³	300		
		<u>EXISTING SERVICES</u>				
		<u>Existing services that intersect or adjoin pipe trench excavations</u>				
4.3.14	8.3.5	(a) <u>Services that intersect a trench</u>				
		.1 Electric cable	no	10		
		.2 Telephone cable	no	2		
		.3 Fiber optic cable	no	5		
		.4 Overhead power lines	no	15		
		.5 Overhead Telkom Lines	no	5		
		.6 Water main not exceeding 400mm dia	no	15		
		.6 Water main exceeding 400mm dia	no	3		
		.7 Sewer main not exceeding 400mm dia	no	5		
		.8 Stormwater pipe not exceeding 600mm dia	no	3		
Carried Forward						
Brought Forward						
4.3.23	8.3.5	(b) <u>Services that adjoin a trench</u>				
		.1 Electric cable	m	150		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.3.24		.2 Telephone cable	m	20		
4.3.25		.3 Fiber optic cable	m	1,250		
4.3.26		.4 Overhead power lines	m	20		
4.3.27		.5 Overhead Telkom Lines	m	150		
4.3.28		.6 Water main not exceeding 400mm dia	m	1,900		
4.3.29		.6 Water main exceeding 400mm dia	m	20		
4.3.30		.7 Sewer main not exceeding 400mm dia	m	90		
4.3.31		.8 Stormwater pipe not exceeding 600mm dia	m	50		
	SANS 1200 DM	<u>EARTHWORKS (ROADS , SUBGRADE)</u>				
		<u>ROCKFILL/DUMP ROCK</u>				
		<u>CUT TO FILL</u>				
	8.3.4	(b) <u>Rockfill, process and compact of suitable size</u>				
4.3.32		.1 Rockfill layer 300mm thick, 19mm compacted crushed stone, selected, haul within freehaul distance, placing in position and compacting with 10 pass 10 ton roller compaction	m ³	120		
		<u>CONSTRUCT DUMP ROCK LAYER WITH COMMERCIAL MATERIAL SUPPLIED BY THE CONTRACTOR</u>				
		<u>Dump rock of suitable size</u>				
4.3.33		.1 Dump rock layer 500mm thick, well graded, placed in position and compacted with 10 pass 10 ton roller compactor	m ³	200		
Carried Forward						
Brought Forward						
	SANS 1200 DK	GEOTEXTILES				
	8.2.4	<u>Supply and lay geotextile fabric below gabions and mattresses</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.3.34		(a) Non-woven, needle punched, continuous filament, polyester geotextile, Bidim A5 or similar product approved by engineer with a minimum overlap of 500mm	m ²	1,050		
4.3.35		(b) High strength composite (woven or non-woven) geotextile with high modulus characteristics for reinforcement & drainage applications (Rockgrip PC 100/100 or similar product approved by engineer) with a minimum overlap of 500mm	m ²	1,200		
		BILL NO 4.3 PIPELINES - EARTHWORKS (PIPE TRENCHES)				
Carried forward to Summary of Schedules			Total			

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.4.1 4.4.2 4.4.3 4.4.4 4.4.5 4.4.6 4.4.7 4.4.8		<u>PORTION - 4</u>				
		<u>PIPELINE - ROADS</u>				
		<u>BILL NO 4.4</u>				
	SANS 1200 DM	<u>EARTHWORKS (ROADS , SUBGRADE)</u>				
	SANS 1200 ME	<u>SUBBASE</u>				
		<u>CONSTRUCT LAYERWORKS WITH COMMERCIAL MATERIAL SUPPLIED BY THE CONTRACTOR</u>				
	8.3.3	.1 G5 Wearing course compacted to 95% mod AASHTO density in 150mm thick layers	m³	1,060		
		.2 G7 Subbase course compacted to 93% mod AASHTO density in 150mm thick layers	m³	680		
		<u>REPAIR ROAD CROSSINGS</u>				
	SANS 1200 DB	Finishing and repairing existing road crossings complete Dwg 1890.11.00.GZA.05.D001				
	8.3.6.1	Gravel road crossings (a) <u>Layerworks including extra over item 8.3.2 for careful excavation and stockpiling of materials for or replacing with new material, including all accommodation of traffic and bypasses, complete</u>				
		.1 Gravel wearing course (200mm thick (G6))	m²	200		
		.2 Gravel selected material (150mm thick (G7))	m²	150		
		.3 Layerworks (to match existing)	m²	120		
		.4 Soilcrete (5% OPC) compacted to 95%	m²	120		
		Asphalt road crossings				
		.5 Emulsion treated crushed stone base, G1 material compacted to 102% mod AASHTO	m²	290		
		.6 Cement stabilized sub-base (C4) compacted to 95% mod AASTHO	m²	250		
Carried Forward						

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
Brought Forward						
4.4.9	8.3.6.1	.7 Soilcrete (5% OPC) compacted to 95%	m ²	220		
		(b) Continuously TPA graded medium asphalt, including prime and tack coat preparation				
4.4.10		.1 40mm Thick	m ²	330		
4.4.11	8.3.7 PSA4.6 PSD7	Accommodation of traffic	Sum	1		
SUPPLY AND DELIVERY OF CONCRETE SLEEVE PIPES						
<u>Supply of concrete pipes for road crossings to be jacked</u>						
4.4.12		(c) 1117mm ID concrete, "in the wall joint", concrete sleeve pipes type SC class 100D, in accordance with SANS 677	m	110		
INSTALLATION OF CONCRETE SLEEVES						
<u>Lay, joint, and bed concrete pipe</u>						
4.4.13		(c) 1117mm ID concrete, "in the wall joint", concrete sleeve pipes type SC class 100D, in accordance with SANS 677	m	110		
BILL NO 4.4 PIPELINE - ROADS						
Carried forward to Summary of Bills					Total	

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
		<u>PORTION - 4</u>				
		<u>PIPELINES - MEDIUM PRESSURE PIPELINES</u>				
		<u>BILL NO 4.5</u>				
	SANS 1200 L	<u>STEEL MEDIUM PRESSURE PIPELINES</u>				
		<u>Manufacture, supply, transport and deliver to site</u>				
	8.2.1	<u>Steel pipes with cement mortar internal lining and the following pipe ends and external coating as per Project Specification</u>				
		<u>500 mm ND pipes with spigot and socket ends for fillet welding on site as specified in Particular Specification</u>				
		<u>800 mm ND pipes with ends suitable for butt welding on site</u>				
		(a) <u>Three Layer Polyethylene (3LPE) coating:</u>				
4.5.1		.1 500mm ND pipes, Grade X42, t = 5mm	m	1,261		
4.5.2		.2 800mm ND pipes, Grade X 42. t = 7mm	m	8,450		
		(b) <u>Polymer Modified Bitumen (Bituguard) coating:</u>				
4.5.3		.1 500mm ND pipes, Grade X42, t = 4.5mm	m	1,261		Rate only
4.5.4		.2 800mm ND pipes, Grade X 42. t = 7mm	m	8,450		Rate only
		(c) <u>Rigid Polyurethane (RPU) coating:</u>				
4.5.5		.1 500mm ND pipes, Grade X42, t = 4.5mm	m	1,261		Rate only
4.5.6		.2 800mm ND pipes, Grade X 42. t = 7mm	m	8,450		Rate only
		(d) <u>Fusion Bonded Medium Density Polyethylene (Sintakote/NDE) coating:</u>				
4.5.7		.1 500mm ND pipes, Grade X42, t = 4.5mm	m	1,261		Rate only
4.5.8		.2 800mm ND pipes, Grade X 42. t = 7mm	m	8,450		Rate only
Carried Forward						

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
Brought Forward						
4.5.9	PSL4.5	<u>Curing of cement mortar linings</u> Curing of cement mortar lining of pipes for a period of 28 days after it has been off-loaded on site (storage area or along pipeline route)	m	9,711		
		<u>Laying of pipes</u> <u>Lay, joint, and bed steel pipe with cement mortar internal lining and the following joints and coating as per Project Specification including internal lining and external coating of joints after welding and other repairs.</u> <u>Dwg: 1890.11.00.GZA.05.D001</u> <u>Refer to Particular Specification PLQ for lining and coating at joints and repairs. 500 mm ND pipes with spigot and socket ends for fillet welding on site as specified in Particular Specification PLN 800 mm ND pipes with ends suitable for butt welding on site</u>				
	8.2.1	<u>Pipes laid in ground</u>				
		(a) <u>Three layer polyethylene (3LPE) coating:</u>				
4.5.10		.1 500mm ND pipes, Grade X42, t = 4.5mm	m	1,261		
4.5.11		.2 800mm ND pipes, Grade X 42. t = 7mm	m	8,450		
		(b) <u>Polymer Modified Bitumen (Bituguard) coating:</u>				
4.5.12		.1 500mm ND pipes, Grade X42, t = 4.5mm	m	1,261		Rate only
4.5.13		.2 800mm ND pipes, Grade X 42. t = 7mm	m	8,450		Rate only
		(c) <u>Rigid polyurethane (RPU) coating:</u>				
4.5.14		.1 500mm ND pipes, Grade X42, t = 4.5mm	m	1,261		Rate only
4.5.15		.2 800mm ND pipes, Grade X 42. t = 7mm	m	8,450		Rate only
		(d) <u>Fusion Bonded Medium Density Polyethylene (Sintakote/NDE) coating:</u>				
4.5.16		.1 500mm ND pipes, Grade X42, t = 4.5mm	m	1,261		Rate only
Carried Forward						
Brought Forward						
4.5.17		.2 800mm ND pipes, Grade X 42. t = 7mm	m	8,450		Rate only
	8.2.1	<u>Pipes inserted through jacked sleeves</u> <u>Dwgs: 1890.11.00.GZA.05.D004 & D0058</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.5.18		(a) 500mm ND pipes, Grade X42, t = 5mm	m	17		
4.5.19		(b) 800mm ND pipes, Grade X 42. t = 7mm	m	165		
4.5.20		(c) 230mm Thick engineering brick wall in closure of the portal culvert at the ends	m ²	10		
<u>DISINFECT PIPES</u>						
	8.2.1	(b) <u>Disinfect pipes</u>				
4.5.21		.1 500mm ND pipes, Grade X42, t = 5mm	m	1,261		
4.5.22		.2 800mm ND pipes, Grade X 42. t = 7mm	m	8,450		
<u>TESTING OF PIPELINE</u>						
	8.2.1	(c) <u>Hydrostatic pressure testing of pipes of the following diameter</u>				
4.5.23		.1 500mm ND pipes, Grade X42, t = 5mm	m	1,261		
4.5.24		.2 800mm ND pipes, Grade X 42. t = 7mm	m	8,450		
<u>CCTV INSPECTION</u>						
		(a) CCTV inspection of pipeline including supplying all test and video results				
4.5.25		.1 500mm ND pipes, Grade X42, t = 5mm	m	1,261		
4.5.26		.2 800mm ND pipes, Grade X 42. t = 7mm	m	8,450		
	8.2.1	INSPECTION OF WELDS ON SITE				
		Measured per linear meter of pipes laid and inspection results comply with the specifications				
					Carried Forward	
					Brought Forward	
4.5.27		Refer to PSL 2 .1 500mm ND pipes, Grade X42, t = 5mm (liquid penetrant testing of fillet welds)	m	1,261		
4.5.28		.2 800mm ND pipes, Grade X 42. t = 7mm (radiographic testing of butt welds)	m	8,450		
<u>PIPE MITRES</u>						

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
		<u>Extra over items 8.2.1(a) for pipe mitres for pipe direction changes not exceeding 11.25°</u>				
	8.2.2	(a) <u>Mitre cut and welded joints</u>				
4.5.29		.1 500mm ND pipes (0°- 11.25°)	no	30		
4.5.30		.2 800mm ND pipes (0°- 11.25°)	no	120		
		<u>PIPE BENDS</u>				
		<u>Supply and deliver steel pipe bends</u>				
		<u>500 mm ND pipes with spigot and socket ends for fillet welding on site as specified in Particular Specification PLN 800 mm ND pipes with ends suitable for butt welding on site</u>				
		<u>Corrosion Protection: Cement mortar lining and epoxy plus tape wrapping coating in accordance with Particular specification PLQ.</u>				
	8.2.2	(a) <u>Purpose made steel bends</u>				
4.5.31		.1 500mm ND pipes (t=5mm) (11.3-22.5°)	no	12		
4.5.32		.2 500mm ND pipes (t=5mm) (22.6-45°)	no	5		
4.5.33		.3 500mm ND pipes (t=5mm) (45.1-90°)	no	8		
4.5.34		.4 800mm ND pipes (t=7mm) (11.3-22.5°)	no	24		
4.5.35		.5 800mm ND pipes (t=7mm) (22.6-45°)	no	8		
4.5.36		.6 800mm ND pipes (t=7mm) (45.1-90°)	no	7		
4.5.37		.7 800mm ND pipes (t=7mm) (>90°)	no	4		
Carried Forward						
Brought Forward						
		<u>Install steel pipe bends including corrosion protection of joints</u>				
		(a) <u>Purpose made steel bends</u>				
4.5.38		.1 500mm ND pipes (t=5mm) (11.3-22.5°)	no	12		
4.5.39		.2 500mm ND pipes (t=5mm) (22.6-45°)	no	5		
4.5.40		.3 500mm ND pipes (t=5mm) (45.1-90°)	no	8		
4.5.41		.4 800mm ND pipes (t=7mm) (11.3-22.5°)	no	24		
4.5.42		.5 800mm ND pipes (t=7mm) (22.6-45°)	no	8		
4.5.43		.6 800mm ND pipes (t=7mm) (45.1-90°)	no	7		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.5.44		.7 800mm ND pipes (t=7mm) (>90°)	no	4		
		<u>CONCRETE ENCASEMENT AND THRUST BLOCKS</u>				
	8.2.12	<u>Encasement of pipes in reinforced concrete 30Mpa/19mm incl. all formwork, reinforcement, etc</u>				
4.5.45		(a) Casing around pipes	m³	150		
		<u>SOILCRETE</u>				
	PSD11	<u>Soilcrete (5% OPC)</u>				
4.5.46		(a) Backfilling around pipes (including collars)	m³	200		
		<u>REINFORCEMENT</u>				
		<u>Steel bars</u>				
	8.3.1	(a) <u>Mild steel</u>				
4.5.47		.1 All sizes	ton	0.50		
	8.3.1	(b) <u>High tensile steel</u>				
4.5.48		.1 All sizes	ton	6.50		
Carried Forward						
Brought Forward						
		<u>PIPE FITTINGS, ETC TO THE FOLLOWING CHAMBERS</u>				
		<u>AIR VALVES INSTALLATIONS (400mm, 470mm & 500mm Ø)</u>				
		<u>Dwg 1890.11.00.GZA.05.D015 & F015</u>				
		<u>Supply and deliver pipe fittings to site</u>				
		<u>25 Bar fittings</u>				
	8.2.13	<u>Pipe fitting number</u>				
4.5.49		.1 AVS 1.1 (400mm Ø)	no	1		
4.5.50		.2 AVS 1.2 (80mm Ø)	no	1		
4.5.51		.3 AVS 1.3 (80mm Ø)	no	1		
4.5.52		.4 AVS 1.4 (80mm Ø)	no	1		
4.5.53		.5 AVS 2.1 (470mm Ø)	no	3		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.5.54		.6 AVS 2.2 (80mm Ø)	no	3		
4.5.55		.7 AVS 2.3 (80mm Ø)	no	3		
4.5.56		.8 AVS 2.4 (80mm Ø)	no	3		
4.5.57		.9 AVS 3.1 (500mm Ø)	no	5		
4.5.58		.10 AVS 3.2 (50mm Ø)	no	3		
4.5.59		.11 AVS 3.2 (80mm Ø)	no	2		
4.5.60		.12 AVS 3.3 (50mm Ø)	no	3		
4.5.61		.13 AVS 3.3 (80mm Ø)	no	2		
4.5.62		.14 AVS 3.4 (50mm Ø)	no	3		
4.5.63		.15 AVS 3.4 (80mm Ø)	no	2		
Carried Forward						
Brought Forward						
		<u>Installation of pipe fittings and valves</u>				
		<u>Take from site the following fittings and valves and fix complete, including the supply of all gaskets, bolts, etc.</u>				
4.5.64		.1 Fitting no's AVS 1.1 - AVS 1.4	sets	4		
4.5.65		.2 Fitting no's AVS 2.1 - AVS 2.4	sets	4		
4.5.66		.3 Fitting no's AVS 3.1 to AVS 3.4	sets	5		
4.5.67		.4 Extra over for installation during scheduled shutdown period (AVS 2.1)	sets	1		
		<u>AIR VALVES INSTALLATIONS (800mm Ø)</u>				
		<u>Dwg 1890.11.00GZA.05.D016 & F016</u>				
		<u>Supply and deliver pipe fittings to site</u>				
		<u>16 Bar fittings</u>				
	8.2.13	<u>Pipe fitting number</u>				
4.5.68		.1 AVL1	no	16		
4.5.69		.2 AVL2	no	16		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.5.70		.3 AVL3	no	16		
4.5.71		.4 AVL4	no	16		
		<u>Installation of pipe fittings and valves</u>				
	8.2.13	<u>Take from site the following fittings and valves and fix complete, including the supply of all gaskets, bolts, etc.</u>				
4.5.72		.1 Fitting no's AVL1 to AVL4	sets	16		
Carried Forward						
Brought Forward						
		<u>ACCESS INSTALLATIONS (500mm Ø)</u> <u>Dwg 1890.11.00GZA.05.D017 & F017</u>				
		<u>Supply and deliver pipe fittings to site</u>				
		<u>25 Bar fittings</u>				
	8.2.13	<u>Pipe fitting number</u>				
4.5.73		.1 ACS1	no	1		
4.5.74		.2 ACS2	no	1		
4.5.75		.3 ACS3	no	1		
4.5.76		.4 ACS4	no	1		
4.5.77		.5 ACS5	no	1		
		<u>Installation of pipe fittings and valves</u>				
	8.2.13	<u>Take from site the following fittings and valves and fix complete, including the supply of all gaskets, bolts, etc.</u>				
4.5.78		.1 Fitting no's ACS1 to ACS5	sets	1		
		<u>ACCESS INSTALLATIONS (800mm Ø)</u> <u>Dwg 1890.11.00GZA.05.D018 & F018</u>				
		<u>Supply and deliver pipe fittings to site</u>				
		<u>16 Bar fittings</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
	8.2.13	<u>Pipe fitting number</u>				
4.5.79	.1	ACL1	no	6		
4.5.80	.2	ACL2	no	6		
4.5.81	.3	ACL3	no	6		
4.5.82	.4	ACL4	no	6		
4.5.83	.5	ACL5	no	6		
Carried Forward						
Brought Forward						
		<u>Installation of pipe fittings and valves</u>				
	8.2.13	<u>Take from site the following fittings and valves and fix complete, including the supply of all gaskets, bolts, etc.</u>				
4.5.84	.1	Fitting no's ACL1 to ACL5	sets	6		
		SCOUR VALVE INSTALLATIONS (500 & 800mm Ø)				
		<u>Dwg 1890.11.00GZA.05.D020 & F020</u>				
		<u>Supply and deliver pipe fittings to site</u>				
		<u>25 Bar fittings for 500mm Ø rising main</u>				
	8.2.13	<u>Pipe fitting number</u>				
4.5.85	.1	SV1	no	1		
4.5.86	.2	SV2 (2 OFF)	no	2		
4.5.87	.3	SV3	no	1		
4.5.88	.3	SV4	no	1		
4.5.89	.3	SV5	no	1		
4.5.90	.3	SV6	no	1		
		<u>16 Bar fittings for 800 mm Ø gravity main</u>				
	8.2.13	<u>Pipe fitting number</u>				
4.5.91	.1	SV1	no	1		
4.5.92	.2	SV2 (2 OFF)	no	2		
4.5.93	.3	SV3	no	1		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.5.94		.3 SV4	no	1		
4.5.95		.3 SV5	no	1		
4.5.96		.3 SV6	no	1		
Carried Forward						
Brought Forward						
		<u>Installation of pipe fittings and valves</u>				
	8.2.13	<u>Take from site the following fittings and valves and fix complete, including the supply of all gaskets, bolts, etc.</u>				
4.5.97	.1	Fitting no's SV1 to SV6 (Rising main)	sets	1		
4.5.98	.2	Fitting no's SV1 to SV6 (Gravity main)	sets	1		
		DOUBLE SCOUR, ISOLATING & AIR VALVE INSTALLATIONS				
		<u>Dwg 1890.11.00GZA.05.D021, D022 & F021</u>				
		Supply and deliver pipe fittings to site				
		<u>16 Bar fittings for 800 Ø gravity main</u>				
	8.2.13	<u>Pipe fitting number</u>				
4.5.99	.1	DSV1 (2 OFF)	no	4		
4.5.100	.2	DSV2	no	2		
4.5.101	.3	DSV3	no	2		
4.5.102	.4	DSV4	no	2		
4.5.103	.5	DSV5	no	2		
4.5.104	.7	DSV7	no	2		
4.5.105	.8	DSV8 (5 OFF)	no	10		
4.5.106	.9	DSV9 (3 OFF)	no	6		
4.5.107	.10	DSV10 (2 OFF)	no	4		
4.5.108	.11	DSV11 (2 OFF)	no	4		
4.5.109	.12	DSV12 (2 OFF)	no	4		
4.5.110	.13	DSV13	no	2		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.5.111		.14 DSV14 (2 OFF)	no	4		
Carried Forward						
Brought Forward						
4.5.112		.15 DSV15 (2 OFF)	no	4		
4.5.113		.16 DSV16 (2 OFF)	no	4		
4.5.114		.17 DSV17 (2 OFF)	no	4		
		<u>Installation of pipe fittings and valves</u>				
	8.2.13	Take from site the following fittings and valves and fix complete, including the supply of all gaskets, bolts, etc.				
4.5.115		.1 Fitting no's DSV1 to DSV17	sets	2		
		<u>BOSPOORT PIPELINE CONNECTIONS LAYOUT</u> <u>Dwg 1890.11.00GZA.05.U001, E001 & F001</u>				
		<u>Supply and deliver pipe fittings to site</u>				
		<u>25 Bar fittings</u>				
	8.2.13	<u>Pipe fitting number</u>				
4.5.116		.1 S 1	no	2		
4.5.117		.2 S 2	no	1		
4.5.118		.3 S 3 (2 OFF)	no	2		
4.5.119		.4 S 4	no	1		
4.5.120		.5 S 5	no	1		
4.5.121		.6 S 6	no	1		
4.5.122		.7 S 7 (2 OFF)	no	1		
4.5.123		.8 S 8	no	1		
4.5.124		.9 S 9	no	1		
4.5.125		.10 S 10A	no	1		
4.5.126		.11 S 10B	no	1		
4.5.127		.12 S 11	no	1		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
Carried Forward						
Brought Forward						
4.5.128		.13 S 12	no	1		
4.5.129		.14 S 13	no	1		
4.5.130		.15 S 14	no	1		
4.5.131		.16 S 15	no	2		
Installation of pipe fittings and valves						
	8.2.13	<u>Take from site the following fittings and valves and fix complete, including the supply of all gaskets, bolts, etc.</u>				
4.5.132		.1 Fitting no's S 1 to S 15	sets	2		
4.5.133		.2 Extra over for installation of S15 during scheduled shutdown period, including exposing, cutting, corrosion protection & backfilling of the existing pipework	sets	1		
NEW BOSPOORT RISING MAIN CONNECTION						
<u>Dwg 1890.11.00GZA.05.D025, D026 & F025</u>						
Supply and deliver pipe fittings to site						
<u>25 Bar fittings</u>						
	8.2.13	<u>Pipe fitting number</u>				
4.5.134		.1 S-FC 1 (2 OFF)	no	2		
4.5.135		.2 S-FC 2 (2 OFF)	no	2		
4.5.136		.3 S-FC 3 (3 OFF)	no	3		
4.5.137		.4 S-FC 4 (2 OFF)	no	2		
4.5.138		.5 S-FC 5	no	1		
4.5.139		.6 S-FC 6	no	1		
4.5.140		.7 S-FC 7	no	1		
4.5.141		.8 S-FC 8	no	1		
Carried Forward						
Brought Forward						
4.5.142		.9 S-FC 9	no	1		
4.5.143		.10 S-FC 10	no	1		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.5.144		.11 S-FC 11	no	1		
		<u>Fixing of pipe fittings and valves</u>				
	8.2.13	<u>Take from site the following fittings and valves and fix complete, including the supply of all gaskets, bolts, etc.</u>				
4.5.145		.1 Fitting no's S-FC 1 to S-FC 11	sets	1		
		<u>NEW FLOW CONTROL ON EXISTING BOSPOORT</u>				
		<u>Dwg 1890.11.00.GZA.05.D027 & F027</u>				
		<u>Supply and deliver pipe fittings to site</u>				
		<u>25 Bar fittings</u>				
	8.2.13	<u>Pipe fitting number</u>				
4.5.146		.1 B-FC 1	no	1		
4.5.147		.2 B-FC 2 (2 OFF)	no	2		
4.5.148		.3 B-FC 3 (2 OFF)	no	2		
4.5.149		.4 B-FC 4	no	1		
4.5.150		.5 B-FC 5	no	1		
4.5.151		.6 B-FC 6	no	1		
4.5.152		.7 B-FC 7	no	1		
4.5.153		.8 B-FC 8 (2 OFF)	no	2		
4.5.154		.9 B-FC 9 (2 OFF)	no	2		
4.5.155		.10 B-FC 10	no	1		
4.5.156		.11 B-FC 11	no	1		
4.5.157		.12 B-FC 12 (2 OFF)	no	2		
Carried Forward						
Brought Forward						
4.5.158		.13 B-FC 13	no	1		
4.5.159		.14 B-FC 14	no	1		
		<u>Fixing of pipe fittings and valves</u>				
	8.2.13	<u>Take from site the following fittings and valves and fix complete, including the supply of all gaskets, bolts, etc.</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.5.160		.1 Fitting no's B-FC 1 to B-FC 14	sets	1		
4.5.161		.2 Extra over for installation during scheduled shutdown period	sets	1		
		<u>MAGALIES WATER CONNECTION INSTALLATION</u> <u>Dwg 1890.11.00GZA.05.D028 & F028</u>				
		<u>Supply and deliver pipe fittings to site</u>				
		<u>25 Bar fittings</u>				
	8.2.13	<u>Pipe fitting number</u>				
4.5.162		.1 IV 1	no	1		
4.5.163		.2 IV 2	no	1		
4.5.164		.3 IV 3	no	1		
4.5.165		.3 IV 4	no	1		
4.5.166		.3 IV 5	no	1		
		<u>Fixing of pipe fittings and valves</u>				
	8.2.13	<u>Take from site the following fittings and valves and fix complete, including the supply of all gaskets, bolts, etc.</u>				
4.5.167		.1 Fitting no's IV 1 to IV 5	sets	1		
4.5.168		.2 Extra over for installation during scheduled shutdown period	sets	1		
Carried Forward						
Brought Forward						
		<u>CONNECTION AT END POINT</u> <u>Dwg 1890.11.00.GZA.05.U002 & F002</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
		<u>Supply and deliver pipe fittings to site</u>				
		<u>16 Bar fittings</u>				
	8.2.13	<u>Pipe fitting number</u>				
4.5.169	.1	E 1	no	1		
4.5.170	.2	E 2	no	1		
4.5.171	.3	E 3	no	1		
4.5.172	.4	E 4	no	1		
4.5.173	.5	E 5	no	1		
4.5.174	.6	E 6	no	1		
4.5.175	.7	E 7	no	1		
4.5.176	.8	E 8	no	1		
		<u>Fixing of pipe fittings and valves</u>				
	8.2.13	<u>Take from site the following fittings and valves and fix complete, including the supply of all gaskets, bolts, etc.</u>				
4.5.177	.1	Fitting no's E 1 to E 8	sets	1		
		<u>END POINT CONNECTION PRESSURE CONTROL</u>				
		<u>Dwg 1890.11.00GZA.05.D030 & F030</u>				
		<u>Supply and deliver pipe fittings to site</u>				
		<u>16 Bar fittings</u>				
	8.2.13	<u>Pipe fitting number</u>				
4.5.178	.1	E-FC 1 (2 OFF)	no	2		
4.5.179	.2	E-FC 2 (2 OFF)	no	2		
4.5.180	.3	E-FC 3	no	1		
Carried Forward						

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
Brought Forward						
4.5.181		.4 E-FC 4 (4 OFF)	no	4		
4.5.182		.5 E-FC 5	no	1		
4.5.183		.6 E-FC 6 (2 OFF)	no	2		
4.5.184		.7 E-FC 7	no	1		
4.5.185		.8 E-FC 8	no	1		
4.5.186		.9 E-FC 9	no	1		
4.5.187		.10 E-FC 10	no	1		
4.5.188		.11 E-FC 11	no	1		
		<u>Fixing of pipe fittings and valves</u>				
	8.2.13	<u>Take from site the following fittings and valves and fix complete, including the supply of all gaskets, bolts, etc.</u>				
4.5.189		.1 Fitting no's E-FC 1 to E-FC 11	sets	1		
4.5.190		.2 Extra over for installation during scheduled shutdown period	sets	1		
		<u>END POINT CONNECTION EXISTING CROSS CONNECTION CHAMBER</u>				
		<u>Dwg 1890.11.00GZA.05.D032 & F032</u>				
		<u>Supply and deliver pipe fittings to site</u>				
		<u>16 Bar fittings</u>				
	8.2.13	<u>Pipe fitting number</u>				
4.5.191		.1 C 1	no	1		
4.5.192		.2 C 2	no	1		
4.5.193		.3 C 3	no	1		
		<u>Fixing of pipe fittings and valves</u>				
		<u>Take from site the following fittings and valves and fix complete, including the supply of all gaskets, bolts, etc.</u>				
4.5.193a		.1 Fitting no's C1 to C3	sets	1		
4.5.193b		.2 Extra over for installation during scheduled shutdown period	sets	1		
Carried Forward						

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
Brought Forward						
	PSL 6	<u>REFURBISHMENT OF EXISTING 1260m x 450mm DIA STEEL PIPELINE FROM THE BOSPOORT WTW TO THE CONNECTION WITH THE MAGALIES WATER PIPELINE</u>				
		<u>Cost shall include investigation, design, supply and installation of all related equipment (incl. mark-up, profit, etc.) in accordance with PSL6 as well as section C4.1 (Site Information)</u>				
		.1 <u>Corrosion Protection</u>				
4.5.196		(a) Possible damage to the internal lining to be investigated at the significant dent in the pipeline next to the pump station chamber	sum	1		
4.5.197		(b) The electrical continuity of the pipeline over its full length must be ensured	Prov Sum	1		R 110,000.00
		.2 <u>Pipework</u>				
4.5.198		(a) Supply and replace all corroded bolts, nuts and washers	Prov Sum	1		R 110,000.00
		(b) Site water off-take downstream of Bospoort WTP High Lift Pumping Station:				
4.5.199		(i) Supply and install new flange adaptors at the pressure reducing valves	Prov Sum	1		R 60,000.00
4.5.200		(ii) Refurbish pressure reducing valves	Prov Sum	1		R 50,000.00
4.5.201		(iii) Supply and install a new standby pressure reducing valve	Prov Sum	1		R 50,000.00
4.5.202		(iv) Supply and install a new flow meter	Prov Sum	1		R 50,000.00
4.5.203		(v) Supply and replace corroded 45° bend	Prov Sum	1		R 25,000.00
		(c) Water meter installation downstream of Bospoort WTP High Lift Pumping Station				
4.5.204		(i) Assess the feasibility and accuracy of the existing flow meters and implement correction measures where required	Prov Sum	1		R 110,000.00
Carried Forward						
Brought Forward						
4.5.205		(ii) Supply and install new pipework, with insulating flanges where specified by corrosion engineer	Prov Sum	1		R 90,000.00

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.5.206		(iii) Investigate the outflow and disposal of the scoured water and implement correction measures	Prov Sum	1		R 50,000.00
		(d) Non-return valve installation at Bospoort WTP				
4.5.207		(i) Supply and install new 300mm dia Class 25 non-return valve	Prov Sum	1		R 60,000.00
4.5.208		(ii) Inspect pipework lining and coating & refurbish or replace if necessary	Prov Sum	1		R 110,000.00
4.5.209		(iii) Supply and install new flange adaptors	Prov Sum	1		R 50,000.00
4.5.210		(iv) Supply and install a new 80mm dia Class 25 Vent-O-Mat air valve	sum	1		
		(e) First air valve from Bospoort WTP				
4.5.211		(i) Supply and install new pipework and valves	Prov Sum	1		R 80,000.00
4.5.212		(ii) Assess the off-take to the houses and refurbish where necessary	Prov Sum	1		R 50,000.00
		(f) Second air valve from Bospoort WTP				
4.5.213		(i) Supply and install new pipework and valves	Prov Sum	1		R 80,000.00
4.5.214		(g) The pipeline to be pressure tested prior to being put into service	sum	1		
		BILL NO 4.5 STEEL MEDIUM PRESSURE PIPELINES				
		Carried forward to Summary of Schedules			Total	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.6.1		PORTION - 4				
		<u>AIR VALVE CHAMBERS FOR 400-500mm & 800mm Ø PIPELINE</u>				
		<u>(25 IN NUMBER IN TOTAL)</u>				
		<u>Dwg 1890.11.00.GZA.05.D015 and D016</u>				
		<u>BILL NO 4.6</u>				
	SANS 1200 D	<u>EARTHWORKS</u>				
		<u>RESTRICTED EARTHWORKS</u>				
	8.3.3	(a) <u>Restricted excavation in all materials and stockpile material on site</u>				
		.1 Chambers	m³	170		
	8.3.3	(b) <u>Extra over item 8.3.3 (a) for</u>				
4.6.2		.2 Hard rock excavation	m³	60		
4.6.3		<u>WORKING SPACE</u>				
		<u>Extra excavation and backfilling in all materials to provide working space around structures</u>				
	8.3.5	(a) Excavate for working space (previously excavated face +/- 300mm away from perimeter of structure) for the placing and removal of external formwork to perimeter walls. Average depth of excavation 1m deep, including backfilling and compaction to 90% mod AASHTO density	m²	260		
		<u>BACKFILLING RESTRICTED EXCAVATIONS</u>				
4.6.4		<u>RESTRICTED BACKFILLING</u>				
		<u>Extra over items 8.3.3 (a) for backfill or for fill material against structures</u>				
	8.3.9	(a) <u>Selected material compacted to 93% mod AASTHO density</u>				
4.6.4		.1 Around chambers below NGL	m³	120		
4.6.5		.2 Around chambers for platform	m³	500		
Carried Forward						
Brought Forward						
	SANS	CONCRETE (STRUCTURAL)				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
	1200 G	~~CONCRETE (STRUCTURAL)~~				
		<u>ROUGH FORMWORK</u>				
4.6.6	8.2.1	(b) <u>Plane vertical</u> .1 Sides of floor slab	m²	55		
		<u>SMOOTH FORMWORK</u>				
4.6.7	8.2.5	<u>Smooth formwork to narrow widths</u> (a) Edges, risers, etc. not exceeding 300mm wide	m	30		
		<u>REINFORCEMENT</u>				
		<u>Steel bars</u>				
4.6.8	8.3.1	(a) <u>Mild steel</u> .1 All sizes	ton	5.00		
4.6.9	8.3.1	(b) <u>High tensile steel</u> .1 All sizes	ton	100.00		
		<u>CONCRETE</u> |				
		<u>PRESCRIBED MIX CONCRETE</u>				
4.6.10	8.4.1	(a) <u>Soilcrete (G5 material with 5% cement)</u> .1 Filling to excavation below air valve chamber base, backfilled with bedding material compacted in 150mm thick layers to 93% MOD AASHTO	m³	245		
		<u>STRENGTH CONCRETE</u>				
4.6.11	8.4.2	(a) <u>Strength concrete 15MPa/19mm</u> .1 Blinding layer 50mm thick	m³	10		
4.6.12	8.4.3	(c) <u>Strength concrete 30MPa/19mm</u> .1 Floor slabs	m³	35		
Carried Forward						
Brought Forward						
		<u>SURFACE FINISHING</u>				
		<u>Unformed surface finishes</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.6.13	8.4.4	(a) <u>Wood floated finish</u> .1 Floor slabs	m ²	170		
		<u>EXPANSION JOINTS</u>				
4.6.14	8.5	(a) <u>Polyurethane joint sealer</u> .1 Remove 10 x 20mm tear off strip, prime with an approved primer and fill joint with an approved polyurethane sealant with root inhibitor	m	1210		
4.6.15	8.5	(b) <u>Polymer modified bitumen</u> .1 5mm thick polymer modified bitumen (Densotherm HD or similar approved by engineer). Armour coating on pipe and PVC or PE bond breaker between pipe and concrete	m ²	25		
		<u>PRECAST CONCRETE</u>				
		<u>Precast concrete units supplied and fixed complete including all reinforcing, etc</u>				
4.6.16	8.6	(a) <u>Strength concrete 30MPa/19mm</u> .1 Precast slab 1, 1200 x 2300 x 250mm thick with embedded lifting hooks placed on top of chambers, including fixing in place access cover (900x600mm) and air vent (200mm Ø). Access covers and air vents measured elsewhere	no	25		
4.6.17		.2 Precast slab 2, 1100 x 2300 x 250mm thick placed on top of chambers, including fixing in place access cover (900x600mm) and air vent (200mm Ø). Access covers and air vents measured elsewhere	no	25		
4.6.18 4.6.18		.3 Precast wall units, 2150 x 500 x 150mm thick sections placed on concrete slab	no	400		
Carried Forward						-
Brought Forward						-
		<u>SUNDRIES</u>				
4.6.19		.1 Waterproof sealing of cover slabs (rate is per chamber)	No	25		
4.6.20		.2 Waterproof sealing of precast wall units (rate is per chamber)	No	25		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.6.21		.3 100mm diameter class 9 uPVC drain pipe cast in concrete slab	m	10		
4.6.22		.4 Stone drain enclosed in non-woven geotextile complete as per engineers specification	m³	60		
	SANS 1200 H	STRUCTURAL STEELWORK				
		SUPPLY, FABRICATE AND ERECT STEELWORK - ALL INCLUSIVE				
		<u>Access ladders</u>				
	8.3.8	(a) <u>Hot dip galvanised ladders installed complete to engineers specification</u> <u>Dwg 1890.11.00.GZA.05.D003</u>				
4.6.23		.1 1,8m long access ladder installed complete to engineers specification	no	25		
		<u>Access Covers</u>				
	8.3.9	(a) <u>Access covers and frames installed complete to engineers specification</u> <u>Dwg 1890.11.00.GZA.05.D015 & D017</u>				
4.6.24		.1 900 x 600mm type 9E polymer solid access cover and frame complete with locking mechanism to clients requirements, in accordance with SANS 1882. All components to be stainless steel 316L	no	25		
Carried Forward						
Brought Forward						
		<u>Ventilators</u>				
	8.3.8	(a) <u>Hot dip galvanised ventilators installed complete to engineers specification</u> <u>Dwg 1890.11.00.GZA.05.D003</u>				
4.6.25		.1 200mm Diameter ventilator installed complete to engineers specification	no	50		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
		BILL NO 4.6 AIR VALVE CHAMBERS FOR 400-500mm & 800mm Ø PIPELINE				
		Carried forward to Summary of Schedules	Total			

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.7.1		PORTION - 4				
		ACCESS CHAMBERS FOR 500mm & 800mm Ø PIPELINE				
		(7 IN NUMBER IN TOTAL)				
		Dwg 1890.11.00.GZA.05.D017 & D018				
		BILL NO 4.7				
	SANS 1200 D	EARTHWORKS				
		RESTRICTED EARTHWORKS				
		RESTRICTED EXCAVATION				
	8.3.3	(a) <u>Restricted excavation in all materials and stockpile material on site</u>				
4.7.1		.1 Chambers	m³	50		
	8.3.3	(b) <u>Extra over item 8.3.3 (a) for</u>				
4.7.2		.2 Hard rock excavation	m³	20		
		WORKING SPACE				
		<u>Extra excavation and backfilling in all materials to provide working space around structures</u>				
4.7.3	8.3.5	(a) Excavate for working space (previously excavated face +/- 300mm away from perimeter of structure) for the placing and removal of external formwork to perimeter walls. Average depth of excavation 1m deep, including backfilling and compaction to 90% mod AASHTO density	m²	75		
		BACKFILLING RESTRICTED EXCAVATIONS				
		RESTRICTED BACKFILLING				
		<u>Extra over items 8.3.3 (a) for backfill or for fill material against structures</u>				
	8.3.9	(a) <u>Selected material compacted to 93% mod AASTHO density</u>				
Carried Forward						

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
Brought Forward						
4.7.4		.1 Around chambers below NGL	m ³	35		
4.7.5		.2 Around chambers for platform	m ³	140		
	SANS 1200 G	<u>CONCRETE (STRUCTURAL)</u>				
		<u>ROUGH FORMWORK</u>				
	8.2.1	(b) <u>Plane vertical</u>				
4.7.6		.1 Sides of floor slab	m ²	15		
		<u>SMOOTH FORMWORK</u>				
	8.2.5	<u>Smooth formwork to narrow widths</u>				
4.7.7		(a) Edges, risers, etc. not exceeding 300mm wide	m	10		
		<u>REINFORCEMENT</u>				
		<u>Steel bars</u>				
	8.3.1	(a) <u>Mild steel</u>				
4.7.8		.1 All sizes	ton	0.50		
	8.3.1	(b) <u>High tensile steel</u>				
4.7.9		.1 All sizes	ton	7.00		
		CONCRETE				
		<u>PRESCRIBED MIX CONCRETE</u>				
	8.4.1	(a) <u>Soilcrete (G5 material with 5% cement)</u>				
4.7.10		.1 Filling to excavation below air valve chamber base, backfilled with bedding material compacted in 150mm thick layers to 93% MOD AASHTO	m ³	70		
		<u>STRENGTH CONCRETE</u>				
	8.4.2	(a) <u>Strength concrete 15MPa/19mm</u>				
4.7.11		.1 Blinding layer 50mm thick	m ³	5		
Carried Forward						

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
Brought Forward						
4.7.12	8.4.3	(c) <u>Strength concrete 30MPa/19mm</u> .1 Floor slabs <u>SURFACE FINISHING</u> <u>Unformed surface finishes</u>	m ³	10		
4.7.13	8.4.4	(a) <u>Wood floated finish</u> .1 Floor slabs <u>EXPANSION JOINTS</u>	m ²	50		
4.7.14	8.5	(a) <u>Polyurethane joint sealer</u> .1 Remove 10 x 20mm tear off strip, prime with an approved primer and fill joint with an approved polyurethane sealant with root inhibitor	m	340		
4.7.15	8.5	(b) <u>Polymer modified bitumen</u> .1 5mm thick polymer modified bitumen (Densotherm HD or similar approved by engineer). Armour coating on pipe and PVC or PE bond breaker between pipe and concrete	m ²	10		
4.7.16	8.6	(a) <u>Strength concrete 30MPa/19mm</u> .1 Precast slab 1, 1200 x 2300 x 250mm thick with embedded lifting hooks placed on top of chambers, including fixing in place access cover (900x600mm) and air vent (200mm Ø). Access covers and air vents measured elsewhere	no	7		
4.7.17		.2 Precast slab 2, 1100 x 2300 x 250mm thick placed on top of chambers, including fixing in place access cover (900x600mm) and air vent (200mm Ø). Access covers and air vents measured elsewhere	no	7		
Carried Forward						

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
Brought Forward						
4.7.18		.3 Precast wall units, 2150 x 500 x 150mm thick sections placed on concrete slab	no	112		
		<u>SUNDRIES</u>				
4.7.19		.1 Waterproof sealing of cover slabs (rate is per chamber)	No	7		
4.7.20		.2 100mm diameter class 9 uPVC drain pipe cast in concrete slab	m	5		
4.7.21		.3 Stone drain enclosed in non-woven geotextile complete as per engineers specification	m³	20		
	SANS 1200 H	<u>STRUCTURAL STEELWORK</u>				
		<u>SUPPLY, FABRICATE AND ERECT STEELWORK - ALL INCLUSIVE</u>				
		<u>Access ladders</u>				
	8.3.8	(a) <u>Hot dip galvanised ladders installed complete to engineers specification</u> <u>Dwg 1890.11.00.GZA.05.D003</u>				
4.7.22		.1 1,8m long access ladder installed complete to engineers specification	no	7		
		<u>Access Covers</u>				
	8.3.9	(a) <u>Access covers and frames installed complete to engineers specification</u> <u>Dwg 1890.11.00.GZA.05.D018</u>				
4.7.23		.1 900 x 600mm type 9E polymer solid access cover and frame complete with locking mechanism to clients requirements, in accordance with SANS 1882. All components to be stainless steel 316L	no	7		
Carried Forward						

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
Brought Forward						
4.7.24	8.3.8	<u>Ventilators</u> (a) <u>Hot dip galvanised ventilators installed complete to engineers specification</u> <u>Dwg 1890.11.00.GZA.05.D003</u> .1 200mm Diameter ventilator installed complete to engineers specification	no	14		
		<u>BILL NO 4.7</u> <u>ACCESS CHAMBERS FOR 500mm & 800mm Ø PIPELINE</u>				
Carried forward to Summary of Schedules					Total	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.8.1		<u>PORTION - 4</u>				
		<u>ULTRASONIC FLOW METER CHAMBERS</u>				
		<u>(3 IN NUMBER IN TOTAL)</u>				
		Dwg 1890.11.GZA.05.D019				
		<u>BILL NO 4.8</u>				
	SANS 1200 D	<u>EARTHWORKS</u>				
		<u>RESTRICTED EARTHWORKS</u>				
		<u>RESTRICTED EXCAVATION</u>				
	8.3.3	(a) <u>Restricted excavation in all materials and place material on site</u>				
		.1 Chambers	m ³	95		
4.8.2	8.3.3	(b) <u>Extra over item 8.3.3 (a) for</u>				
		.2 Hard rock excavation	m ³	35		
4.8.3		<u>WORKING SPACE</u>				
		<u>Extra excavation and backfilling in all materials to provide working space around structures</u>				
	8.3.5	(a) Excavate for working space (previously excavated face +/- 300mm away from perimeter of structure) for the placing and removal of external formwork to perimeter walls. Average depth of excavation 3m deep, including backfilling and compaction to 90% mod AASTHO density	m ²	120		
		<u>BACKFILLING RESTRICTED EXCAVATIONS</u>				
4.8.4		<u>RESTRICTED BACKFILLING</u>				
		<u>Extra over items 8.3.3 (a) for backfill or for fill material against structures</u>				
	8.3.9	(a) <u>Selected material compacted to 90% mod AASTHO density</u>				
		.1 Around chambers below NGL	m ³	25		
Carried Forward						
Brought Forward						
	SANS	CONCRETE (STRUCTURAL)				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
	1200 G	~~CONCRETE STRUCTURES~~				
		<u>ROUGH FORMWORK</u>				
4.8.5	8.2.1	(b) <u>Plane vertical</u> .1 Sides of walls (external)	m ²	100		
4.8.6	8.2.5	<u>Rough formwork to narrow widths</u> (a) Edges, risers, etc. not exceeding 300mm wide	m	10		
		<u>SMOOTH FORMWORK</u>				
4.8.7	8.2.2	(a) <u>Plane vertical</u> .1 Sides of walls (internal)	m ²	80		
4.8.8		(b) <u>Plane horizontal</u> .1 Soffit of roof slab	m ²	10		
4.8.9	8.2.5	<u>Smooth formwork to narrow widths</u> (a) Edges, risers, etc. not exceeding 300mm wide	m	45		
		<u>BOXING IN FOR HOLES AND VOIDS</u>				
4.8.10	8.2.6	(c) <u>Large, circular, over 0,35m and up to 0,7m diameter with depth</u> .1 over 0m and up to 0,5m	no	2		
		<u>REINFORCEMENT</u>				
		<u>Steel bars</u>				
4.8.11	8.3.1	(a) <u>Mild steel</u> .1 All sizes	ton	1.20		
4.8.12	8.3.1	(b) <u>High tensile steel</u> .1 All sizes	ton	25.00		
Carried Forward						
Brought Forward						
		<u>CONCRETE</u>				
	8.4.2	<u>Strength concrete 15MPa/19mm</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.8.13		(a) Blinding layer 50mm thick	m ³	1.5		
	8.4.3	(c) <u>Strength concrete 30MPa/19mm</u>				
4.8.14		.1 Floor slabs	m ³	10		
4.8.15		.2 Walls	m ³	25		
4.8.16		.3 Roof Slab	m ³	5		
	8.4.3	(c) <u>Strength concrete 25MPa/13mm</u>				
4.8.17		.1 Benching to falls including steel floated surface finish	m ³	1		
		<u>SURFACE FINISHING</u>				
		<u>Unformed surface finishes</u>				
	8.4.4	(a) <u>Wood floated finish</u>				
4.8.18		.2 Top of walls, beams, etc	m ²	15		
		<u>PRECAST CONCRETE</u>				
		<u>Precast concrete units supplied and fixed complete including all reinforcing, etc</u>				
	8.6	(a) <u>Strength concrete 30MPa/19mm</u>				
4.8.19		.1 Precast slab 1, 2700 x 515 x 250mm thick, with embedded lifting hooks placed on top of chambers, including fixing in place access cover (900x600mm) and air vent (200mm Ø). Access covers and air vents measured elsewhere	no	6		
		<u>SUNDRIES</u>				
4.8.20		.1 Waterproof sealing of cover slabs (rate is per chamber)	No	6		
4.8.21		.2 100mm diameter class 9 uPVC drain pipe cast in concrete slab	m	1.5		
Carried Forward						
Brought Forward						
4.8.22		.3 Stone drain enclosed in non-woven geotextile complete as per engineers specification	m ³	10		
		.4 Pipe supports to be provided underneath all valves & flow meters or as instructed by the engineer on site, height to be determined on site. Pipe support detail in				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.8.23		accordance with; Dwg. 1890.11.00.GZA.05.D003	sum	1		
	SANS 1200 H	<u>STRUCTURAL STEELWORK</u>				
		<u>SUPPLY, FABRICATE AND ERECT STEELWORK</u> <u>- ALL INCLUSIVE</u>				
		<u>Access ladders</u>				
	8.3.8	(a) <u>Hot dip galvanised ladders installed complete to engineers specification</u> <u>Dwg 1890.11.00.GZA.05.D003</u>				
4.8.24		.1 2,9m long access ladder installed complete to engineers specification	no	3		
		<u>Access Covers</u>				
	8.3.9	(a) <u>Access covers and frames installed complete to engineers specification</u> <u>Dwg 1890.11.00.GZA.05.D018</u>				
4.8.25		.1 900 x 600mm type 9E polymer solid access cover and frame complete with locking mechanism to clients requirements, in accordance with SANS 1882. All components to be stainless steel 316L	no	3		
		<u>Ventilators</u>				
	8.3.10	(a) <u>Hot dip galvanised ventilators installed complete to engineers specification</u> <u>Dwg 1890.11.00.GZA.05.D003</u>				
4.8.26		.1 200mm Diameter ventilator installed complete to engineers specification	no	6		
		<u>BILL NO 4.8</u> <u>ULTRASONIC FLOW METER CHAMBERS</u>				
		Carried forward to Summary of Schedules			Total	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
		<u>PORTION - 4</u>				
		<u>SINGLE SCOUR VALVE CHAMBERS FOR 500mm & 800mm Ø PIPELINE</u>				
		<u>(2 IN NUMBER IN TOTAL)</u>				
		Dwg 1890.11.GZA.05.D020				
		<u>BILL NO 5</u>				
	SANS 1200 D	<u>EARTHWORKS</u>				
		<u>RESTRICTED EARTHWORKS</u>				
	8.3.3	(a) <u>Restricted excavation in all materials and place material on site for</u>				
4.9.1		.1 Chambers	m³	80		
4.9.2		.2 Gabions & mattresses	m³	55		
	8.3.3	(b) <u>Extra over item 8.3.3 (a) for</u>				
4.9.3		.2 Hard rock excavation	m³	50		
		<u>WORKING SPACE</u>				
		<u>Extra excavation and backfilling in all materials to provide working space around structures</u>				
4.9.4	8.3.5	(a) Excavate for working space (previously excavated face +/- 300mm away from perimeter of structure) for the placing and removal of external formwork to perimeter walls. Average depth of excavation 2m deep, including backfilling and compaction to 90% mod AASTHO density	m²	85		
		<u>BACKFILLING RESTRICTED EXCAVATIONS</u>				
		<u>Extra over items 8.3.3 (a) for backfill or for fill material against structures</u>				
	8.3.9	(a) <u>Selected material compacted to 93% mod AASTHO density</u>				
4.9.5		.1 Around chambers below NGL	m³	45		
4.9.6		.2 Around chambers for platform	m³	45		
Carried Forward						
Brought Forward						
	SANS	CONCRETE (STRUCTURAL)				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
	1200 G	~~CONCRETE STRUCTURES~~				
		<u>ROUGH FORMWORK</u>				
4.9.7	8.2.1	(b) <u>Plane vertical</u> .1 Sides of walls (external)	m ²	100		
		<u>SMOOTH FORMWORK</u>				
4.9.8	8.2.2	(a) <u>Plane vertical</u> .1 Sides of walls (internal)	m ²	115		
4.9.9		(b) <u>Plane horizontal</u> .1 Soffit of roof slab	m ²	20		
4.9.10	8.2.5	<u>Smooth formwork to narrow widths</u> (a) Edges, risers, etc. not exceeding 300mm wide (vertical sides)	m	80		
4.9.11		(b) Edges, risers, etc. not exceeding 300mm wide (horizontal soffit)	m	5		
		<u>BOXING IN FOR HOLES AND VOIDS</u>				
4.9.12	8.2.6	(c) <u>Large, circular, over 0,35m and up to 0,7m diameter with depth</u> .1 over 0m and up to 0,5m	no	2		
4.9.13	Special	(d) <u>Large, circular, over 0,7m and up to 1,0m diameter with depth</u> .1 over 0m and up to 0,5m	no	2		
		<u>REINFORCEMENT</u>				
		<u>Steel bars</u>				
4.9.14	8.3.1	(a) <u>Mild steel</u> .1 All sizes	ton	0.51		
Carried Forward						
Brought Forward						
4.9.15	8.3.1	(b) <u>High tensile steel</u> .1 All sizes	ton	10.00		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.9.16	8.4.1	CONCRETE				
		<u>PRESCRIBED MIX CONCRETE</u>				
		(a) <u>Soilcrete (G5 material with 5% cement)</u>				
		.1 Filling to excavation below air valve chamber base, backfilled with bedding material compacted in 150mm thick layers to 93% MOD AASHTO	m³	30		
		<u>STRENGTH CONCRETE</u>				
		(a) <u>Strength concrete 15MPa/19mm</u>				
		.1 Blinding layer 50mm thick	m³	2		
		(b) <u>Strength concrete 30MPa/19mm</u>				
		.1 Floor slabs	m³	15		
		.2 Walls	m³	30		
4.9.17	8.4.2	(a) <u>Strength concrete 15MPa/19mm</u>	m³	2		
4.9.18	8.4.3	(b) <u>Strength concrete 30MPa/19mm</u>	m³	15		
4.9.19		.1 Floor slabs	m³	15		
4.9.20		.2 Walls	m³	30		
4.9.21		.3 Roof Slab	m³	5		
4.9.22	8.4.3	(c) <u>Strength concrete 25MPa/13mm</u>				
		.1 Benching to falls including steel floated surface finish	m³	3		
		<u>SURFACE FINISHING</u>				
		<u>Unformed surface finishes</u>				
	8.4.4	(a) <u>Wood floated finish</u>				
		.2 Top of walls, beams, etc	m²	20		
Carried Forward						
Brought Forward						
		<u>PRECAST CONCRETE</u>				
		<u>Precast concrete units supplied and fixed complete including all reinforcing, etc</u>				
	8.6	(a) <u>Strength concrete 30MPa/19mm</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.9.23		.1 Precast slab 1, 2700 x 1200 x 250mm thick, with embedded lifting hooks placed on top of chambers, including fixing in place access cover (900x600mm) and air vent (200mm Ø). Access covers and air vents measured elsewhere	no	2		
4.9.24		.2 Precast slab 2, 2700 x 765 x 250mm thick, with embedded lifting hooks placed on top of chambers	no	2		
		SUNDRIES				
4.9.25		.1 Waterproof sealing of cover slabs (rate is per chamber)	No	2		
4.9.26		.2 Special measures required by contractor to ensure no seepage from wet to dry chamber. Product(s) and application(s) to be approved by the engineer	sum	1		
4.9.27		.3 Special measures required by contractor to ensure continuity bond within wet & dry chamber. Product(s) and application(s) to be approved by the engineer	sum	1		
4.9.28		.4 Pipe supports to be provided underneath all valves & flow meters or as instructed by the engineer on site, height to be determined on site. Pipe support detail in accordance with; Dwg. 1890.11.00.GZA.05.D003	sum	1		
Carried Forward						
Brought Forward						
	SANS 1200 H	STRUCTURAL STEELWORK				
		SUPPLY, FABRICATE AND ERECT STEELWORK - ALL INCLUSIVE				
		Access ladders				
	8.3.8	(a) <u>Hot dip galvanised ladders installed complete to engineers specification</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.9.29		<u>Dwg 1890.11.00.GZA.05.D003</u> .1 2,8m long access ladder installed complete to engineers specification	no	4		
	8.3.9	<u>Access Covers</u> (a) <u>Access covers and frames installed complete to engineers specification</u> <u>Dwg 1890.11.00.GZA.05.D020</u> .1 900 x 600mm type 9E polymer solid access cover and frame complete with locking mechanism to clients requirements, in accordance with SANS 1882. All components to be stainless steel 316L	no	4		
4.9.30		<u>Ventilators</u> (a) <u>Hot dip galvanised ventilators installed complete to engineers specification</u> <u>Dwg 1890.11.00.GZA.05.D003</u> .1 200mm Diameter ventilator installed complete to engineers specification	no	4		
4.9.31		<u>Scour outlet opening cover</u> (a) <u>Hot dip galvanised ventilators installed complete to engineers specification</u> <u>Dwg 1890.11.00.GZA.05.D003</u> .1 2200 x 880 mm wide Steel bar grid installed complete, including anchors and flat plates	no	2		
4.9.32						
Carried Forward						
Brought Forward						
	<u>SANS 1200 DK</u>	<u>GABIONS AND PITCHING</u>				
		<u>GABIONS AND MATTRESSES</u>				
		<u>GABIONS</u>				
4.9.33	8.2.2	(a) <u>Gabions using galvanized wire of the following sizes</u> .1 1,0 x 0,5 x 0,5m Box of 80mm mesh size	m³	10		
		<u>MATTRESSES</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.9.34	8.2.2	(a) <u>Mattresses using galvanized wire of the following sizes</u> .1 4,7 x 2,0 x 0,2m Mattress of 50mm mesh size	m ³	5		
		<u>GEOTEXTILES</u>				
		<u>GEOTEXTILES</u>				
4.9.35	8.2.4	(a) <u>Supply and lay geotextile fabric below gabions and mattresses</u> .1 Bidim A5 or similar approved by engineer. Non-woven, needle punched , continuous filament, polyester geotextile.	m ²	55		
		<u>BILL NO 4.9</u> <u>SINGLE SCOUR VALVE CHAMBERS FOR 500mm & 800mm Ø PIPELINE</u>				
Carried forward to Summary of Schedules					Total	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
		<u>PORTION - 4</u>				
		<u>DOUBLE SCOUR & ISOLATING VALVE CHAMBER FOR 800mm Ø PIPELINE</u>				
		<u>(2 IN NUMBER IN TOTAL)</u>				
		Dwg 1890.11.GZA.05.D021 & D022				
		<u>BILL NO 4.10</u>				
	SANS 1200 D	<u>EARTHWORKS</u>				
		<u>RESTRICTED EARTHWORKS</u>				
	8.3.3	(a) <u>Restricted excavation in all materials and place material on site for</u>				
4.10.1		.1 Chambers	m³	260		
4.10.2		.2 Gabions & mattresses	m³	70		
	8.3.3	(b) <u>Extra over item 8.3.3 (a) for</u>				
4.10.3		.2 Hard rock excavation	m³	120		
		<u>WORKING SPACE</u>				
		<u>Extra excavation and backfilling in all materials to provide working space around structures</u>				
4.10.4	8.3.5	(a) Excavate for working space (previously excavated face +/- 300mm away from perimeter of structure) for the placing and removal of external formwork to perimeter walls. Average depth of excavation 3m deep, including backfilling and compaction to 90% mod AASHTO density	m²	170		
		<u>BACKFILLING RESTRICTED EXCAVATIONS</u>				
		<u>Extra over items 8.3.3 (a) for backfill or for fill material against structures</u>				
	8.3.9	(a) <u>Selected material compacted to 93% mod AASTHO density</u>				
4.10.5		.1 Around chambers below NGL	m³	100		
4.10.6		.2 Around chambers for platform	m³	75		
					Carried Forward	
					Brought Forward	
	SANS	<u>CONCRETE (STRUCTURAL)</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
	1200 G	~~CONCRETE TO STRUCTURE~~				
		<u>ROUGH FORMWORK</u>				
	8.2.1	(b) <u>Plane vertical</u>				
4.10.7		.1 Sides of floor slabs	m ²	20		
4.10.8		.2 Sides of walls (external)	m ²	190		
		<u>SMOOTH FORMWORK</u>				
	8.2.2	(a) <u>Plane vertical</u>				
4.10.9		.1 Sides of walls (internal)	m ²	230		
		(b) <u>Plane horizontal</u>				
4.10.10		.1 Soffit of roof slab	m ²	50		
	8.2.5	<u>Smooth formwork to narrow widths</u>				
4.10.11		(a) Edges, risers, etc. not exceeding 300mm wide (vertical sides)	m	55		
4.10.12		(b) Edges, risers, etc. not exceeding 300mm wide (horizontal soffit)	m	10		
		<u>BOXING IN FOR HOLES AND VOIDS</u>				
	8.2.6	(c) <u>Large, circular, over 0,35m and up to 0,7m diameter with depth</u>				
4.10.13		.1 over 0m and up to 0,5m	no	4		
		<u>REINFORCEMENT</u>				
		<u>Steel bars</u>				
	8.3.1	(a) <u>Mild steel</u>				
4.10.14		.1 All sizes	ton	1.20		
	8.3.1	(b) <u>High tensile steel</u>				
4.10.15		.1 All sizes	ton	25.00		
Carried Forward						
Brought Forward						
		<u>CONCRETE</u>				
		<u>PRESCRIBED MIX CONCRETE</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.10.16	8.4.1	(a) <u>Soilcrete (G5 material with 5% cement)</u> .1 Filling to excavation below gabions & mattresses, backfilled with bedding material compacted in 150mm thick layers to 93% MOD AASHTO	m³	35		
		<u>STRENGTH CONCRETE</u>				
4.10.17	8.4.2	<u>Strength concrete 15MPa/19mm</u> (a) Blinding layer 50mm thick	m³	5		
4.10.18	8.4.3	(c) <u>Strength concrete 30MPa/19mm</u> .1 Floor slabs	m³	30		
4.10.19		.2 Walls	m³	65		
4.10.20		.3 Roof Slab	m³	10		
4.10.21	8.4.3	(c) <u>Strength concrete 25MPa/13mm</u> .1 Benching to falls including steel floated surface finish	m³	4		
		<u>SURFACE FINISHING</u>				
		<u>Unformed surface finishes</u>				
4.10.22	8.4.4	(a) <u>Wood floated finish</u> .2 Top of walls, beams, etc	m²	35		
Carried Forward						
Brought Forward						
		<u>PRECAST CONCRETE</u>				
		<u>Precast concrete units supplied and fixed complete including all reinforcing, etc</u>				
	8.6	(a) <u>Strength concrete 30MPa/19mm</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.10.23		.1 Precast slab 1, 1500 x 690 x 250mm thick, with embedded lifting hooks placed on top of chambers, including fixing in place access cover (900x600mm) and air vent (200mm Ø). Access covers and air vents measured elsewhere	no	10		
4.10.24		.2 Precast slab 2, 4900 x 480 x 250mm thick, with embedded lifting hooks placed on top of chambers, including fixing in place access cover (900x600mm) and air vent (200mm Ø). Access covers and air vents measured elsewhere	no	4		
		<u>SUNDRIES</u>				
4.10.25		.1 Waterproof sealing of cover slabs (rate is per chamber)	No	2		
4.10.26		.2 Special measures required by contractor to ensure no seepage from wet to dry chamber. Product(s) and application(s) to be approved by the engineer	sum	1		
4.10.27		.3 Special measures required by contractor to ensure continuity bond within wet & dry chamber. Product(s) and application(s) to be approved by the engineer	sum	1		
4.10.28		.4 Pipe supports to be provided underneath all valves & flow meters or as instructed by the engineer on site, height to be determined on site. Pipe support detail in accordance with; Dwg. 1890.11.00.GZA.05.D003	sum	1		
Carried Forward						
Brought Forward						
	SANS 1200 H	<u>STRUCTURAL STEELWORK</u>				
		<u>SUPPLY, FABRICATE AND ERECT STEELWORK - ALL INCLUSIVE</u>				
		<u>Access ladders</u>				
	8.3.8	(a) <u>Hot dip galvanised ladders installed complete to engineers specification</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.10.29		<u>Dwg 1890.11.00.GZA.05.D003</u> .1 3,8m long access ladder installed complete to engineers specification	no	4		
	8.3.9	<u>Access Covers</u> (a) <u>Access covers and frames installed complete to engineers specification</u> <u>Dwg 1890.11.00.GZA.05.D020</u> .1 900 x 600mm type 9E polymer solid access cover and frame complete with locking mechanism to clients requirements, in accordance with SANS 1882. All components to be stainless steel 316L	no	4		
4.10.30	8.3.10	<u>Ventilators</u>				
4.10.31	8.3.10	(a) <u>Hot dip galvanised ventilators installed complete to engineers specification</u> <u>Dwg 1890.11.00.GZA.05.D003</u> .1 200mm Diameter ventilator installed complete to engineers specification	no	4		
	8.3.12	<u>Scour outlet opening cover</u> (a) <u>Hot dip galvanised ventilators installed complete to engineers specification</u> <u>Dwg 1890.11.00.GZA.05.D003</u> .1 4300 x 880 mm wide Steel bar grid installed complete, including anchors and flat plates	no	2		
Carried Forward						
Brought Forward						
	<u>SANS 1200 DK</u>	<u>GABIONS AND PITCHING</u>				
		<u>GABIONS AND MATTRESSES</u>				
		<u>GABIONS</u>				
4.10.33	8.2.2	(a) <u>Gabions using galvanized wire of the following sizes</u> .1 1,0 x 0,5 x 0,5m Box of 80mm mesh size	m³	10		
		<u>MATTRESSES</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.10.34	8.2.2	(a) <u>Mattresses using galvanized wire of the following sizes</u> .1 6,9 x 2,0 x 0,2m Mattress of 50mm mesh size	m ³	10		
		<u>GEOTEXTILES</u>				
		<u>GEOTEXTILES</u>				
4.10.35	8.2.4	(a) <u>Supply and lay geotextile fabric below gabions and mattresses</u> .1 Bidim A5 or similar approved by engineer. Non-woven, needle punched , continuous filament, polyester geotextile.	m ²	65		
		<u>BILL NO 4.10</u> <u>DOUBLE SCOUR & ISOLATING VALVE CHAMBER</u> <u>FOR 800mm Ø PIPELINE</u>				
Carried forward to Summary of Schedules					Total	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.11.1		PORTION - 4				
		NEW BOSPOORT RISING MAIN CONNECTION - ISOLATING VALVE & FLOW CONTROL CHAMBER				
		(2 IN NUMBER IN TOTAL, 1 x IV & 1 x FC)				
		Dwg 1890.11.GZA.05.D025 & D026				
		BILL NO 4.11				
	SANS 1200 D	EARTHWORKS				
		RESTRICTED EARTHWORKS				
	8.3.3	(a) <u>Restricted excavation in all materials and place material on site for</u>				
		.1 IV Chamber	m³	60		
		.2 FC Chamber	m³	85		
4.11.2	8.3.3	(b) <u>Extra over item 8.3.3 (a) for</u>				
		.1 Hard rock excavation	m³	50		
4.11.3		WORKING SPACE				
		<u>Extra excavation and backfilling in all materials to provide working space around structures</u>				
4.11.4	8.3.5	(a) Excavate for working space (previously excavated face +/- 300mm away from perimeter of structure) for the placing and removal of external formwork to perimeter walls. Average depth of excavation 3m deep, including backfilling and compaction to 90% mod AASTHO density	m²	120		
		BACKFILLING RESTRICTED EXCAVATIONS				
4.11.5		<u>Extra over items 8.3.3 (a) for backfill or for fill material against structures</u>				
	8.3.9	(a) <u>Selected material compacted to 93% mod AASTHO density</u>				
		.1 Around chambers below NGL	m³	75		
Carried Forward						
Brought Forward						
	SANS	CONCRETE (STRUCTURAL)				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
	1200 G	~~CONCRETE TO STRUCTURE~~				
		<u>ROUGH FORMWORK</u>				
4.11.6	8.2.1	(b) <u>Plane vertical</u> .1 Sides of walls (external)	m²	55		
	8.2.5	<u>Rough formwork to narrow widths</u>				
4.11.7		(a) Edges, risers, etc. not exceeding 300mm wide (vertical sides)	m	45		
		<u>SMOOTH FORMWORK</u>				
4.11.8	8.2.2	(a) <u>Plane horizontal</u> .1 Soffit of roof beams	m²	1		
4.11.9	8.2.2	(b) <u>Plane vertical</u> .1 Sides of walls (internal)	m²	100		
	8.2.5	<u>Smooth formwork to narrow widths</u>				
4.11.10		(a) Edges, risers, etc. not exceeding 300mm wide (vertical sides)	m	20		
		<u>BOXING IN FOR HOLES AND VOIDS</u>				
	8.2.6	(c) <u>Large, circular, over 0,35m and up to 0,7m diameter with depth</u>				
4.11.11		.1 over 0m and up to 0,5m	no	4		
		<u>REINFORCEMENT</u>				
		<u>Steel bars</u>				
4.11.12	8.3.1	(a) <u>Mild steel</u> .1 All sizes	ton	0.30		
	8.3.1	(b) <u>High tensile steel</u>				
4.11.13		.1 All sizes	ton	5.00		
Carried Forward						
Brought Forward						
		<u>CONCRETE</u>				
		<u>STRENGTH CONCRETE</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.11.14	8.4.2	(a) <u>Strength concrete 15Mpa/19mm</u> .1 Blinding layer 50mm thick	m³	2		
4.11.15	8.4.3	(b) <u>Strength concrete 30Mpa/19mm</u> .1 Floor slabs	m³	15		
4.11.16		.2 Walls	m³	30		
4.11.17		.3 Roof beams	m³	1.0		
4.11.18	8.4.3	(c) <u>Strength concrete 25Mpa/13mm</u> .1 Benching to falls including steel floated surface finish	m³	2		
		<u>SURFACE FINISHING</u> <u>Unformed surface finishes</u>				
4.11.19	8.4.4	(a) <u>Wood floated finish</u> .1 Top of walls, beams, etc	m²	10		
		<u>PRECAST CONCRETE</u>				
4.11.20	8.6	(a) <u>Strength concrete 30MPa/19mm</u> .1 Precast slab 1, 3000 x 800 x 250mm thick, with embedded lifting hooks placed on top of chambers, including fixing in place air vent (200mm Ø). Air vents measured elsewhere	no	1		
4.11.21		.2 Precast slab 2, 3000 x 1200 x 300mm thick with embedded lifting hooks placed on top of chambers, including fixing in place access cover (900x600mm). Access covers measured elsewhere	no	1		
4.11.22		.3 Precast slab 3, 3000 x 650 x 250mm thick, with embedded lifting hooks placed on top of chambers	no	4		
Carried Forward						
Brought Forward						
4.11.23		.4 Precast slab 3, 3000 x 650 x 250mm thick, with embedded lifting hooks placed on top of chambers, including fixing in place air vent (200mm Ø). Air vents measured elsewhere	no	1		
		.5 Precast slab 4, 3000 x 680 x 250mm thick,				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.11.24		with embedded lifting hooks placed on top of chambers	no	1		
4.11.25		.6 Precast slab 4, 3000 x 680 x 250mm thick, with embedded lifting hooks placed on top of chambers, including fixing in place air vent (200mm Ø). Air vents measured elsewhere	no	4		
4.11.26		.7 Precast slab 5, 3000 x 1250 x 300mm thick with embedded lifting hooks placed on top of chambers, including fixing in place access cover (900x600mm) and air vent (200mm Ø). Access covers and air vents measured elsewhere	no	1		
		<u>SUNDRIES</u>				
4.11.27		.1 Waterproof sealing of cover slabs (rate is per chamber)	No	2		
4.11.28		.2 Pipe supports to be provided underneath all valves & flow meters or as instructed by the engineer on site, height to be determined on site. Pipe support detail in accordance with; Dwg. 1890.11.00.GZA.05.D003	sum	1		
Carried Forward						R -
Brought Forward						R -
	SANS 1200 H	<u>STRUCTURAL STEELWORK</u>				
		<u>SUPPLY, FABRICATE AND ERECT STEELWORK - ALL INCLUSIVE</u>				
		<u>Access ladders</u>				
	8.3.8	(a) <u>Hot dip galvanised ladders installed complete to engineers specification</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.11.29		<u>Dwg 1890.11.00.GZA.05.D003</u> .1 3m long access ladder installed complete to engineers specification	no	2		
	8.3.9	<u>Access Covers</u> (a) <u>Access covers and frames installed complete to engineers specification</u> <u>Dwg 1890.11.00.GZA.05.D020</u> .1 900 x 600mm type 9E polymer solid access cover and frame complete with locking mechanism to clients requirements, in accordance with SANS 1882. All components to be stainless steel 316L	no	2		
4.11.30		<u>Ventilators</u> (a) <u>Hot dip galvanised ventilators installed complete to engineers specification</u> <u>Dwg 1890.11.00.GZA.05.D003</u> .1 200mm Diameter ventilator installed complete to engineers specification	no	4		
4.11.31						
BILL NO 4.11 NEW BOSPOORT RISING MAIN CONNECTION - ISOLATING VALVE & FLOW CONTROL CHAMBER						
Carried forward to Summary of Schedules					Total	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.12.1		<u>PORTION - 4</u>				
		<u>FLOW CONTROL VALVE CHAMBER ON EXISTING BOSPOORT PIPELINE</u>				
		<u>(1 IN NUMBER IN TOTAL)</u>				
		<u>Dwg 1890.11.GZA.05.D027</u>				
		<u>BILL NO 4.12</u>				
	SANS 1200 D	<u>EARTHWORKS</u>				
		<u>RESTRICTED EARTHWORKS</u>				
	8.3.3	(a) <u>Restricted excavation in all materials and place material on site for</u>				
		.1 Chambers	m³	60		
	8.3.3	(b) <u>Extra over item 8.3.3 (a) for</u>				
4.12.2		.2 Hard rock excavation	m³	25		
4.12.3		<u>WORKING SPACE</u>				
		<u>Extra excavation and backfilling in all materials to provide working space around structures</u>				
	8.3.5	(a) Excavate for working space (previously excavated face +/- 300mm away from perimeter of structure) for the placing and removal of external formwork to perimeter walls. Average depth of excavation 3m deep, including backfilling and compaction to 90% mod AASHTO density	m²	60		
		<u>BACKFILLING RESTRICTED EXCAVATIONS</u>				
4.12.4		<u>Extra over items 8.3.3 (a) for backfill or for fill material against structures</u>				
	8.3.9	(a) <u>Selected material compacted to 93% mod AASTHO density</u>				
		.1 Around chambers below NGL	m³	35		
Carried Forward						
Brought Forward						
	SANS	CONCRETE (STRUCTURAL)				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
	1200 G	~~CONCRETE STRUCTURES~~				
		<u>ROUGH FORMWORK</u>				
4.12.5	8.2.1	(b) <u>Plane vertical</u> .1 Sides of walls (external)	m ²	50		
	8.2.5	<u>Rough formwork to narrow widths</u>				
.6		(a) Edges, risers, etc. not exceeding 300mm wide (vertical sides)	m	20		
		<u>SMOOTH FORMWORK</u>				
4.12.7	8.2.2	(a) <u>Plane horizontal</u> .1 Soffit of roof beams	m ²	1		
4.12.8	8.2.2	(b) <u>Plane vertical</u> .1 Sides of walls (internal)	m ²	45		
	8.2.5	<u>Smooth formwork to narrow widths</u>				
4.12.9		(a) Edges, risers, etc. not exceeding 300mm wide (vertical sides)	m	15		
		<u>BOXING IN FOR HOLES AND VOIDS</u>				
4.12.10	8.2.6	(c) <u>Large, circular, over 0,35m and up to 0,7m diameter with depth</u> .1 over 0m and up to 0,5m	no	2		
		<u>REINFORCEMENT</u>				
		<u>Steel bars</u>				
4.12.11	8.3.1	(a) <u>Mild steel</u> .1 All sizes	ton	0.50		
	8.3.1	(b) <u>High tensile steel</u>				
4.12.12		.1 All sizes	ton	5.00		
Carried Forward						
Brought Forward						
		<u>CONCRETE</u>				
	8.4.2	(a) <u>Strength concrete 15Mpa/19mm</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.12.13		.1 Blinding layer 50mm thick	m ³	1		
	8.4.3	(c) <u>Strength concrete 30Mpa/19mm</u>				
4.12.14		.1 Floor slabs	m ³	8		
4.12.15		.2 Walls	m ³	15		
4.12.16		.3 Roof slabs	m ³	2		
	8.4.3	(c) <u>Strength concrete 25Mpa/13mm</u>				
4.12.17		.1 Benching to falls including steel floated surface finish	m ³	1		
		<u>SURFACE FINISHING</u>				
		<u>Unformed surface finishes</u>				
	8.4.4	(a) <u>Wood floated finish</u>				
4.12.18		.1 Top of walls, beams, etc	m ²	10		
		<u>PRECAST CONCRETE</u>				
	8.6	(a) <u>Strength concrete 30MPa/19mm</u>				
4.12.19		.1 Precast slab 1, 2600 x 750 x 250mm thick, with embedded lifting hooks placed on top of chambers, including fixing in place air vent (200mm Ø). Air vents measured elsewhere	no	1		
4.12.20		.2 Precast slab 1, 2600 x 750 x 250mm thick, with embedded lifting hooks placed on top of chambers	no	3		
		<u>SUNDRIES</u>				
4.12.21		.2 Waterproof sealing of cover slabs (rate is per chamber)	No	1		
Carried Forward						
Brought Forward						
4.12.22		.3 Pipe supports to be provided underneath all valves & flow meters or as instructed by the engineer on site, height to be determined on site. Pipe support detail in accordance with;				
4.12.22		Dwg. 1890.11.00.GZA.05.D003	sum	1		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.12.23	SANS 1200 H	STRUCTURAL STEELWORK				
		SUPPLY, FABRICATE AND ERECT STEELWORK - ALL INCLUSIVE				
		<u>Access ladders</u>				
4.12.24	8.3.8	(a) <u>Hot dip galvanised ladders installed complete to engineers specification</u> <u>Dwg 1890.11.00.GZA.05.D003</u> .1 2.6m long access ladder installed complete to engineers specification	no	1		
		<u>Access Covers</u>				
4.12.25	8.3.9	(a) <u>Access covers and frames installed complete to engineers specification</u> <u>Dwg 1890.11.00.GZA.05.D020</u> .1 900 x 600mm type 9E polymer solid access cover and frame complete with locking mechanism to clients requirements, in accordance with SANS 1882. All components to be stainless steel 316L	no	1		
		<u>Ventilators</u>				
4.12.25	8.3.10	(a) <u>Hot dip galvanised ventilators installed complete to engineers specification</u> <u>Dwg 1890.11.00.GZA.05.D003</u> .1 200mm Diameter ventilator installed complete to engineers specification	no	2		
		BILL NO 4.12 FLOW CONTROL VALVE CHAMBER ON EXISTING BOSPOORT PIPELINE				
Carried forward to Summary of Schedules					Total	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.13.1		<u>PORTION - 4</u>				
		<u>END POINT CONNECTION - ISOLATING FLOW METER & PRESSURE CONTROL CHAMBERS</u>				
		<u>(6 IN NUMBER IN TOTAL, 2 x FC, 2 x FM & 2 x IV)</u>				
		<u>Dwg 1890.11.GZA.05.D030, D031, D032</u>				
		<u>BILL NO 4.13</u>				
	SANS 1200 C	<u>SITE CLEARANCE</u>				
		<u>DEMOLISH AND SPOIL MATERIAL OFF SITE</u>				
		<u>Demolish and spoil material for structures, buildings, etc. at a spoil site established by the Contractor</u>				
		<u>Dwg 1890.11.GZA.05.D032</u>				
	8.2.8	(a) <u>Chambers</u>				
		.1 Break through existing cross connection chamber wall, consisting of reinforced concrete, for new 700mm diameter pipe and reseal with cementitious non-shrink grout after pipe installation	sum	1		
	8.2.8	(c) <u>Dismantle and spoil steelwork, etc.</u>				
		.1 Remove existing 700mm diameter steel pipe, approximately 1.272m long, and make ready for new fittings. Fittings measured elsewhere.	sum	1		
		<u>Dwg.1890.11.00.GZA.05.D003</u>				
	SANS 1200 D	<u>EARTHWORKS</u>				
		<u>RESTRICTED EARTHWORKS</u>				
4.13.3	8.3.3	(a) <u>Restricted excavation in all materials and place material on site for</u>				
		.1 FC Chambers	m³	200		
4.13.4		.2 FM Chambers	m³	80		
4.13.5		.3 IV Chambers	m³	140		
Carried Forward						
Brought Forward						

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.13.6	8.3.3	(b) <u>Extra over item 8.3.3 (a) for</u> .2 Hard rock excavation	m ³	150		
		<u>WORKING SPACE</u> <u>Extra excavation and backfilling in all materials to provide working space around structures</u>				
.7	8.3.5	(a) Excavate for working space (previously excavated face +- 300mm away from perimeter of structure) for the placing and removal of external formwork to perimeter walls. Average depth of excavation 3.5m deep, including backfilling and compaction to 90% mod AASTHO density	m ²	380		
		<u>BACKFILLING RESTRICTED EXCAVATIONS</u> <u>Extra over items 8.3.3 (a) for backfill or for fill material against structures</u>				
4.13.8	8.3.9	(a) <u>Selected material compacted to 93% mod AASTHO density</u> .1 Around chambers below NGL	m ³	250		
	SANS 1200 G	<u>CONCRETE (STRUCTURAL)</u>				
		<u>ROUGH FORMWORK</u>				
4.13.9	8.2.1	(b) <u>Plane vertical</u> .1 Sides of walls (external)	m ²	350		
	8.2.5	<u>Rough formwork to narrow widths</u>				
.10		(a) Edges, risers, etc. not exceeding 300mm wide (vertical sides)	m	110		
		<u>SMOOTH FORMWORK</u>				
4.13.11		(a) Plane horizontal .1 Soffit of roof slabs	m ²	25		
Carried Forward						
Brought Forward						
	8.2.2	(b) <u>Plane vertical</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.13.12		.2 Sides of walls (internal)	m ²	330		
	8.2.5	Smooth formwork to narrow widths				
.13		(a) Edges, risers, etc. not exceeding 300mm wide (vertical sides)	m	150		
		<u>BOXING IN FOR HOLES AND VOIDS</u>				
	8.2.6	(c) <u>Large, circular, over 0,35m and up to 0,7m diameter with depth</u>				
.14		.1 over 0m and up to 0,5m	no	12		
		<u>REINFORCEMENT</u>				
		<u>Steel bars</u>				
	8.3.1	(a) <u>Mild steel</u>				
4.13.15		.1 All sizes	ton	0.80		
	8.3.1	(b) <u>High tensile steel</u>				
4.13.16		.1 All sizes	ton	16.00		
		<u>CONCRETE</u>				
		<u>STRENGTH CONCRETE</u>				
	8.4.2	(a) <u>Strength concrete 15Mpa/19mm</u>				
4.13.17		.1 Blinding layer 50mm thick	m ³	8		
	8.4.3	(b) <u>Strength concrete 30Mpa/19mm</u>				
4.13.18		.1 Floor slabs	m ³	35		
4.13.19		.2 Walls	m ³	100		
4.13.20		.3 Roof slabs	m ³	12		
	8.4.3	(c) <u>Strength concrete 25Mpa/13mm</u>				
4.13.21		.1 Benching to falls including steel floated surface finish	m ³	5		
Carried Forward						
Brought Forward						
		<u>SURFACE FINISHING</u>				
		<u>Unformed surface finishes</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.13.22	8.4.4	(a) <u>Wood floated finish</u> .2 Top of walls, beams, etc	m ²	50		
		<u>PRECAST CONCRETE</u>				
4.13.23	8.6	(a) <u>Strength concrete 30MPa/19mm</u> .1 Precast slab 1, 3200 x 650 x 250mm thick, with embedded lifting hooks placed on top of chambers, including fixing in place air vent (200mm Ø). Air vents measured elsewhere	no	8		
4.13.24		.2 Precast slab 1, 3200 x 650 x 250mm thick, with embedded lifting hooks placed on top of chambers	no	12		
4.13.25		.3 Precast slab 2, 2500 x 600 x 250mm thick, with embedded lifting hooks placed on top of chambers, including fixing in place air vent (200mm Ø). Air vents measured elsewhere	no	2		
4.13.26		.4 Precast slab 2, 2500 x 600 x 250mm thick, with embedded lifting hooks placed on top of chambers	no	2		
		<u>SUNDRIES</u>				
4.13.27		.2 Waterproof sealing of cover slabs (rate is per chamber)	No	6		
		.3 Pipe supports to be provided underneath all valves & flow meters or as instructed by the engineer on site, height to be determined on site. Pipe support detail in accordance with; Dwg. 1890.11.00.GZA.05.D003	sum	1		
Carried Forward						
Brought Forward						
	SANS 1200 H	<u>STRUCTURAL STEELWORK</u>				
		<u>SUPPLY, FABRICATE AND ERECT STEELWORK - ALL INCLUSIVE</u>				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
		<u>Access ladders</u>				
	8.3.8	(a) <u>Hot dip galvanised ladders installed complete to engineers specification</u> <u>Dwg 1890.11.00.GZA.05.D003</u>				
4.13.29		.1 3.8m long access ladder installed complete to engineers specification	no	2		
4.13.30		.2 3.6m long access ladder installed complete to engineers specification	no	2		
4.13.31		.3 3.3m long access ladder installed complete to engineers specification	no	2		
		<u>Access Covers</u>				
	8.3.9	(a) <u>Access covers and frames installed complete to engineers specification</u> <u>Dwg 1890.11.00.GZA.05.D020</u>				
4.13.32		.1 900 x 600mm type 9E polymer solid access cover and frame complete with locking mechanism to clients requirements, in accordance with SANS 1882. All components to be stainless steel 316L	no	6		
		<u>Ventilators</u>				
	8.3.10	(a) <u>Hot dip galvanised ventilators installed complete to engineers specification</u> <u>Dwg 1890.11.00.GZA.05.D003</u>				
4.13.33		.1 200mm Diameter ventilator installed complete to engineers specification	no	12		
		<u>BILL NO 4.13</u> <u>END POINT CONNECTION - ISOLATING FLOW METER & PRESSURE CONTROL CHAMBERS</u>				
		Carried forward to Summary of Schedules			Total	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
		<u>PORTION - 4</u>				
		<u>PIPELINES - BEDDING</u>				
		<u>BILL NO 4.14</u>				
	SANS 1200 LB	<u>BEDDING (PIPES)</u>				
		<u>BEDDING FROM TRENCH EXCAVATIONS</u>				
	8.2.1	.1 <u>Provision of bedding material from trench excavations, including all necessary screening of the material to the desired bedding design requirement</u>				
4.14.1		(a) Selected granular material	m³	2,160		
4.14.2		(b) Selected fill material	m³	17,590		
		<u>BEDDING FROM OTHER EXCAVATIONS ON SITE</u>				
	8.2.2	.1 <u>Provision of bedding material by importation from other necessary excavations within the freehaul distance, including all necessary screening of the material to the desired bedding design requirement</u>				
4.14.3		(a) Selected granular material	m³	8,270		
		<u>BEDDING FROM COMMERCIAL SOURCES</u>				
	8.2.2	.3 <u>Provision of bedding material by importation from commercial sources selected by the Contractor</u>				
4.14.4		(a) Selected granular material	m³	8,270		
		<u>BILL NO 4.14</u> <u>BEDDING (PIPES)</u>				
Carried forward to Summary of Schedules					Total	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
		<u>PORTION - 4</u>				
		<u>CATHODIC PROTECTION - PIPELINE</u>				
		<u>BILL NO 4.15</u>				
		<u>GENERAL</u>				
4.15.1		(a) Contractor's design and documentation	sum	1		
4.15.2		(b) Preliminary and general	sum	1		
4.15.3	10.7.1	(c) Construction DCVG in (max) 5km sections	sum	1		
4.15.4	10.7.2	(d) Construction CDT in (max) 5km Sections	sum	1		
		<u>SURVEY BY NOMINATED SUB-CONTRACTOR</u>				
4.15.5	10.1	(a) TOC CIPS/DCVG survey	Prov sum	1		220,000.00
4.15.6	10.1	(b) TOC CDT survey	Prov sum	1		50,000.00
4.15.7		(c) DNP CIPS/DCVG survey	Prov sum	1		220,000.00
4.15.8	10.1	(d) DC interference current assessment	Prov sum	1		35,000.00
4.15.9	10.1	(e) Interference survey of foreign services	Prov sum	1		50,000.00
4.15.10	10.1	(f) Percentage allowance for overheads, charges and profit on net cost of Provisional Sums	%			
		<u>SUPPLY AND INSTALLATION OF MONITORING & CROSS BOND FACILITIES</u>				
4.15.11	10.4	(a) Supply and install vandal resistant bunker (including foundation, 1.2m concrete surround with gradient control mat connected to bunker rebar)	no	6		
4.15.12	104	(b) Supply and install VLD between gradient control mat and pipe (incl. all cables, and terminations)	no	6		
4.15.13	10.4	(c) Supply and install Type B connection panel	no	4		
4.15.14	10.4	(d) Supply and install Type C connection panel	no	2		
4.15.15	10.2	(e) Supply Pipe Power Cable, black, PVC/PVC, single core, 16mm ²	no	40		
4.15.16	10.2	(f) Supply Pipe Monitoring Cable, black, PVC/PVC, single core, 16mm ²	no	40		
Carried Forward						

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
Brought Forward						
4.15.17	10.5	(g) Trenching to 1.5m depth and backfill (suitable bedding material around cables)	no	24		
4.15.18	10.3	(h) Install pipe cables (incl terminations ,cable labels, cable ties, thermit welds, coating make good) and connect to link panel inside bunker	no	8		
4.15.19	10.4	(i) Supply and install DC monitor coupon with cables (incl. terminations and 10A slow blow fuse link)	no	6		
4.15.20	10.4	(j) Supply and install AC monitor coupon with cables (incl. terminations and 10 ohm 50w resistor)	no	6		
4.15.21	10.4	(k) Supply & install stationary reference electrode (Zn/ZnSO ₄) complete with yellow cable (incl. terminations)	no	6		
<u>SUPPLY OF INSULATING FLANGE (IF) KITS. INSTALLATION BY MAIN CONTRACTOR</u>						
4.15.22	10.4	(a) Supply DN700 PN16 IF kit for cross connection to existing RLM pipeline at endpoint (complete with spark gap)	no	1		
<u>SUPPLY & INSTALLATION OF CONTINUITY BONDING</u>						
<u>Around outside of valve chambers</u>						
4.15.23	10.2	(a) Supply 2 off black, PVC/PVC, single core, 35mm ² cable around outside of valve chambers	m	210		
4.15.24	10.3	(b) Install bonding cables per cable (incl thermit welds, coating make good/wrapping)	no	16		
<u>Across VJ coupling or flanged joint on outside of chambers</u>						
4.15.25	10.4	(c) Supply and install continuity bond Cables across VJ coupling, 2 x single core 35mm ² cable (including thermit welds and coating make good/wrapping)	no	0		
4.15.26	10.4	(d) Supply and install continuity bond across buried flanges by welding 2 off 5 x 25mm flatbar across flange (including coating make good/wrapping)	no	0		
Carried Forward						
Brought Forward						
		<u>Continuity to scour line inside valve chamber</u>				

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.15.27	10.2	(e) Supply 1 off black, PVC/PVC, single core, 16mm ² cable around inside of valve chambers (incl. 15mm galvanized conduit, saddles)	m	70		
4.15.28	10.3	(f) Install scour bonding cables per cable (incl. galvanized conduit, saddles, thermit welds, coating make good)	no	7		
4.15.29	10.4	(g) Supply and install continuity bond across flange in wet chamber by welding 2 off 5 x 25mm flatbar across flange (including coating make good)	no	7		
<u>SUPPLY & INSTALLATION OF SACRIFICIAL ANODES (ZINC RIBBON)</u>						
4.15.30	10.4	(a) Supply and install 60m, 1.79kg/m, zinc ribbon anode in pipe trench (incl. a 10mm ² , Red, anode tail from each end thermit welded directly to the pipe at the closest field joint on each side)	no	2		
4.15.31	10.6	(b) Supply and install 200mm x 200mm, 50/50, Gypsum/Bentonite backfill for ribbon anodes	m ³	5		
<u>SUPPLY & INSTALLATION OF AC INTERFERENCE MITIGATION</u>						
4.15.32	10.4	(a) Supply and install 200m lengths of 1,79kg/m zinc ribbon in the pipe trench before backfill by main contractor (incl. 35mm ² cable connection, from each end, to the pipe at the closest field joint on each side)	no	16		
<u>Gradient control at reinforced concrete chambers</u>						
4.15.33	10.4	(b) Welding of continuity ring on chamber reinforcement. One central floor reinforcement, in each direction, welded at each crossing and continuity ring welded to each vertical reinforcement just below the chamber roof level. Suitable lug to be welded to reinforcing to protrude into the chamber for connection to pipe (via jumper cables)	no	7		
<u>Gradient control at precast concrete chambers</u>						
4.15.34	10.4	(c) Welding of continuity ring on concrete floor reinforcement (one reinforcing bar in each direction welded to all crossing bars)	no	25		
					Carried Forward	
					Brought Forward	
4.15.35	10.4	(d) Supply and install stud to be welded onto pipe flange for rebar connection onto pipe (via jumper cables)	no	32		

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
		<u>PORTION - 4</u>				
		<u>CATHODIC PROTECTION - CROSS CONNECTION</u>				
		<u>BILL NO 4.16</u>				
		<u>GENERAL</u>				
4.16.1		(a) Contractor's design and documentation	sum	1		
4.16.2		(b) Preliminary and general	sum	1		
		<u>SURVEY BY NOMINATED SUB-CONTRACTOR</u>				
4.16.3	10.1	(a) CIPS/DCVG survey	Prov sum	1		85,000.00
4.16.4	10.1	(c) DC interference current assessment	Prov sum	1		35,000.00
4.16.5	10.1	(d) Interference survey of foreign services	Prov sum	1		50,000.00
4.16.6	10.1	(e) Percentage allowance for overheads, charges and profit on net cost of Provisional Sums	%			
		<u>SUPPLY AND INSTALLATION OF MONITORING & CROSS BOND FACILITIES</u>				
4.16.7	10.4	(a) Supply and install vandal resistant bunker (including foundation, 1.2m concrete surround with gradient control mat connected to bunker rebar)	no	3		
4.16.8	10.4	(b) Supply and install VLD between gradient control mat and pipe (incl. all cables, and terminations)	no	3		
4.16.9	10.4	(c) Supply and install Type B connection panel	no	1		
4.16.10	10.4	(d) Supply and install Type C connection panel	no	2		
4.16.11	10.2	(e) Supply Pipe Power Cable, black, PVC/PVC, single core, 16mm ²	no	25		
4.16.12	10.2	(f) Supply Pipe Monitoring Cable, black, PVC/PVC, single core, 16mm ²	no	25		
4.16.13	10.5	(g) Trenching to 1.5m depth and backfill (suitable bedding material around cables)	no	15		
4.16.14	10.3	(h) Install pipe cables (incl terminations, cable labels, cable ties, thermit welds, coating make good) and connect to link panel inside bunker	no	5		
					Carried Forward	
					Brought Forward	

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.16.15	10.4	(i) Supply and install DC monitor coupon with cables (incl. terminations and 10A slow blow fuse link)	no	3		
4.16.16	10.4	(j) Supply and install AC monitor coupon with cables (incl. terminations and 10 ohm 50w resistor)	no	3		
4.16.17	10.4	(k) Supply & install stationary reference electrode (Zn/ZnSO ₄) complete with yellow cable (incl. terminations)	no	3		
<u>SUPPLY OF INSULATING FLANGE (IF) KITS.</u>						
<u>INSTALLATION BY MAIN CONTRACTOR</u>						
4.16.18	10.4	(a) Supply DN800 PN25 IF kit for pump station (complete with spark gap)	no	1		
4.16.19	10.4	(b) Supply DN400 PN25 IF kit for Magalies Water cross connection (complete with spark gap)	no	1		
4.16.20	10.4	(c) Supply DN400 PN25 IF kits for new flow control chambers to reservoirs (2 per chamber, complete with spark gaps)	no	4		
4.16.21	10.4	(d) Supply DN400 PN25 IF kit for flow control chamber to existing pipe (complete with spark gaps)	no	2		
<u>SUPPLY & INSTALLATION OF CONTINUITY BONDING</u>						
<u>Around outside of valve chambers</u>						
4.16.22	10.2	(a) Supply 2 off black, PVC/PVC, single core, 35mm ² cable around outside of valve chambers	m	220		
4.16.23	10.3	(b) Install bonding cables per cable (incl thermit welds, coating make good/wrapping)	no	22		
<u>Across VJ coupling or flanged joint on outside of chambers</u>						
4.16.24	10.4	(c) Supply and install continuity bond Cables across VJ coupling, 2 x single core 35mm ² cable (including thermit welds and coating make good/wrapping)	no	3		
4.16.24	10.4	(d) Supply and install continuity bond across buried flanges by welding 2 off 5 x 25mm flatbar across flange (including coating make				
					Carried Forward	
					Brought Forward	

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
<u>SUPPLY & INSTALLATION OF ICCP SYSTEM</u>						
4.16.25	10.4	(a) Supply and install Rocla Durasafe (incl. foundation and cable sleeves)	no	1		
4.16.26	10.4	(b) Supply and install 48V 20 A switchmode Rectifier inside Durasafe (incl. freestanding frame bolted to floor)	no	1		
4.16.27	10.5	(c) Trenching to 1.5m depth and backfill for cables and watering system (suitable bedding material around cables)	m	510		
4.16.28	10.2 & 10.3	(d) Supply and install pipe connection cable. 2 off 16mm ² , black, DI, PVC/PVC (incl. terminations and thermit welding to closest field joint).	m	40		
4.16.29	10.2 & 10.3	(e) Supply and install 10mm ² 3 core SWA, AC supply cable from WTW to TRU	m	50		
<u>Supply and installation of 30m horizontal groundbed</u>						
4.16.30	10.2 & 10.3	(f) Supply and install groundbed supply cable, 16mm ² , 4 core SWA	m	300		
4.16.31	10.5	(g) Trenching to 3m depth and backfill for groundbed	m	30		
4.16.32	10.2 & 10.3	(h) Supply and install Anode ring main, 25mm ² , Red, single core, XLPE/PVC	m	60		
4.16.33	10.4	(i) Supply and install 2A, MMO anodes encased in 2m x 200mm galvanized steel canisters at 3m centres (incl. 10mm ² tails and termination to ring main using suitable splicing kits)	no	10		
4.16.34	10.4	(j) Supply and install 1m x 200mm spacer canisters	no	9		
4.16.35	10.6	(k) Supply and install 300 x 300mm anode backfill (coke breeze)	m ³	3		
4.16.36	10.4	(l) Supply and install groundbed watering system complete with 140m, 50mm HDPE water supply from closest chamber	sum	1		
					Carried Forward	
					Brought Forward	
<u>SUPPLY & INSTALLATION OF AC INTERFERENCE MITIGATION</u>						

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.16.37	10.4	<u>Gradient control at reinforced concrete chambers</u> (a) Welding of continuity ring on chamber reinforcement .One central floor reinforcement, in each direction, welded at each crossing and continuity ring welded to each vertical reinforcement just below the chamber roof level. Suitable lug to be welded to reinforcing to protrude into the chamber for connection to pipe (via jumper cables)	no	8		
4.16.38	10.4	<u>Gradient control at precast concrete chambers</u> (b) Welding of continuity ring on concrete floor reinforcement (one reinforcing bar in each direction welded to all crossing bars)	no	1		
4.16.39	10.4	(c) Supply and install stud to be welded onto pipe flange for rebar connection onto pipe (via jumper cables)	no	9		
		BILL NO 4.16 <u>CATHODIC PROTECTION - CROSS CONNECTION</u>				
Carried forward to Summary of Schedules					Total	

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
4.17.1		<u>PORTION - 4</u>				
		<u>PIPELINE - PIPE JACKING</u>				
		<u>BILL NO</u> 4.17				
	SANS 1200 LG	<u>PIPE JACKING - CHAINAGE 502.558 TO 518.758</u>				
		<u>ESTABLISHMENT</u>				
		<u>PIPE JACKING ON NEW BOSPOORT PIPELINE</u>				
		<u>Jacking establishment including establishment, de-establishment, trust and reception pits, reinstatement of all surfaces, dewatering, etc. complete</u>				
	8.2.1	(a) Fixed charges	sum	1		
	8.2.1	(b) Time-related charges	sum	1		
		<u>PIPE JACKING</u>				
4.17.3		<u>SUPPLY AND DELIVERY OF PIPES TO BE JACKED</u>				
	8.2.2	<u>Supply of pipes to be jacked</u>				
		(a) 900mm ID concrete, "in the wall joint", jacking sleeve pipes type SC class 100D, in accordance with SANS 677, in one crossing	m	20		
4.17.4		<u>JACKING OF PIPES</u>				
	8.2.3	<u>Jacking of pipes into their final positions</u>				
		(a) 900mm ID concrete, "in the wall joint", jacking sleeve pipes type SC class 100D, in accordance with SANS 677, in one crossing	m	20		
Carried Forward						

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
Brought Forward						
	8.2.4	<u>EXCAVATION FOR JACKING</u> <u>Excavate for pipes at the jacking face (including removal and disposal of surplus excavated material in material that is:</u>				
4.17.5		(a) Soft material	m³	10		
4.17.6		(e) Hard material	m³	10		
		<u>PROVISIONAL SUMS</u>				
		<u>PROVISIONAL SUMS</u>				
4.17.7	8.2.5	(a) Extra-over for unforeseen rock or boulders	Prov sum	1		R 60,000.00
4.17.8		(b) Overheads, charges and profit on above	%	10%		
		<u>GROUTING</u>				
		<u>GROUTING</u>				
	8.2.9	<u>Grouting by injection of cement/sand grout mix (ratio of 1:6 & 150 slump) where ordered</u>				
4.17.9		(a) Provide equipment and remove on completion	sum	1		
4.17.10		(b) Operate equipment	days	10		
4.17.11		(c) Materials type Max. overbreak of 100mm thick will be certified. Any additional overbreak exceeding 100mm thick will be for the contractors account.	m³	15		
	SANS 1200 LG	<u>PIPE JACKING - CHAINAGE 3818.474 TO 3842.474</u>				
		<u>ESTABLISHMENT</u>				
		<u>PIPE JACKING ON NEW BOSPOORT PIPELINE</u>				
		<u>Jacking establishment including establishment, de-establishment, trust and reception pits, reinstatement of all surfaces, dewatering, etc. complete</u>				
4.17.12	8.2.1	(a) Fixed charges	sum	1		
4.17.13	8.2.1	(b) Time-related charges	sum	1		
Carried Forward						

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
Brought Forward						
		<u>PIPE JACKING</u>				
		<u>SUPPLY AND DELIVERY OF PIPES TO BE JACKED</u>				
4.17.14	8.2.2	Supply of pipes to be jacked (b) 1117mm ID concrete, "in the wall joint", jacking sleeve pipes type SC class 100D, in accordance with SANS 677, in one crossing	m	25		
		<u>JACKING OF PIPES</u>				
4.17.15	8.2.3	Jacking of pipes into their final positions (b) 1117mm ID concrete, "in the wall joint", jacking sleeve pipes type SC class 100D, in accordance with SANS 677, in one crossing	m	25		
		<u>EXCAVATION FOR JACKING</u>				
4.17.16	8.2.4	Excavate for pipes at the jacking face (including removal and disposal of surplus excavated material in material that is: (a) Soft material	m ³	25		
4.17.17		(e) Hard material	m ³	20		
		<u>PROVISIONAL SUMS</u>				
		<u>PROVISIONAL SUMS</u>				
4.17.18	8.2.5	(a) Extra-over for unforeseen rock or boulders	Prov sum	1		R 60,000.00
4.17.19		(b) Overheads, charges and profit on above	%	10%		
		<u>GROUTING</u>				
		<u>GROUTING</u>				
4.17.20	8.2.9	Grouting by injection of cement/sand grout mix (ratio of 1:6 & 150 slump) where ordered (a) Provide equipment and remove on completion	sum	1		
4.17.21		(b) Operate equipment	days	13		
Carried Forward						

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
Brought Forward						
4.17.22		(c) Materials type Max. overbreak of 100mm thick will be certified. Any additional overbreak exceeding 100mm thick will be for the contractors account.	m ³	24		
	SANS 1200 LG	PIPE JACKING - CHAINAGE 6136.782 TO 6172.764				
		<u>ESTABLISHMENT</u>				
		<u>PIPE JACKING ON NEW BOSPOORT PIPELINE</u>				
		<u>Jacking establishment including establishment, de-establishment, trust and reception pits, reinstatement of all surfaces, dewatering, etc. complete</u>				
4.17.23	8.2.1	(a) Fixed charges	sum	1		
4.17.24	8.2.1	(b) Time-related charges	sum	1		
		<u>PIPE JACKING</u>				
		<u>SUPPLY AND DELIVERY OF PIPES TO BE JACKED</u>				
	8.2.2	<u>Supply of pipes to be jacked</u>				
4.17.25		(c) 1117mm ID concrete, "in the wall joint", jacking sleeve pipes type SC class 100D, in accordance with SANS 677, in one crossing	m	35		
		<u>JACKING OF PIPES</u>				
	8.2.3	<u>Jacking of pipes into their final positions</u>				
4.17.26		(c) 1117mm ID concrete, "in the wall joint", jacking sleeve pipes type SC class 100D, in accordance with SANS 677, in one crossing	m	35		
		<u>EXCAVATION FOR JACKING</u>				
	8.2.4	<u>Excavate for pipes at the jacking face (including removal and disposal of surplus excavated material in material that is:</u>				
4.17.27		(a) Soft material	m ³	34		
4.17.28		(e) Hard material	m ³	18		
Carried Forward						

Item	Payment Ref.	Description	Unit	Qty	Rate (R)	Amount (R)
Brought Forward						
		<u>PROVISIONAL SUMS</u>				
4.17.29	8.2.5	(a) Extra-over for unforeseen rock or boulders	Prov sum	1		R 60,000.00
4.17.30		(b) Overheads, charges and profit on above	%	10%		
		<u>GROUTING</u>				
	8.2.9	<u>Grouting by injection of cement/sand grout mix (ratio of 1:6 & 150 slump) where ordered</u>				
4.17.31		(a) Provide equipment and remove on completion	sum	1		
4.17.32		(b) Operate equipment	days	18		
4.17.33		(c) Materials type Max. overbreak of 100mm thick will be certified. Any additional overbreak exceeding 100mm thick will be for the contractors account.	m ³	33		
		<u>BILL NO 4.17</u> <u>PIPELINE - PIPE JACKING</u>				
		Carried forward to Summary of Bills			Total	

Section C2.3.4: Summary of Schedules PORTION 4

Rustenburg Water Services Trust
Bospoort Water Supply Scheme - Access Road, Reservoir and Pipelines
CONTRACT RLM/RWST/OMM/0102/2024/25
PORTION 4 - PIPELINES

Final Summary of Schedules for Portion 4

Bill No.	Description	Amount (R)
1.1	PIPELINE P&G	
1.2	PIPELINE PROVISIONAL SUMS	
1.3	PIPELINE DAYWORKS	
4.1	PIPELINE - SITE CLEARANCE	
4.2	PIPELINES - FENCING	
4.3	PIPELINES - EARTHWORKS (PIPE TRENCHES)	
4.4	PIPELINE - ROADS	
4.5	PIPELINES - MEDIUM PRESSURE PIPELINES	
4.6	AIR VALVE CHAMBERS FOR 400-500mm & 800mm Ø PIPELINE	
4.7	ACCESS CHAMBERS FOR 500mm & 800mm Ø PIPELINE	
4.8	ULTRASONIC FLOW METER CHAMBERS	
4.9	SINGLE SCOUR VALVE CHAMBERS FOR 500mm & 800mm Ø PIPELINE	
4.10.	DOUBLE SCOUR & ISOLATING VALVE CHAMBER FOR 800mm Ø PIPELINE	
4.11	NEW BOSPOORT RISING MAIN CONNECTION - ISOLATING VALVE & FLOW CONTROL CHAMBER	
4.12	FLOW CONTROL VALVE CHAMBER ON EXISTING BOSPOORT PIPELINE	
4.13	END POINT CONNECTION - ISOLATING FLOW METER & PRESSURE CONTROL CHAMBERS	
4.14	PIPELINES - BEDDING	
4.15	CATHODIC PROTECTION - PIPELINE	
4.16	CATHODIC PROTECTION - CROSS CONNECTION	
4.17	PIPELINE - PIPE JACKING	
SUB TOTAL A		
Minimum Contract Skills Development Goal Sum = CE (0.25%) x Sub Total A [in accordance with the Standard for Developing Skills through Infrastructure Contract]		
SUB TOTAL B		
Provisional sum: Allowance for Contract Price Adjustment (5% of Sub-Total)		
SUB TOTAL C		
10% Contingencies		
TOTAL CONSTRUCTION COST (EXCLUDING VAT)		
Value Added Tax (15%)		
TOTAL AMOUNT OF CARRIED FORWARD TO FORM OF BID (INCLUDING VAT)		

Contractor Witness 1 Witness 2 Employer Witness 1 Witness 2

Section C2.3.4: Summary of Schedules PORTION 4

Bankers Details :

Contractor's Name: _____

Name reflected on bank statement: _____

Bank: _____

Branch: _____

Account Number: _____

Cheque / or Savings Account

Signature :

By Tenderer : _____

Company Name : _____

Date : _____

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

C3 SCOPE OF WORKS

RLM/RWST/OMM/0102/2024/25 - RE-ADVERT: APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

Tender
Part C3: Scope of Works

C3-1

C3

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



CONTRACT NO: RLM/RWST/OMM/0102/2024/25 – RE-ADVERT:
CONSTRUCTION OF THE BOSPOORT BULK PIPELINE

INDEX

Section	Description	Page No
C3.1	DESCRIPTION OF THE WORKS.....	C3.1-1
C3.2	ENGINEERING.....	C3.2-1
C3.3	PROCUREMENT.....	C3.3-1
C3.4	CONSTRUCTION.....	C3.4-1
C3.4.1	General	C3.4.1-1
C3.4.2	Standard Specifications	C3.4.2-1
C3.4.3	Variations and Additions to Standard and Particular Specifications	C3.4.3-1
C3.4.4.1	Particular Specifications (Civil Works).....	C3.4.4.1-1
C3.4.4.2	Particular Specifications (Electrical Works)	C3.4.4.2-1

Tender
Part C3: Scope of Works

C3-2

C3

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

C3.1 DESCRIPTION OF WORKS

C3.1.1 Employer's objectives

The Rustenburg Water Services Trust (RWST), as implementing agent for the Rustenburg Local Municipality, is soliciting tenders from suitably qualified and experienced contractors for the construction of the new Bospoort rising main and gravity main pipelines and other ancillary works to supply water from the Bospoort Water Treatment Works (WTW) to the proposed Bospoort North reservoir and from the reservoir to consumers in the Rustenburg / Boitekong area.

The contractor will be required to achieve a reasonable percentage Contract Participation Goal (CPG) made up by sub-contracting work to local SMME's, using local labour and using local plant and material suppliers as specified in the Contract Data. Details of the sub-contractor must be included in the tendered submission, failure to do so will render the tender non-responsive.

A preliminary project implementation program for planning purposes is included in Cause C3.1.5 and the Contractor shall be deemed to have based his tender price on this program and the time for achieving Practical Completion as specified in the Contract Data. Any material deviations from this program shall be clearly noted in the Contractor's tender submission as an alternative.

C3.1.2 Scope of the works

The work to be carried out under this Contract forms part of the larger process upgrade project and comprises of manufacturing, supply, delivery, installation, testing and maintenance during the defects notification period.

Refer to drawings 1890.11.00.AAA.01.S001, 1890.11.00.GZA.05.S001 and 1890.11.00.AAA.01.A012 in Volume 3 for a layout of the Bospoort Water Supply Scheme.

The Bospoort Water Treatment Works (WTW) is situated at 25°33'42.37"S & 27°20'57.16"E and downstream and close to the Bospoort Dam and was constructed in the mid 1950's. It has a current capacity of 12 Ml/d and was upgraded in 2003.

In view of the water shortages in Rustenburg an upgrade of the Bospoort WTW from 12 Ml/d to 24 Ml/d is currently in progress. The Bospoort Dam is a highly eutrophic reservoir, the predominant source of inflow into the dam comes from the upstream Boitekong and Rustenburg Wastewater Treatment Works.

Water is currently abstracted from the Dam, treated at the WTW and pumped to the Booster and Industrial reservoirs in Rustenburg.

Tender
Part C3: Scope of Works

C3.1-1

C3.1
Description of Works

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

In future, the upgraded Bospoort High Lift Pump Station will pump water from the WTW to the existing Bospoort and new Bospoort North reservoirs. From the Bospoort North reservoir, water will gravitate to the Boitekong area.

The scope of this project will be:

- a) Refurbishment of the existing 1 260 m x 450 ND steel pipeline from the WTW to the point where it crosses Magalies Water's Vaalkop pumping line (Point A);

The scope will further include:

- Installation of an insulating flange at the high lift pump station.
- Ensuring electrical continuity over its full length.
- Repair of the bitumen fibre glass coating at identified positions.
- Replacement of certain pipework and valves.
- Construction of air valve chambers.
- Minor civil work.

- b) The construction of a new 1 250 m x 500 mm diameter steel rising main to the new Bospoort North reservoir and a new 8 300 m x 800 mm diameter steel gravity pipeline from the new Bospoort North reservoir to the existing Magalies Water/Rand Water/RLM water meter installations in Boitekong (Point B).

The scope will further include:

- Clearing of the site.
- Removal and relocation of certain structures.
- Excavation for pipe trenches and structures.
- Pipe bedding and backfilling.
- Supply and installation of pipes, fittings, valves and all other construction material.
- Road crossing.
- River/stream crossings.
- Crossing of other existing services e.g., water, sewerage, storm water, electricity, telecommunication, fences.
- Valve installations (air valve, scour valve, isolating valve, etc.)
- Valve chambers
- Connections to the new reservoir inlet and outlet pipework
- The valve and flow meter installations at Point B (refer to detail B on dwg 1890.11.00.AAA.01.A012):
- Various isolating valves and dirt boxes (strainers).
- Hydraulic testing.

Tender
Part C3: Scope of Works

C3.1-2

C3.1
Description of Works

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

- Disinfection of the pipelines.
 - Commissioning of the pipelines.
 - Erection of new fencing.
- c) Cathodic protection and AC mitigation (where required)
- d) General
- Environmental management.
 - Social management.
 - Community liaison.
 - Safety and security management.
 - Quality assurance.
 - Contractor's obligations during the Defects Liability Period.
 - All other duties and responsibilities in terms of the Contract.

The upgrading of the Bospoort WTW, the new clean water pump sets at the WTW (including mechanical, electrical and C&I design and installation) and the construction of the Bospoort North Reservoir and access road are excluded from this tender.

C3.1.3 Location of the Works and description of the Site

The Site is located between the Bospoort WTW on the downstream riverbank at the Bospoort Dam, approximately 14 km to the North-East of Rustenburg, and the end of the 800 mm diameter gravity pipeline at the Boitekong Health Centre next to the R510 road between Rustenburg and Northam.

Access to the site is via the R510 road and the tar road from the R510 directly to the Pretoria Sun City Road (R556) past the Bospoort Dam. The last 1,5 km to the WTW is a dirt road.

The 1 260 m x 450 mm existing steel pipeline to be refurbished runs parallel to the dirt road (not included in this scope of works). The first section of the new 500 mm diameter pumping line to the new Bospoort North reservoir runs parallel to road R510, the pipeline route then crosses road R510 and runs up against a granite hill over a distance of 650 m to the new reservoir.

The 800 mm diameter gravity pipeline route from the reservoir runs parallel to the pumping line to the foot of the hill from where it follows route R510 to the existing Magalies Water/ Rand Water/ RLM water meter installations at the Boitekong Health Clinic at the boundary of the Royal Bafokeng Administration and RLM. Approximately 4 600 m of this 8 300 m long gravity pipeline route runs through the Boitekong built-up area where it crosses various roads and other services.

The following climatic and general conditions are prevalent at the Site:

Tender
Part C3: Scope of Works

C3.1-3

C3.1
Description of Works

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Maximum ambient temperature: 35°C
 Minimum ambient temperature: -5°C
 24-hour maximum temperature: 30°C
 Altitude (meters above mean sea level): 1070 – 1200 mamsl
 Humidity: Medium
 Atmosphere: Dusty

Lengthy periods of sunshine cause high temperatures in indoor enclosures. High breakdown of outdoor synthetic materials due to extended exposure to ultraviolet rays.

Lightning: High lightning rate

C3.1.4 Geotechnical conditions

All information regarding sub-surface conditions and materials on Site is provided in good faith, for the contractor's convenience, and as an indication of the conditions likely to be encountered. The Employer and Engineer accept no responsibility for the accuracy or comprehensiveness of the information or that the information is representative of the conditions or materials likely to be encountered. The provision of such information shall not be regarded as in any way limiting or detracting from the Contractor's responsibilities under the Contract. The Contractor will be deemed to have satisfied himself as to all surface and sub-surface conditions to be encountered on the Site of Works and to have allowed accordingly in his tendered amounts.

C3.1.5 Construction Programme & Cash Flow

The proposed project implementation time frame is **18 months**.

Different construction periods may be submitted as an **alternative** tender offer for consideration during the tender evaluation stage.

Each Tenderer shall submit with his Tender a suitable and realistic preliminary construction programme (referred to as the Tender Programme) for consideration by the Engineer and based on the indicative time frames provided by the Engineer. This programme shall commence on the Commencement Date, shall be prepared in accordance with the maximum Time for Completion offered for the completion of the Works and shall provide interim completion dates for each milestone or element of the works, including the commissioning period as well as the execution of all mechanical and electrical work.

After award of a Contract, the Contractor shall submit a detailed construction programme to the Engineer in accordance with the requirements of Sub-Clause 8.3 [*Programme*] of the Conditions of Contract. Except as provided above, the approval by the Engineer of the Contractor's construction programme, or of any amendment or adjustment thereto, shall not in any way alter the Contract, act as an estoppel or limit the right of the Employer to demand due performance under the Contract. The approval of a construction programme

Tender
Part C3: Scope of Works

C3.1-4

C3.1
Description of Works

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

by the Engineer indicates only that the Engineer will be satisfied if the work is carried out according to such programme and that the Contractor undertakes to carry out the work in accordance with the programme. However, the approval of a construction programme by the Engineer shall not limit his right to give notice to the Contractor to submit a revised programme if the existing programme fails to comply with the Contract.

In addition to the requirements of Clause 8.3 of the General Conditions of Contract, the programme shall be compiled by means of MS Project in Gantt chart form.

END OF SECTION

Tender
Part C3: Scope of Works

C3.1-5

C3.1
Description of Works

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

C3.2 ENGINEERING

C3.2.1 Employer's design

The Engineer has designed the Bospoort Pipeline on behalf of the Employer for the intended use and has selected materials that he deems are suitable and fit for purpose.

The Contractor shall be expected to construct the Works in terms of the construction drawings compiled and issued by the Engineer or special directives issued by the Engineer in writing.

In cases where there is a discrepancy between the civil drawings and structural (rebar) drawings, the Contractor shall request clarification from the Engineer prior to proceeding with the affected work.

With regards to pipe items cast into concrete structures as well as interconnecting pipework, the Engineer has provided the proposed layout of the pipework on the Drawings for tendering purposes. However, the Contractor shall be responsible for all final measurements on site, final design, correct manufacturing and installation of all pipe items and pipework covered under the scope of works. The Contractor shall also maintain suitable records of all such items in order for the Engineer to complete the as-built drawings at the completion of the works.

C3.2.2 Alternative offers at tender stage

The tenderer shall complete the tender in terms of the tender conditions, requirements, specifications, information provided and requested in the tender document. Failure to complete the tender document, including all items included in the schedule of quantities, may lead to the rejection of the bid.

In evaluating tenders received, and in accordance with its adopted procurement policy, the Employer is required to satisfy itself as to the competitiveness and cost effectiveness of each tender received. In addition, as a public entity, the Employer is required to ensure that its procurement process is fair, equitable and transparent at all times. Accordingly, except for alternatives requested in the tender documents, any tenderer wishing to submit alternative offer(s) for the consideration of the Employer shall ensure that the competitiveness and cost effectiveness of the alternative can easily be determined by the Employer. Bids that are difficult to compare to the prescribed conditions of tender and contract and/or to the specified technical requirements are likely to be rejected. Even if comparable, a tender that deviates from the specified tender conditions, requirements and specifications may not be acceptable to the Employer for reasons of risk apportionment or otherwise. Tenderers are therefore instructed to submit tender offers strictly in accordance with the conditions, requirements, specifications and schedule of quantities in the tender document before submitting any alternative offers for the Works.

Tender
Part C3: Scope of Works

C3.2-1

C3.2
Engineering

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

C3.2.3 Drawings

Refer to Volume 3 for the drawings issued for tender purposes.

END OF SECTION

Tender
Part C3: Scope of Works

C3.2-2

C3.2
Engineering

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

C3.3 PROCUREMENT

C3.3.1 General Clauses and Requirements

C3.3.1.1 Bids received shall be evaluated in terms of the tender evaluation criteria described in the Tender Data, taking cognisance of the Employer's preferential procurement requirements as provided.

C3.3.1.2 The works shall be carried out by a suitably qualified, experienced and capable civil contractor that shall either be the main contractor or the lead partner of a Joint Venture. In the case that the civil contractor is the main contractor, he shall have a CIBD grading corresponding to the total value of the tender and based on the Engineer's pre-tender estimates, the required rating shall be at least an 9CE for a contract exceeding R 200 million.

In the event that a joint venture is formed, the combined grading as per the CIDB grading calculator shall be 9CE.

Failure to meet the minimum CIBD requirements will result in the bids being disqualified and tenders shall submit all information necessary in order for the Engineer to assess the proposed (sub) contractors in terms of the capability and experience (refer to functionality criteria).

C3.3.1 Local Economic Participation

The Contractor shall procure local goods, services and labour in order to stimulate local economic development.

C3.3.2 Subcontractors

The Contractor shall appoint such authorities and/or specialist subcontractors and suppliers as may be designated or nominated by the Employer or the Engineer for those portions of the Works specified in the Scope of Works.

As required by the Conditions of Contract, the Contractor shall be responsible for all work carried out by subcontractors (whether nominated by the Employer or selected by the Contractor) on his behalf. The Engineer will not liaise directly with any such subcontractor, nor will he become involved in any problems and/or disputes related to payments, programming, workmanship, etc., unless provided for in the Conditions of Contract. Such problems and/or disputes shall remain the sole concern of the Contractor and his subcontractors.

No additional management fee will be payable to the Contractor for works executed by the subcontractor(s).

Tender
Part C3: Scope of Works

C3.3-1

C3.3
Procurement

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Notwithstanding other requirements of the Contract, the Contractor shall not subcontract any part of the Contract without prior consent of the Engineer, which consent shall not be unreasonable withheld.

Any consent granted by the Engineer for the appointment of any subcontractor shall not imply a contract between the Employer and the subcontractor, or a responsibility or liability on the part of the Employer to the subcontractor and shall not imply a contract between the Engineer and the subcontractor, or a responsibility or liability on the part of the Engineer to the subcontractor and shall not relieve the Contractor from any liability under the Contract and the Contractor shall be liable for the acts, defaults and neglects of any subcontractor, his agents or employees as fully as if they were the acts, defaults or neglects of the Contractor, his agents or employees.

Before the Engineer, in terms of Clause 14.6 [*Issue of Interim Payment Certificates*] of the FIDIC General Conditions of Contract, issues any certificate that includes any payment in respect of work done or goods supplied by any subcontractor in terms of Clause 4.4 [*Subcontractors*] of the General Conditions of Contract, he shall be entitled to call upon the Contractor to furnish reasonable proof that all payments (less retention moneys) included in previous certificates in respect of the work or goods of such subcontractors have been made or discharged by the Contractor, in default of which, unless the Contractor:-

- Informs the Engineer in writing that he has reasonable cause for withholding or refusing such payment, and
- Submits to the Engineer reasonable proof that he has informed such subcontractor accordingly in writing.

The Employer shall be entitled to pay directly such subcontractor on the Engineer's certificate all payments (less retention moneys) the Contractor has failed to make to such subcontractor and to deduct, by way of settlement, the amount so paid by the Employer from any moneys owing to or that may become owing to the Contractor.

Provided always that where the Engineer has certified and the Employer has paid directly as aforesaid, the Engineer shall, in issuing any further certificate in favour of the Contractor, deduct from the amount thereof the amount paid direct as aforesaid, but shall not withhold or delay the issue of the certificate when due to be issued in terms of the Contract.

C3.3.3 Contractor's Personnel

The Contractor shall limit the utilisation of his permanently employed personnel to that of key personnel only on the Works, as defined below, and shall execute and complete the Works utilising a temporary workforce employed directly by the Contractor and/or by his sub-contractors, using the assistance of the Labour Desk(s), from the various communities that are established in proximity to the Works or which will be consumers from the Scheme.

Tender
Part C3: Scope of Works

C3.3-2

C3.3
Procurement

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Without derogating from the Contractor's obligations to complete the Works within the specified time for completion in terms of the General Conditions of Contract, the numbers in each category of the Contractor's key personnel, as stated by the Contractor in the Returnable Schedules, will be strictly controlled during the contract period and any increase in numbers will be subject to the prior approval of the Employer.

Key personnel mean all contracts managers, site agents, site clerks, materials and survey technicians, quantity surveyors, trainers, supervisors, foremen, skilled plant operators, brick layers, welders, shutter hands and the like, and all other personnel in the permanent employ of the Contractor or his sub-contractors who possess special skills, and/or who play key roles within the Contractor's or his subcontractor's operations.

The Engineer may at his discretion, upon receipt of a written and fully motivated application from the Contractor, and where he deems the circumstances so warrant, authorise in writing that the Contractor may utilise in the execution of the Works, workers not being his key personnel but who are in his permanent employ. Without limiting the generality of application of this sub-clause, circumstances which may be considered by the Engineer to warrant authorization of the use of the Contractor's permanent employees other than key personnel, include:

- a) The unavailability from local sources of sufficient numbers of temporary workers and/or sub-contractors to execute the Works, provided always that the Contractor has satisfied the Engineer that he has exercised his best endeavours and taken all reasonable actions to recruit sufficient temporary workers and sub-contractors from local sources.
- b) The unavailability within the temporary worker pool and/or from subcontractor sources available to the Contractor in terms of the Contract, of sufficient skills necessary to execute the Works or specific portions thereof, in situations where the completion period allowed in the Contract is insufficient to facilitate the creation of the necessary skills through the provision of suitable training as contemplated in the Contract.
- c) Any other circumstances which the Engineer may deem as constituting a warrant.

C3.3.4 Temporary Workforce

The Contractor shall employ labour from the local communities through the Labour Desk(s). Accordingly, the workforce that is employed on Site shall consist of local residents, except for approved key staff in the permanent employ of the Contractor.

The Labour Desk(s) shall assist in identifying available local labour and, where available, semi-skilled labour as well as local sub-contractors. The Labour Desks shall also assist and advise regarding conditions of employment, minimum wages, disputes and disciplinary procedures. The function of the Labour Desk(s) shall however in no way diminish the responsibilities of the Contractor in terms of the Conditions of Contract.

Tender
Part C3: Scope of Works

C3.3-3

C3.3
Procurement

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Although the Contractor shall adhere to the statutory minimum wage rates, he is however at liberty to negotiate additional incentive payments based on performance.

A contract of employment or subcontract shall be signed between the Contractor and each of his employees and sub-contractors. Likewise, contracts of employment must be entered into between each such sub-contractor and each of the specific sub-contractor's employees. Although the Contractor shall adhere to the minimum wage rates described below, he is at liberty to negotiate additional incentive payments based on performance.

Contracts of employment or sub-contracts should provide for the following basic conditions:

- a) The minimum wage payable will be determined in terms of latest applicable (at the time of tendering) legislation and shall, as a minimum, adhere to section 56(1) of the Basic Conditions of Employment Act (Act 75 of 1997), Sectorial Determination 2: Civil Engineering Sector as published by the Department of Labour.
- b) The Contractor shall adhere to the provisions for payment method and intervals, overtime and pay for work on Sundays and public holidays (if required) in the Basic Conditions of Employment Act (Act 75 of 1997).
- c) The Contractor shall register all labourers employed on the Contract with the Workmen's Compensation Commissioner and the Unemployment Insurance Fund, as applicable. The Contractor shall obtain the Unemployment Insurance Fund and Workmen's Compensation registration cards.
- d) Workers shall be entitled to one (1) day sick leave with full pay per month worked. This will accumulate if the leave is not used.
- e) Annual leave shall be calculated as published in terms of (the latest edition of) section 56(1) of the Basic Conditions of Employment Act (Act 75 of 1997), Sectorial Determination 2: Civil Engineering Sector as published by the Department of Labour.
- f) Upon termination of the Contract, each locally employed labourer shall be entitled to receive his/her Unemployment Insurance Fund and the Workmen's Compensation registration cards as well as a Certificate of Employment from the Contractor clearly stating the following:
 - i) The type of work done.
 - ii) The duration of employment.
 - iii) The number of days absent from work.
 - iv) The Contractor's general impression of the quality of work done.
- g) The Occupational Health and Safety Act must be adhered to with reference to the safety of all employees employed by the Contractor. Suitable safety equipment and clothing shall be issued and maintain by the Contractor for the duration of construction.
- h) Contractor's company policy regarding:
 - i) Inclement weather

Tender
Part C3: Scope of Works

C3.3-4

C3.3
Procurement

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

- ii) Sickness and absence
- iii) Disciplinary matters
- iv) Grievances

Should any of the above conditions be less favourable than any bargaining council agreement or Act applicable to the Contractor, the more favourable condition shall apply.

C3.3.5 Labour Intensive Construction

Labour Intensive Construction shall mean the economically efficient employment of as great a portion of labour as is technically feasible to produce a standard of construction as demanded by the Specifications with completion by the Due Completion Date, thus the effective substitution of labour for equipment.

Appropriate portions of the Works included in the Contract shall be executed using labour intensive construction methods. These portions of the Works shall be constructed utilising only locally employed labour and/or the labour of local sub-contractors, supplemented to the extent necessary and unavoidable by the Contractors key personnel as provided for in clause C3.3.2, unless otherwise instructed by the Engineer. The portions of the Works to be executed using labour intensive construction methods are:

- bedding, selected fill and compaction of all pipe trenches irrespective of depth, but assisted by mechanical compaction equipment in order to achieve the specified densities.
- reinstatement of all fill, shoulder and pavement layers at road crossings, but using mechanical compaction equipment in order to achieve the specified densities.
- jointing, testing and disinfection of all pipelines, including all fittings, valves and house/erf connections; but excluding all stormwater pipe- and rectangular culverts.
- construction of all manholes, cleaning eyes, kerb inlets, junction boxes, culvert floors, end structures and balustrades, valve chambers, thrust blocks, pipeline markers and the like (earth-, concrete-, brick- and metalworks), but excluding the mixing of concrete and transporting of same to the point of pouring.
- Kerbing.
- dismantling and re-erection of fences.
- cleaning and tidying of the Site.

In respect of those portions of works which are not listed above, the construction methods adopted and plant utilised shall be at the discretion of the Contractor, provided always that the construction methods adopted and plant utilised by the Contractor are appropriate in respect of the nature of the Works to be executed and the standards to be achieved in terms of the Contract.

END OF SECTION

Tender
Part C3: Scope of Works

C3.3-5

C3.3
Procurement

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

C3.4 CONSTRUCTION

C3.4.1 General

C3.4.1.1 General Clauses and Requirements

These general clauses cover the general, administrative, legal and organizational requirements relating to quality of materials, installation, testing, commissioning and maintenance of the installation applicable to this Contract.

These clauses should be read together with all other sections and Standard and Particular Specifications included in the Contract documents or Standard Specifications mentioned in the Contract documents but separately available. The documents should be read and interpreted jointly in order to determine the full requirements of the Contract.

Any/all deviations from these general clauses or technical specifications shall be listed in writing as Deviations at tender stage. Where the Engineer does not approve of these deviations, the Contractor shall be responsible to conform to the requirements of these general clauses and technical specifications.

C3.4.1.2 Information Required at Tender Stage

It is a specific requirement of the tender that full information of all the equipment offered must be supplied at the time of tendering in order for the Engineer to evaluate the Tenderer's submission. In this regard, the Tenderer shall complete all technical schedules issued as part of the tender document under Section T2. Manufacturer's pamphlets and catalogues shall be included to describe the particular item offered.

C3.4.1.3 Relevant Acts, Regulations and Standards

The whole of the installation shall comply and the work shall be executed in accordance with the latest edition of the following:

- a) The Occupational Health and Safety Act, 1993 (Act no 85 of 1993) and the latest applicable Regulations promulgated in terms of the Act or the Factories Machinery and Building Works Act of 1941, whichever is applicable and their respective Regulations.
- b) The regulations and by-laws of the local supply authorities.
- c) The applicable regulations of the relevant telecommunications authority.
- d) The local Fire Department Regulations.
- e) The latest revisions of the relevant supporting specifications referred to in the Particular Specifications.

Tender
Part C3: Scope of Works

C3.4-1

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

C3.4.1.4 Responsible persons and representation

The Contractor shall, before establishing on site, appoint and submit to the Engineer in writing a project organisational chart, listing the name(s) of the responsible person(s) in terms of the Occupational Health and Safety Act, 1993 (Act no 85 of 1993) and the Regulations promulgated in terms of the Act within 14 days from being appointed.

The Contractor shall submit to the Employer and Engineer within 14 days of the Commencement Date a list of addresses and telephone numbers of his Representative and key personnel who may be contacted both during and outside normal working hours in connection with the Works. The Contractor shall also refer to Sub-Clauses 4.3 and 6.8 of the Conditions of Contract.

The Contractor shall be responsible for supplying and installing the required safety signs as determined by the Occupational Health and Safety Act, 1993 (Act no 85 of 1993) and the regulations promulgated in terms of the Act, both during the construction phase and the completed works. All safety signs shall comply with the requirements of the latest edition of SANS 1186-1 as applicable.

C3.4.1.5 Health and Safety

The Contractor shall allow in his Tender for compliance with the requirements of the Occupational Health and Safety Act, 1993 (Act no 85 of 1993) and the latest applicable Regulations promulgated in terms of the Act, especially the latest Construction Regulation promulgated in 2014.

From the date of site handover until the Taking-Over Certificates are issued, the Contractor shall be responsible for maintaining safe working conditions on Site as prescribed by the Occupational Health and Safety Act and the regulations promulgated in terms thereof. In the event that the Site of the Works is managed by another contractor, the Contractor shall be expected to also adhere to the health and safety regulations prescribed by such contractor.

The Contractor shall be responsible for supplying and installing the required safety signs as determined by the Occupational Health and Safety Act, 1993 (Act no 85 of 1993) and the regulations promulgated in terms of the Act, both during the construction phase and the completed works. All safety signs shall comply with the requirements of the latest edition of SANS 1186-1 as applicable.

The Contractor shall comply with the Occupational Health and Safety Specification prepared by the Employer in terms of the Construction Regulations, 2014 promulgated in terms of Section 43 of the Occupational Health and Safety Act (Act No. 85 of 1993).

The Contractor shall submit an approved Health and Safety Plan to the Engineer within 14 days from the date that the Agreement made in terms of the Form of Offer and Acceptance comes into effect.

Tender
Part C3: Scope of Works

C3.4-2

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

The Contractor shall, before establishing on site, appoint and submit to the Engineer in writing a project organisational chart, listing the name(s) of the responsible person(s) in terms of the Occupational Health and Safety Act, 1993 (Act no 85 of 1993) and the regulations promulgated in terms of the Act within 14 days from being appointed.

Notwithstanding any actions which the Employer may take, the Contractor accepts sole liability for due compliance with the relevant duties, obligations, prohibitions, arrangements and procedures imposed by the Occupational Health and Safety Act, 1993 (Act 85 of 1993), and all its regulations, including the Construction Regulations, 2014, for which he is liable as mandatory. By entering into this Contract, it shall be deemed that the parties have agreed in writing to the above provisions in terms of Section 37 (2) of the Act.

The Contractor and his designer shall accept full responsibility and liability to comply with the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and the Construction Regulations, 2014 for the design of the Temporary Works and those part of the Permanent Works which the Contractor is responsible to design in terms of the Contract.

C3.4.1.6 Quality assurance and control

All materials and workmanship shall be of a suitable type and quality to ensure that the Works will operate satisfactorily in accordance with the Specifications.

The Contractor shall submit a Quality Assurance Plan outlining quality assurance policies and procedures to be used for the project relating to the areas such as materials, manufacturing, and installation and testing. A documented quality control and quality assurance system shall be maintained, which shall be in accordance with ISO 9000 or equivalent approved by the Engineer. The Contractor shall ensure that the same requirements is applied to products, systems, and services supplied by his sub-contractors and suppliers. The Contractor shall file all quality certification documents relating to the products and systems supplied for the Works. The Engineer shall have full access to such files.

Registration to ISO 9001:2000 is preferable and evidence of current registration to this or another acceptable quality management system shall be provided upon request.

C3.4.1.7 Care and supply of documents

C3.4.1.7.1 General

In addition to the documents prepared and issued by the Employer and Contractor for purposes of the Contract, the Contractor shall procure and keep on site, at the most suitable location, one or more copies of the applicable legislation, regulations, wayleaves, standard specifications and codes of practice upon which the Contract rely, and which are incorporated into the Contract by reference.

Drawings and Documentation

Tender
Part C3: Scope of Works

C3.4-3

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

C3.4.1.7.2 Tender Drawings and Engineer's Drawings

The Tender Drawings prepared by the Engineer and issued with the tender show the general layout, position and detail of the Works to be constructed under this Contract. These details may in some instances constitute schematic arrangements. These drawings, together with the Specification, are deemed to provide sufficient detail to enable the Contractor to determine the requirements of the Works and to price and schedule the Works to be completed on time.

Only figured dimensions on the Drawings may be used in the interpretation thereof, and the Drawings shall not be scaled unless the Contractor is so instructed by the Engineer in writing. The Engineer will upon written request provide any dimensions that may have been omitted from the Drawings.

C3.4.1.8 Contractor's Equipment

The Contractor's Equipment for construction and erection of the Works shall be adequate for the purpose required, of modern design and in good condition to carry out the Works expeditiously. Should the Engineer be of the opinion that the Contractor's Equipment is in anyway unsuitable for carrying out the Works in a manner or at a rate commensurate with the requirements of the Contract, he shall have the right to instruct the Contractor at any time during the Contract to provide additional or improved plant, tools and equipment in order to meet the specified requirements.

C3.4.1.9 Concurrent Construction Activities

The construction of the Works will coincide with other construction activities on Site and the Contractor shall co-operate with any/all other contractors on site regarding final designs in order to determine areas of interface. These designs shall, when finalised, be submitted to the Engineer for approval. The Contractors shall also be required to co-operate with other contractors and shall carry out his work in such a manner to cause minimum interference and delays to other contractors.

The Contractor shall ensure that neither his operations nor those of his Sub-Contractors nor the activities of his employees shall interfere with or hinder the operations of the Employer or of other contractors and he shall indemnify the Employer against all claims arising through default of this requirement.

The Contractor shall hand over portions of the Site of the Works (whether completed or not), or completed portions of the Works, to these contractors when required by the Employer or detailed elsewhere in this document. The Contractor shall cause no interference with or delays in the execution of these other contracts.

Any service rendered or assistance given by the Contractor to these contractors, save as are provided for in the Project Specifications, shall be for their accounts only since the Employer shall in no way be responsible to the Contractor for any payments in this respect.

Tender
Part C3: Scope of Works

C3.4-4

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

The Contractor shall protect all known existing services as well as all work being carried out and structures being erected by other contractors. Any damage caused to these services or structures, or any obstructions or hindrance caused to other contractors by the Contractor, and all claims arising there from, will be the sole responsibility of the Contractor.

All repair work shall be carried out at the Contractor's expense to the entire satisfaction of the Engineer.

C3.4.1.10 Guarantees

All plant and materials supplied under the Contract, shall be fully guaranteed against all defects arising from faults in the design, manufacture and workmanship for a period of at least **10 years** from the date of handing over.

All plant shall be guaranteed for a period of **5 years** from the date of handing over to cover all defects attributable to inadequate corrosion protection.

All defects recorded within the above periods shall be rectified entirely at the expense of the Contractor. The attendance of the Contractor, specialists appointed by the Contractor, or any subcontractor required to resolve the defect shall be required within **10 days** of notification of such defect(s).

Should any design fault become apparent to the Engineer or the Employer for a period of 5 years after handing over of the Works, the Contractor shall deliver all components necessary to correct the fault, together with all the specialist assistance, free of charge to the Employer.

C3.4.1.11 Standards

All electrical material, plant and equipment shall be of approved manufacture and its construction, design and testing shall be in accordance with the requirements of the most recent South African National Standards, British Standards or IEC publications including all amendments issued thereto up to the date of tender. The design and installation of the material, plant and equipment shall also comply with the relevant clauses of the Occupational Health and Safety Act, 1993 (Act No 85 of 1993) and the regulations promulgated in terms of this Act, as well as the Code of Practice for the Wiring of Premises, SANS 0142.

For all material, plant and equipment that are required to conform to any national or international specification or standard, the Contractor shall submit a certificate to the Engineer, issued by an accredited testing laboratory clearly stating that the material, plant and equipment complies with the specific specification or standard.

Notwithstanding reference in this specification to the South African or British Standards and the IEC or ISO recommendations, the Contractor may submit for approval by the Engineer, material and designs conforming

Tender
Part C3: Scope of Works

C3.4-5

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

to other technically equivalent national standards and shall submit documentary proof in English of actual compliance therewith.

All material, plant and equipment offered under this Contract shall be selected to be equal to and similar of make as the existing material, plant and equipment installed on site as far as possible and the Contractor shall do a site inspection prior to submission of the tender to ensure that they comply with this requirement (if applicable to existing structure and buildings).

Contractor shall provide electrical plant for all motor starter panels with at least Type 2 coordinated capabilities. If moulded case circuit breakers and miniature circuit breakers are cascaded and / or discrimination all proven documentation must be supplied by the Contractor

C3.4.1.12 Quality of Materials

All material and plant shall be new and suitable for the prevailing conditions at the Site, which shall include climatic conditions as well as the conditions under which materials and plant are installed, stored and operated without distortion, deterioration or inducing undue stresses in any part such as to affect the efficiency and reliability of the plant and also without affecting the strength and suitability of the various parts for the duty which they have to perform.

All material and plant shall conform in respect of quality, manufacture, tests and performance, with the relevant requirements of the SANS or where no such standards exist, with relevant current specification of the British Standards Institution and/or relevant IEC and/or ISO publications. Where applicable, the material shall bear the stamp of the relevant standards body.

Where proprietary materials and plant are specified or required, approval of such materials or plant shall be at the sole discretion of the Engineer once the appropriate samples or technical literature have been submitted.

C3.4.1.13 Interchangeability

Corresponding parts throughout the works shall be made to accurate tolerances that similar components or spares shall be fully interchangeable without any further alterations or adjustments being necessary.

C3.4.1.14 Priority of Specifications

The priority of the Specifications shall be as follows:

- (a) Scope of Work (Section C3.4): All clauses except C3.4.2 (Standard Specifications and Particular Specifications).
- (b) Scope of Work (Section C3.4): Clause C3.4.2.2 (Particular Specifications).

Tender
Part C3: Scope of Works

C3.4-6

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

(c) Scope of Work (Section C3.4): Clause C3.4.1 (Standard Specifications).

END OF SECTION

Tender
Part C3: Scope of Works

C3.4-7

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

C3.4.2 STANDARD AND PARTICULAR SPECIFICATIONS

The Standard Specifications on which this contract is based are the latest revisions of the South African Bureau of Standard's Standardized Specifications for Civil Engineering Construction (SABS 1200).

Note: "SABS has been changed to "SANS".

Although not bound in nor issued with this Document, the relevant sections of the standard specifications shall form part of this Contract. These documents are available at the Contractor's expense from the SA Bureau of Standards, Private Bag X191, PRETORIA, 0001.

All relevant SABS 1200 Standardised Specification for this Contract shall be applicable.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

C3.4.3 VARIATIONS AND ADDITIONS TO THE STANDARD AND PARTICULAR SPECIFICATIONS

The Clauses under this section are numbered “PS” and refers to the clauses in the Standard or Particular Specifications. New clauses not covered by clauses in the Standard or Particular Specifications, if included here, are also designated “PS” followed by a number.

All material used in the Works shall, where such mark has been awarded for a specific type of material, bear the SABS/SANS mark. Alternatively, the Contractor shall furnish the Engineer with certificates of compliance of materials, which bear the official mark of the appropriate standard.

PSA	GENERAL.....	C3.4.3-2
PSAB	ENGINEER'S OFFICE	C3.4.3-19
PSC	SITE CLEARANCE	C3.4.3-22
PSD	EARTHWORKS	C3.4.3-23
PSDB	EARTHWORKS (PIPE TRENCHES)	C3.4.3-34
PSDK	GABIONS AND PITCHING	C3.4.3-38
PSG	CONCRETE (STRUCTURAL)	C3.4.3-41
PSL	MEDIUM-PRESSURE PIPELINES	C3.4.3-60
PSLB	BEDDING (PIPES)	C3.4.3-70
PLPLT	FLOW METERS.....	C3.4.3-73

Tender	C3.4.3-1	C3.4			
Part C3: Scope of Works		Construction			
Employer	Witness 1	Witness 2	Contractor	Witness 1	Witness 2

PSA GENERAL

PSA1 QUALITY (Clause 3.1)

All material used in the Works shall, where such mark has been awarded for a specific type of material, bear the SABS mark. Alternatively, the Contractor shall furnish the Engineer with certificates of compliance of materials, which bear the official mark of the appropriate standard.

Also refer to Section C3.5 for additional requirements regarding quality assurance and control.

PSA2 PLANT (Clause 4.3)

Except where the use of plant is essential in order to meet the specified requirements by the Due Completion Date, the Contractor shall use only hand tools and equipment in the construction of those portion(s) of the Works that are required in terms of the Scope of Works to be constructed using labour intensive construction methods.

PSA3 SETTING OUT OF THE WORKS (Clause 5.1.1)

Add the following:

Benchmarks are available on Site and shall be used for construction purposes. The positions of the permanent survey beacons are shown on the Drawings with the relevant position (X/Y coordinates) as well as the elevation (Z coordinate).

The Contractor shall be responsible for the setting out of the works.

If at any time during the progress of the Works, any error shall appear or arise in the position, levels, dimensions or alignment of any part of the Works, the Contractor, on being required to do so by the Engineer, shall at this own expense rectify such error to the satisfaction of the Engineer.

The Contractor shall take special precautions to protect all survey beacons or pegs such as benchmarks, stand boundary pegs and trigonometrical beacons, regardless whether such beacons or pegs were placed before or during the execution of the Contract. If any such beacons or pegs have been disturbed by the Contractor or his employees, the Contractor shall have them replaced by a registered land surveyor at his own cost.

PSA4 CONSTRUCTION (Clause 5)

Add the following sub-clauses:

Tender
Part C3: Scope of Works

C3.4.3-2

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

PSA4.1 Wayleaves and permits

The Employer has obtained wayleaves and access rights for the construction of the works.

The Contractor shall give notice and obtain all permits, licences and approvals as required by the Laws, and shall keep copies of such applications, permits, licences and approvals on site at all times. The Employer shall have access to such documents for its purpose under the Contract.

PSA4.2 Care of the Site and public

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

The attention of the Contractor is drawn to the fact that parts of the Works will be constructed within or adjacent to built-up areas. Certain work shall be constructed within urban areas and in the presence of passing traffic. The Contractor shall exercise all necessary precautions and take all necessary steps to ensure the safety and convenience of the public, including the prevention of unnecessary noise, dust or other nuisance or environmental impact. Where applicable, the Contractor shall provide access for traffic over and through the Works, and for residents to their places of abode. Safety measures shall also provide for wildlife and livestock.

Any rock or debris falling from trucks on the roads in use by the public shall be removed immediately. Precautions shall be taken to prevent fouling of public roads and other works by vehicles and the roads shall be kept clean by the Contractor.

Allowance should be made by the Contractor in his construction programme for delays that may result from foreseen and unforeseen actions that are required to ensure the safety and convenience of the public.

The Contractor shall give residents a minimum of 48 hours written notice of his intent to close access to residential stands and shall provide temporary access during the period of close. No permanent access to residential stands shall be closed for longer than 48 hours. The access shall be fenced off to ensure the safety of the public.

PSA4.3 Contractor's Representative and Superintendence

The Contractor shall submit to the Employer and Engineer within 14 days of the Commencement Date a list of addresses and telephone numbers of its Representative and key personnel who may be contacted both during and outside normal working hours in connection with the Works.

Tender
Part C3: Scope of Works

C3.4.3-3

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

PSA4.4 Safety and security

The Contractor shall operate a security system at all the areas of the Site on a 24 hour per day basis to the satisfaction of the Engineer. He shall co-operate with the local Police and comply with the Engineer's requirements on all matters relating to security of the Works and persons entering the site. Such a system shall include full and effective security control of all accesses to each area including appropriate identification procedures for all persons and vehicles entering and leaving.

The Contractor shall also provide Personnel Protective Equipment (PPE) for the staff of the Engineer.

Security of the site shall include all construction camps and depots and the offices of the Engineer. The Contractor shall allow at all times for the necessary security and watching to prevent theft or damage to materials, plant and contractor's equipment, and to ensure the safety of both the Contractor's personnel, Employer's personnel and the Engineer's personnel.

A provision has been allowed for specialised site security services by a PSiRA registered, competent service provider in order to ensure that the site, all personnel, visitors, equipment, materials etc. are safe for the duration of the Contract. Submissions for the appointment of said service provider to be approved by the Engineer prior to appointment.

It is in the interest of the Contractor to establish and maintain healthy community liaison and employment structures throughout the duration of the Contract as healthy structures will serve to elicit the support of affected communities in detecting and prosecuting criminal activity.

The Contractor shall take adequate preventative measures to mitigate the effect of the influx of construction personnel into the local community.

Such measurements shall include the implementation of a code of conduct, disciplinary procedure, access control, Contractor identification measures and safety and security forums.

The Contractor shall include within the safety and security forum community leaders, the South African Police Services (SAPS), local emergency services, Councillors and interested and affected parties. The forum shall set about guidelines and mechanisms to deal with and communicate project related issues between the local community and the Contractor.

In addition, the Contractor shall take adequate measures to restrict personnel movement outside the boundaries and shall provide safe transport to and from the workplace.

The Contractor shall strictly adhere to the following requirements in the Employer's security areas:

Tender
Part C3: Scope of Works

C3.4.3-4

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



- Only persons with valid entry-permits will be allowed in the security area.
- Movement of employees will be restricted to particular areas. Trespassers will forthwith be suspended from the premises.
- Employees shall not be allowed on the premises between the hours of 17h00 – 07h00 without previously obtaining permission.
- When the Contractor finds it necessary to exceed this restriction, arrangements must be made at least 12 hours in advance, with the Chief Security Services or his duly authorised representative.
- Should the Contractor wish to leave a night-watchman on the work premises, he must submit a written application to the Chief Security Officer.

PSA4.5 Notices, signs, barricades and advertisements

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

The Engineer shall have the right to have any sign, notice or advertisement moved to another location, or to have it removed from the Site of the Works, should it in any way prove to be unsatisfactory, inconvenient or a safety hazard.

PSA4.6 Accommodation of traffic

Accommodation of traffic during construction of the Works forms an integral part of the obligations of the Contractor. The Contractor's plan for the accommodation of traffic and directional signs shall be prepared in terms of the latest version of the South African Road Traffic Signs Manual and CSRA Road Note 13, 3rd Edition 1988 (ECSRA Road Sign Note) and must be submitted to the Engineer together with the approval of the applicable authorities prior to the commencement of construction activities.

The travelling public shall have the right of way on public roads (whether closed to through traffic or not), and the Contractor shall apply suitable approved methods for controlling the movement of the contractor's equipment, materials, plant and Temporary Works in such a way that the latter will not constitute a hazard to residents and the travelling public.

The Contractor shall exercise all necessary precautions and take all necessary steps to ensure the safety and convenience of the public. In addition, the Contractor shall provide access for traffic over and through the Works, and for residents to their places of abode. Allowance must be made by the Contractor in his programming for delays resulting from the aforesaid.

Tender
Part C3: Scope of Works

C3.4.3-5

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Failure to maintain road signs, warning signs or flicker lights, etc., in a good condition shall be deemed sufficient cause under the applicable clause of the Conditions of Contract for the Engineer to instruct the Contractor to suspend part or all of the Works at the cost of the Contractor until the default has been rectified.

The Contractor's tendered amounts for the work shall include full compensation for all costs and profit which may arise from the accommodation of traffic and no claims for extra payment in this respect shall be considered.

PSA4.7 General environmental requirements

All chemicals, lubricants and fuels shall be stored in secondary containment units that are capable of storing 110% of the contents stored. These secondary containment units must be impermeable, fireproof and constructed to the approval of the Engineer.

Washing of tools and/or equipment shall take place at dedicated washing facilities within the construction camps. Suitable wash facilities must be provided at all construction camps and all wastewater must be treated before discharge into any natural watercourse.

The Contractor shall prevent discharge of any pollutants, such as cement, concrete, lime, chemicals and fuels into any water sources. Runoff from fuel storage areas/ workshops/vehicle washing areas and concrete swills shall be directed via an oil separator into a settlement pond and this will be disposed of at a site approved by the Engineer. Appropriate measures to prevent water pollution at/from batching plants must be implemented.

The Contractor shall be responsible to safeguard the plant and areas adjacent to the Contractor's camp against fire caused in any way by the construction activities on Site. The Contractor shall be responsible for any damage or loss suffered in this regard.

PSA4.8 Pre-construction survey

Landowners

The pre-construction survey must be conducted per affected property. It must be attended by the Landowner (or designated representative), the Engineer and the Contractor. The following must be established, agreed and recorded.

- communication protocol for future communication between the parties (introduce all parties, roles and functions).
- contact details.
- activities usually undertaken in the construction servitude area, particularly in agricultural areas.

Tender
Part C3: Scope of Works

C3.4.3-6

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

- impacted services e.g. telephone, electricity, water supply lines and others, and the protection of these services.
- fire protection and fighting measures.
- fencing and gate requirements (any special requirements for special livestock, type of stock proof fencing, payment
- no of wire strands, location of gates, opening and closing of gates etc.).
- interim access requirements to rivers and streams.
- security issues.

Information and agreements to be captured in a document for each affected land portion (copy of which to be submitted to the Engineer).

Existing services, buildings and structures

Position, type, condition and other details of existing services (fencing, gates, roads, telephone lines, power lines etc), buildings and structures within the construction site including the pipeline servitudes.

This survey must include photographic records, documented per cadastral portion.

PSA4.9 Fencing

The Contractor shall replace all existing fencing that encroaches within the proposed permanent and temporary servitude with new stock proof or game proof (where applicable) fencing.

New gates shall be installed where required for access to properties or servitudes. The Contractor shall liaise with property owners with regard to the position and width of the gate.

The Contractor shall give all landowners and residents a minimum of 48 hours' notice of its intent to dismantle fences to properties. The Contractor shall note and take photos of all aspects relevant to the condition of existing fencing prior to dismantling and shall acquire the signature of the owner/occupant agreeing to such conditions.

After reinstatement, the Contractor has to acquire the owner / occupant's written confirmation that the condition of the fence is at least equivalent to its condition before dismantling.

Tender
Part C3: Scope of Works

C3.4.3-7

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

PSA5 SITE FACILITIES

PSA5.1 SITE FACILITIES AVAILABLE

PSA5.1.1 Contractor's Camp

The contractor will be responsible to identify a suitable location for the contractor's camp. Negotiations with the relevant landowners are the responsibility of the contractor

The Contractor's camp shall be kept clean at all times during construction and conform to the requirements and regulations of the Employer, authorities and the applicable Environmental Management Plan.

The Contractor must fence off his construction camp area with 1.8m high diamond mesh fence. The inside of the camp area shall be screened off from the public by 1.8m high green shade cloth neatly tied to the inside of the fence. All temporary fencing must be removed on completion of the Contract.

The camp may be used for the working hours activities of the Contractor's and the Employer's personnel and for all related facilities required by the Contractor and the Employer such as workshops, stores, testing laboratories, etc.

The Contractor shall at all times conform to all requirements contained in law or bylaws, as well as any other requirements set by the controlling local authority.

The Contractor shall water all access roads to the construction camp, as well as working areas used by vehicles inside the camps to prevent dust caused up by vehicles or wind.

At the completion of the construction work, the Contractor must break down and remove all concrete slabs, etc. in the construction camps and at the batching plant (if applicable), remove all rubble from the camp site and hand back the sites in a clean and tidy condition.

No Taking-Over Certificate shall be issued for the Works unless the site clearing is done to the satisfaction of the Engineer.

PSA5.1.2 Source of water supply

The Contractor shall be responsible under the Contract for the supply and distribution at his cost of all water that he may require for purposes of constructing the Works. Accordingly, the Contractor shall pay all connection fees and consumption charges, and at his cost provide all connections, consumption meters, pipework, storage tanks, transport and other items associated with the supply of water for the Works.

Tender
Part C3: Scope of Works

C3.4.3-8

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

The Contractor shall, subject to the approval of the Engineer, make any necessary arrangements with the relevant authority for the connection(s), and shall provide in his tender for the payment of all charges and costs that are associated with making water available for purposes of constructing the Works.

Water for filling, testing and disinfecting the pipelines and structures will be made available by the Employer at no cost to the Contractor. However, should the pipelines and/or structures have to be drained and refilled due to defective materials or workmanship by the Contractor or by his subcontractors, then the water required for refilling shall be made available at the cost of the Contractor.

PSA5.1.3 Source of power supply

The Contractor shall be responsible under the Contract for the supply and distribution at his cost of all electricity that he may require for purposes of constructing the Works. Accordingly, the Contractor shall pay all connection and consumption charges, and at his cost provide all connections, transformers, consumption meters, cables, distribution boards and other items that are associated with the supply of electricity for construction of the Works.

The Contractor shall, subject to the approval of the Engineer, make any necessary arrangements with the relevant authority for the connection(s), and shall provide in his tender for the payment of all charges and costs that are associated with making electricity available for purposes of constructing the Works. The distribution of electricity shall be in accordance with the applicable bylaws and regulations of the supply authority.

PSA5.1.4 Housing

The Contractor shall not be permitted to house Personnel within his camp site(s) or on Site for this contract.

For contracts where accommodation in camp site(s) or on Site is permitted, the Contractor shall inform the Engineer at the commencement of the contract of his intentions regarding the housing of Personnel in camp site(s) or on Site, and he shall thereafter ensure that all such accommodation is kept neat and tidy, hygienic and properly controlled at all times. The Contractor's personnel, including bona fide night watchmen, may only sleep within the camp should the Contractor:

- take all the necessary steps required to comply fully with public legislation and regulations and all specifications governing the environment, health, transport, safety and public disturbance impacts of such on-site accommodation.

Tender
Part C3: Scope of Works

C3.4.3-9

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

- acquire the written permission of the Employer and relevant owner and authority and comply with their requirements.

Should at any stage of the Contract the Employer and/or the Engineer be of the opinion that the housing of Personnel within the camp site(s) or on Site is causing disturbance or inconvenience to the landowner or to nearby residents, then the authority granted by this clause for the Contractor to house Personnel within camp site(s) or on Site may be withdrawn, either partially or entirely.

The Contractor shall at all times conform to all requirements contained in law or bylaws, as well any other requirements set by the controlling local authority.

PSA5.1.5 Access to Site

The Contractor may make use of the existing access roads to and within the Site, but shall be responsible to restore these roads to a similar or better condition that prevailed at the Commencement Date and at his expense. If the Contractor requires additional access to and within the Site, these shall be constructed at his own expense. Proper access control shall be instituted by the Contractor to prevent any unauthorised entry.

PSA5.2 SITE FACILITIES REQUIRED

PSA5.2.1 For the Contractor

Whatever may be required for the satisfactory execution of the Contract.

PSA5.2.2 For the Engineer

As specified under Section PSAB.

PSA5.2.3 Sanitary facilities

Water borne sewerage is not available at the Engineer's camp site. Flush toilets or chemical toilets shall be provided and maintained for the use of the Contractor's personnel at all camp sites that the Contractor may establish for construction of the Works. In addition, the Contractor shall at all times during construction of the Works provide adequate sanitary facilities on site so that all employees are at all times within easy reach of sanitary facilities.

Washing, whether of the person or of personal effects and acts of excretion and urination, are strictly prohibited other than at the facilities provided.

The Contractor must use chemical toilets where flush toilets are not available. Chemical toilets shall be inspected on a daily basis to ensure these are in a good working condition and are not

Tender
Part C3: Scope of Works

C3.4.3-10

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

overflowing. A competent Subcontractor must be appointed to service the toilets on a regular basis. This Sub-Contractor shall ensure that no spillage occurs when the portable toilets are cleaned or emptied and that the contents are removed to a waste treatment facility.

Latrine and ablution facilities shall comply with the regulations of the local authority concerned and shall be maintained in a clean and sanitary condition to the satisfaction of the Engineer. Toilet facilities supplied by the Contractor for the workers shall occur at a maximum ratio of 1 toilet per 15 persons. These will be furnished at all times with toilet paper.

The toilets shall be placed on a stable surface, no further than 50 m from any works area and must be secured to the ground to the satisfaction of the Engineer to prevent them toppling over due to wind or any other cause and the entrances to toilets shall be adequately screened from public view.

PSA6 TESTING (Clause 7)

PSA6.1 All test results obtained by the Contractor in the course of his process control of the Works shall be submitted to the Engineer or his Representative prior to requesting inspection of the relevant portions of the Works. Any request for inspection shall be submitted on the prescribed forms that will be issued once the Contract has been awarded.

PSA6.2 The Contractor shall make suitable arrangements for process control prior to commencement with the Works. Should he intend using site personnel for this purpose he shall ensure that suitably trained and competent personnel take charge of the necessary test work, and that the necessary equipment is at their disposal prior to commencement of the Works. Failure to comply with these requirements shall be just cause for the Engineer to order suspension of the Works without additional remuneration, or for him to recommend termination to the Employer in terms of the Conditions of Contract.

PSA6.3 The Contractor shall deliver to the Engineer, for his consideration, quality assurance programmes (as obtained from all the Contractor's proposed suppliers of pipes, valves and specials) prior to the Contractor's appointment of any suppliers.

PSA7 ADJUSTMENT OF PRELIMINARY AND GENERAL TIME-RELATED ITEMS (Clause 8.2.2)

PSA7.1 Replace the note on the end of the clause with the following:

Note: An approved extension of time will qualify the Contractor to receive additional payment for each relevant time related item at the original tendered unit rate for such item. The additional payment will be calculated pro rata to the extension of time in relation to the time for achieving Practical Completion for the Works at the date when the agreement came into effect.

Tender
Part C3: Scope of Works

C3.4.3-11

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

PSA7.2 Should the Time for Completion be automatically extended due to abnormal weather conditions occurring during execution of the Contract as provided for in the Conditions of Contract, adjustment to the total for time-related preliminary and general items will be applicable as specified in Clause PSA7.1.

PSA8 HEALTH AND SAFETY

The Works to comply with the Occupational Health and Safety Act (Act 85 of 1993), the Construction Regulations GNR.84 of 7 February 2014 and the Employer's Safety Specifications.

The maintenance of safe work practice at all times and in all sections of the execution of the works shall form part in the day-to-day site activities of all the Contractor's management, staff and workforce on the contract.

The Construction Regulations requires from the Employer to ensure that the Contractor has made adequate provision for the execution of the works within the Act, Regulations and Specifications. The items listed below have been identified as critical towards ensuring the minimum standards of safe work practice. It must however be noted that the list below is not exhaustive and that it is the Contractor's responsibility to allow for all costs involved to comply with the requirements in terms of the Contract.

Also refer to health and safety requirements in Section 3.5.B (Management).

PSA8.1 Fixed-charge items

Add the following new Clause (Clause 8.3.5):

Compliance with the Occupational Health and Safety Act (Act 85 of 1993)
and its Regulations and with the Employer's Health
and Safety Specification Unit: Sum

The fixed charge item shall include but shall not be limited to the following:

- Preparation of Health and Safety Plan,
- Establishment of Health and Safety File,
- Health and Safety Training
- Personal Protective Clothing and Equipment
- Fences, Signs and Barricades
- Establishment of Safety Administration
- Compliance to all Health and Safety regulations in terms of COVID-19
- Other Health and Safety Fixed-charge Obligations

Tender
Part C3: Scope of Works

C3.4.3-12

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

PSA8.2 Time-related Items

Add the following new Clause (Clause 8.4.6):

Compliance with the Occupational Health and Safety Act
(Act 85 of 1993) and its Regulations and with the Employer's
Health and Safety Specification. Unit: Sum

The time related item shall include but shall not be limited to the following:

- The employment cost of all health and safety personnel including consultants, health and safety officers, inspectors, supervisors and issuers required in terms of the Contractor's Health and Safety Plan,
- Updating the Health and Safety Plan as needed,
- Carrying out of periodic own audits and follow-up audits,
- Compiling ongoing risk assessments and risk assessment reports as required by the Works,
- Convening of regular safety meetings with the Safety Representatives,
- Accompanying and supporting the Employer or his Safety Agent during ad hoc audits,
- Compilation of monthly safety reports and statistics for the Employer or his Safety Agent,
- Implementation and maintenance of Training
- Maintenance of personal protective clothing and equipment
- Maintenance of fences, signs and barricades
- Implementation and maintenance of safety administration
- Maintain compliance to all Health and Safety regulations in terms of COVID-19
- Other Health and Safety Time-related Obligations

PSA9 ENVIRONMENTAL MANAGEMENT PLAN

The Contractor shall comply with all the conditions of the Environmental Authorisation (Record of Decision) and the Environmental Management Plan bound into Section C3.5C.

PSA9.1 Fixed-charge Items

Add the following Clause (Clause 8.3.6):

Compliance with Environmental Management Plan and Environmental Authorisation (Record of Decision).....Unit: Sum

The sum tendered shall cover all costs, overheads, profits and charges incurred in complying with

Tender
Part C3: Scope of Works

C3.4.3-13

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

all the conditions of the Environmental Management Plan and Environmental Authorisation bound into Section C3.5C.

PSA9.2 Time-related Items

Add the following Clause (Clause 8.4.7):

Compliance with Environmental Management Plan
and Environmental Authorisation.....Unit: Sum

The sum tendered shall cover all costs, overheads, profits and charges incurred in complying with all the conditions of the Environmental Management Plan and Environmental Authorisation bound into Section C3.5.C.

PSA10 ~~PROVISION OF LEP PLAN~~

~~Add the following Fixed Charge Item (Clause 8.3.7):~~

~~Provision of a suitable Local Economic Participation Plan.....Unit: Sum~~

~~The sum tendered shall include full compensation for the provision of a suitable Local Economic Participation plan as required in terms of section T2.2.20 [Local Economic Participation Specification]. The tendered sum shall also include for the auditing by a recognised external auditing firm of the expenditure on local goods, services and labour as defined in the mentioned specifications. Two audits shall be included — the first interim audit shall be undertaken once 70% of the construction period has lapsed while the second and final audit will be done once the Taking Over Certificate has been issued. The issue and approval of the final audit results will be a pre-requisite for the issue of the Performance Certificate. The tendered sum shall furthermore include for the submission of monthly progress information related to LEP.~~

PSA11 SUMS STATED PROVISIONALLY (Clause 8.5)

PSA11.1 Contingencies

If applicable, a Provisional Sum has been included in the Summary of Schedules for contingencies. No percentage mark-up will be applicable to any payments made using contingency money other than the mark-up included in prices for variations determined in terms of the Conditions of Contract.

PSA11.2 Contract Price Adjustment

If applicable, a Provisional Sum has been included for Contract Price Adjustment in the Summary

Tender
Part C3: Scope of Works

C3.4.3-14

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

of Schedules to make provision for contract price adjustment in terms of the Conditions of Contract. The value of the Provisional Sum shall be based on the percentage of the subtotal value as specified in the Summary of Schedules. No percentage mark-up will be applicable to any payments made in this regard.

PSA11.3 Salary for Labour Desk Officer and Community Liaison Officer

If applicable, a Provisional Sum has been included in Schedule 2 for a salary to be paid to the Labour Desk Officer and Community Liaison Officer.

In addition to the abovementioned amount, provision is made in Schedule 2 for a mark-up on the amount to be paid. The mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in the Conditions of Contract.

PSA11.4 Artisans and skills training

If applicable, a Provisional Sum has been included in Schedule 2 for payments to be made to specialists for the training of unskilled or semi-skilled persons in industry accredited management and generic skills.

Payment to the Contractor will be based on invoices certified by the Engineer and issued by training specialists to the Contractor for work undertaken in terms of this item.

In addition to the above amount, provision is made in Schedule 2 for a mark-up on any payments made by the Contractor in this regard. The mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in the Conditions of Contract.

PSA11.5 Telephone calls and rental

If applicable, a Provisional Sum has been included in Schedule 2 for cell phone and telephone calls and facsimile transmissions for the Engineer's Representative. The Engineer's representative will provide his own cellular telephone for the contract. Payment will be based on call and rental costs, but excluding any deposits and installation costs which shall be priced under the preliminary and general items.

In addition to the above amount, provision is made in Schedule 2 for a mark-up on any payments made by the Contractor. The mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in the Conditions of Contract.

PSA11.6 Acceptance control testing

If applicable, a Provisional Sum has been included in Schedule 2 for acceptance control testing

Tender
Part C3: Scope of Works

C3.4.3-15

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

ordered by the Engineer to be undertaken by other service providers. Payment will be based on the actual invoicing by the service providers to the Contractor.

In addition to the abovementioned amount, provision is made in Schedule 2 for a mark-up on any payments made by the Contractor in this regard. The mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in the Conditions of Contract.

PSA11.7 Office consumables for Engineer's site facility

If applicable, a Provisional Sum has been included in Schedule 2 for the appointment and payment of office consumables for Engineer's site facility.

In addition to the abovementioned amount, provision is made in Schedule 2 for a mark-up on the amount to be paid. The mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in the Conditions of Contract.

PSA11.8 Electronic equipment for Engineer's office

If applicable, a Provisional Sum has been included in Schedule 2 for the appointment and payment of a specialist sub-contractor for electronic equipment for Engineer's site office, including computers, printers, cameras etc.

All equipment procured for the Engineer and his representatives shall be new and remain the property of the Contractor i.e., ownership shall revert to the Contractor upon completion of the Works.

In addition to the abovementioned amount, provision is made in Schedule 2 for a mark-up on the amount to be paid. The mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in the Conditions of Contract.

PSA11.9 Locating existing services

A Provisional Sum has been included in Schedule 2 for the location/identification of existing services in terms of the Specifications where required and agreed with the Engineer (e.g., Ground Penetrating Radar (GPR) survey).

In addition to the abovementioned amount, provision is made in Schedule 2 for a mark-up on the amount to be paid. The mark-up shall be regarded as full compensation for overheads, charges and profits as provided for the Conditions of Contract.

PSA11.10 Relocation of existing Services

If applicable, a Provisional Sum has been included in Schedule 2 for the relocation of existing

Tender
Part C3: Scope of Works

C3.4.3-16

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

services by specialists where required and agreed with the Engineer.

The mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in the Conditions of Contract.

PSA11.11 Specialized services

If applicable, a Provisional Sum has been included in Schedule 2 for the appointment and payment for specialized services if and when required. These may include all work required by the following specialists:

- Landscaping and hydro seeding;
- CCTV;
- Geotechnical surveys and inspections;
- Land Surveyor; and
- Acceptance control testing of pipework, coatings and linings.

In addition to the abovementioned amounts, provision is made in Schedule 2 for a mark-up on the amount to be paid. The mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in the Conditions of Contract.

PSA11.12 Cathodic Protection and AC mitigation

If applicable, a Provisional Sum has been included in Schedule 2 for work to be undertaken by a sub-contractor in protecting the pipeline against cathodic corrosion and providing mitigation measures against AC high voltage currents. The Engineer undertakes to issue details and instructions describing the exact nature of the work that is required, as well as the specialists that should be employed by the Contractor to undertake the work.

In addition to the above amount, provision is made in Schedule 2 for a mark-up on any payments made by the Contractor in this regard. The mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in the Conditions of Contract.

PSA12 PRIME COST ITEMS (Clause 8.6)

PSA12.1 Materials for Dayworks

A Provisional Sum has been included in Schedule 2 for materials to be used during the execution of dayworks. In addition to the abovementioned amount, provision is made in Schedule 2 for a mark-up on the materials used during the execution of the dayworks by the Contractor. Payment made shall be regarded as full compensation for overheads, charges and profit on the materials that are used when executing dayworks.

Tender
Part C3: Scope of Works

C3.4.3-17

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

PSAB ENGINEER'S OFFICE

PSAB1 NAME BOARDS (Clause 3.1)

Name board(s) conforming to the standard requirements of the South African Association of Consulting Engineers and as shown on the relevant drawing must be provided and erected at points to be designated by the Engineer.

PSAB2 OFFICE BUILDING (Clause 3.2)

Office facilities shall be provided and furnished for the Engineer's Representative's personnel and maintained for the duration of the contract. The office facility shall be furnished as per Drawing No. 1890.11.00.AAA.01.U001. All finishing shall be in accordance with the above drawing and all furniture shall comply with specifications in Drawing No. 1890.11.00.AAA.01.

The Contractor shall provide all electrical equipment as required by the office staff as well as all consumables required for facilities and equipment i.e., paper, toner, stationery etc.

The Contractor shall also be responsible to provide and maintain an adequate internet connection for the Engineer's offices.

All offices, facilities and equipment shall be new and be furnished, serviced, cleaned and maintained by the Contractor. The Contractor shall provide a full-time assistant for cleaning the offices and car wash. The Contractor shall provide a full-time guard service and ablution facilities for the office complex.

The Contractor shall be responsible for all running costs and costs for other services, including telecommunication, electricity, water, etc. to operate and maintain the offices efficiently.

The Contractor will remain the owner (or renter) of the offices, furniture and equipment and shall be responsible for the maintenance and insurance thereof.

Upon completion of the Works the Contractor shall remove the offices, furniture and equipment from Site.

PSAB3 TELEPHONE (Clause 5.4)

A prime cost item has been allowed in Schedule 2 to cover all call and rental costs that are associated with the provision of this facility (telephones and cell phones) for the Engineer's Representative's staff. The Contractor shall include the invoices as provided by the Engineer in the monthly payment claims.

Tender
Part C3: Scope of Works

C3.4.3-18

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

PSAB4 TESTING

PSAB4.1 General

A laboratory is not required by the Engineer on Site. At the request of the Engineer, the Contractor shall arrange separately with an independent commercial laboratory and/or designated specialists to carry out additional acceptance control tests, over and above the normal quality control testing required for the construction of the Works. A provisional sum is included in the contract for the additional control tests ordered by the Engineer.

The Contractor shall remain responsible to carry out the process control testing required by the Standardized, Particular and Project Specifications.

PSAB4.2 Laboratory Equipment

The Contractor shall supply, insure and maintain the following equipment for use by the Engineer's Representative's personnel for the duration of the Contract:

- (a) A Troxler nuclear system Model 3440, complete with accessories and stored in a suitable transit case as supplied by the manufacturer. A detailed description of the unit and principals of operation should be given in the manual for the nuclear instrument. Calibration test certificates shall be provided for such instrument.
- (b) Six concrete cube moulds, 150mm nominal size, as well as a suitable concrete cube curing basin to keep all concrete cubes submerged in water for at least 28 days.

PSAB5 SURVEY ASSISTANTS (Clause 5.5)

One suitably educated Survey Assistant shall be made available for the sole use of the Engineer's Representative personnel for the duration of the Contract. Transport shall be supplied for the Survey Assistant by the Contractor for the duration of the Contract should he be requested to do so. In such event payment will be made at scheduled daywork rates.

PSAB6 SURVEY EQUIPMENT

The survey equipment listed below shall be made available and be maintained in good condition for the exclusive use of the Engineer or his Representative for the duration of the Contract.

- (a) Automatic surveyor's level complete with tripod and leather carry case such as Zeiss N1-2 or equivalent 1 No
- (b) Nylon-coated steel surveyor's tape 100 m long and 10 mm wide 1 No.

Tender
Part C3: Scope of Works

C3.4.3-19

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



(c)	5 m long steel tape	1 No.
(d)	5 m long three-piece telescopic survey staves (metric double-face) complete with angle bracket level	2 No
(e)	Survey books: Level	3 No.
(f)	2 kg hammer with rubber handle	1 No.
(g)	Steel pegs, 300 mm long and 12 mm dia	120 No.
(h)	Aluminium tags, 100 mm long, 15 mm wide and 2 mm thick	120 No.
(i)	Reverse polar notation pocket calculator (Hp32SII or similar)	1 No
(j)	Change point	2 No
(k)	Measuring wheel	1 No
(l)	Tripod holders for ranging rods (heavy duty)	2 No.
(m)	Optical square (Sokkisha or Wild), complete with telescopic aluminium rod and bubble	1 No.
(n)	"Rabone" steel tape 10 m long and 13 mm wide	1 No.
(o)	Triangular change plate with chain	2 No.
(p)	100 m long, 50 kg strength fish line	1 No.
(q)	One-metre-long spirit level	1 No.
(r)	Three metre aluminium straight edge	1 No.

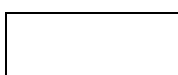
PSAB7 CARPORTS

The Contractor shall provide and maintain carports as indicated on the detailed on the drawing mentioned in PSAB2 for the duration of the Contract. The floor shall consist of crushed aggregate to alleviate dusty and muddy conditions.

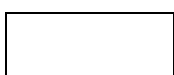
Tender
Part C3: Scope of Works

C3.4.3-20

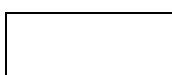
C3.4
Construction



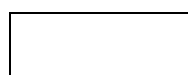
Employer



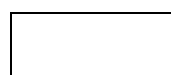
Witness 1



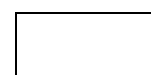
Witness 2



Contractor



Witness 1



Witness 2



PSAB8 INSURANCE, MAINTENANCE ETC.

The Contractor shall be responsible for the insurance of all facilities and equipment, running costs and costs for other services, including telecommunication, electricity, water, sanitation, etc. to operate and maintain the office efficiently.

Tender
Part C3: Scope of Works

C3.4.3-21

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

PSC SITE CLEARANCE

PSC1 DISPOSAL OF MATERIAL (Sub-clauses 3.1 and 8.2.1)

Materials arising from clearing and grubbing shall be disposed of at a suitable spoil site. The Contractor shall be responsible to make his own arrangements for a suitable spoil site. Trees and stumps necessarily removed shall not be burnt unless authorised by the Engineer but shall be cut and stacked at areas designated by the Engineer.

PSC2 AREAS TO BE CLEARED AND GRUBBED (Clause 5.1)

The areas to be cleared and grubbed will be indicated by the Engineer. Should a portion or the whole of the site have been cleared and grubbed by others prior to the start of construction then no clearing and grubbing will be ordered or payment made with respect to the applicable portion of the site.

PSC3 PRESERVATION OF TREES (Sub-clause 5.2.3)

The penalty in respect of every individual tree, designated as a tree to be preserved, that is damaged or removed unnecessarily by the Contractor, shall be up to R 15 000.00 (amount to be determined by the Engineer). Trees that fall within areas upon which the Works are to be constructed or within areas that the Contractor must occupy for the proper construction of the Works will not be designated for preservation. The identification of trees to be designated for preservation will be subject to the discretion of the Engineer.

PSC4 FREEHAUL AND OVERHAUL

Refer to clause PSD12 in this regard.

Tender
Part C3: Scope of Works

C3.4.3-22

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

PSD EARTHWORKS

PSD1 CLASSIFICATION FOR EXCAVATION PURPOSES (Clause 3.1.2)

Delete clause 3.1.2 (a) and clause 3.1.2 (b) and replace with the following:

3.1.2 (a) Soft excavation:

"All material that is not classified as hard rock excavation in terms of clause 3.1.2 (c), boulder excavation class A in terms of clause 3.1.2 (d) or boulder excavation class B in terms of clause 3.1.2 (e) shall be classified as soft excavation"

In clause 3.1.2 (c) (1), replace the words "equivalent to that specified in (b) (1) above" with the words "of mass approximately 35 t, fitted with a single-tine ripper suitable for heavy ripping and of fly wheel power approximately 220 kW."

In the last sentence of clause 3.1.2 (d), replace the words "intermediate excavation" with the words "soft excavation."

In the last sentence of clause 3.1.2 (e), replace the words "or intermediate excavation, according to the nature of the material" with the word "excavation."

PSD2 SAFEGUARDING OF EXCAVATIONS (Sub-Clause 5.1.1.2)

Any cost the Contractor may undergo in ensuring the safety of excavations or any additional excavation and backfilling he may have to undertake due to the unstable sides of excavations and trenches shall be held to his account and the various rates for excavation and trenching included in the Schedule of Quantities shall include full compensation therefore.

PSD3 EXPLOSIVES (Sub-Clause 5.1.1.3)

Add the following to the sub-clauses:

Blasting must adhere to the relevant statutes and regulations that control the use of explosives.

Prior to blasting, the Contractor shall submit a method statement to the Engineer including:

- The date, time, location, type of blast, zone of influence of ground and air shockwaves, procedures to limit fly rock and noise and any other information deemed necessary for the safe execution of the activity.

Tender
Part C3: Scope of Works

C3.4.3-23

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



- Details of the dwellings / structures / services within the zones of influence including existing positions, lengths and widths of cracks, as well as the condition of doors, windows, roofing, wells, boreholes etc.
- Procedures for informing affected owners, communities, authorities, road users, sensitive receptors etc.
- Measures to mitigate the effects of blasting. The Contractor shall take special measures to protect existing services and structures during blasting operations which will include controlled blasting. The Contractor shall be responsible to repair damages to existing services and structures immediately, to the approval of the Engineer.
- Proposed blasting procedures, including the spacing and loading of each blast. The blasting procedures shall be prepared in writing by an explosive expert retained by the Contractor. The expert shall ensure that the approved procedures are met and that vibration readings are taken during blasting. The Contractor is responsible for the appointment and remuneration of its explosives expert and the name of the explosive expert shall be submitted to the Engineer for his prior approval. The Engineer reserves the right to independently review and monitor all blasting plans and procedures.

The Contractor shall give all residents, authorities or other parties owning buildings, structures and services within an appropriate radius (not less than 500 m) from any point of blasting, a minimum of 48 hours written notice of its intent to execute any blasting work and shall erect sign boards with the time and date of the next blast.

The Contractor shall record all aspects relevant to the conditions of the affected buildings, structures and services prior to blasting, and shall acquire the signature of the owners, occupants and authorities agreeing with the recorded conditions.

Within 48 hours after blasting, the Contractor, owners, occupants and authorities shall sign approved forms confirming the condition of the buildings, structures and services. In the event of damage to existing buildings, structures and services as a result of blasting, remedial work shall be done to the satisfaction of the owners, occupants and authorities at the Contractor's expense. Remedial work must be undertaken within 7 days of blasting.

The Contractor alone shall be responsible for all cost resulting from his activities, including the collection of fly-rock from adjacent lands and fields.

The Contractor will generally be permitted to use explosives for breaking up hard material during excavations, for demolishing existing structures, and for other purposes where explosives are normally required, subject to the following conditions:

Tender
Part C3: Scope of Works

C3.4.3-24

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



- (a) The Engineer may prohibit the use of explosives in cases where, in his opinion, the risk of injury to persons or damage to property or to adjoining structures is too high. Such action by the Engineer does not entitle the Contractor to additional payment for having to resort to less economical methods of construction.
- (b) The Engineer's prior written approval shall be obtained for each and every blasting operation. This approval may be withheld if the Contractor does not use explosives responsibly and carefully.
- (c) The Contractor shall comply fully with the applicable legislation and regulations.
- (d) Before blasting is undertaken, the Contractor shall satisfy the Engineer that he has established whether or not the insurers concerned require pre- and post-blasting inspections of buildings and structures within a certain radius of the proposed blasting.

Should such inspections be required, the Contractor shall, together with the Engineer's representative and the insurer, examine and measure the buildings, houses or structures in the vicinity of the proposed blasting site and establish and record, together with the owner, lessee or occupier, the extent of any existing cracking or damage before blasting operations commence.

- (e) When there is a possibility of damage to power and telephone lines or any other services or property, the Contractor shall adapt his method of blasting and the size of the charges and shall use adequate protective measures (e.g. cover-blasting) to reduce the risk of damage.
- (f) All accidents, injury to persons and animals and damage to property shall be reported to the Engineer in detail and in writing as soon as is practicable.
- (g) The Engineer shall be given 24 hours' notice by the Contractor before each blasting operation is carried out.
- (h) When blasting to specified profiles, the Contractor shall so arrange the holes and charges that the resulting exposed surfaces are as sound as the nature of the material permits. The Contractor shall make good, at his own expense, any additional excavation necessitated by the shattering of rock in excess of any over break allowances specified in the Project Specifications or on the Drawings.

Notwithstanding the Contractor's compliance with the above provisions, the Contractor shall remain liable for any injury to persons and animals and loss of or damage to property occurring as a result of blasting operations.

Tender
Part C3: Scope of Works

C3.4.3-25

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

PSD4 EXISTING SERVICES (Sub-Clause 5.1.2)

PSD4.1 Add the following under sub-clause 5.1.2.1:

The Contractor shall make himself acquainted with the position of all existing services before any excavation or other work likely to affect the existing services is commenced.

The Contractor will be held responsible for any damage to known existing services caused by or arising out of his operations and any damage shall immediately be repaired at his own expense. Damage to unknown services shall be repaired as soon as possible and liability shall be determined on site when such damage should occur.

The position and details of existing services and structures known to the Engineer are shown on the drawings as site data. The Employer and Engineer take no responsibility as to the accuracy or completeness of this information and have provided this information merely as an aid to the tenderers in preparing their bids for construction of the Works.

The Contractor shall protect all known existing services as well as all work being carried out and structures being erected on the Site by other contractors or public authorities. The Contractor must familiarize himself with the various standard regulations of the relevant public authorities and act accordingly. Any damage caused to these services or structures, or any obstructions or hindrance caused to other contractors or public authorities by the Contractor and all claims arising from such damage, obstruction or hindrance shall be the sole responsibility of the Contractor.

All repair work shall be carried out at the Contractor's expense to the entire satisfaction of the Engineer or the owner of the service.

The Contractor shall conduct the necessary search for unknown services as specified in clause PSD4.2. After searching, all services shall be deemed as known. The Contractors' cost of searching for existing services and accommodating all existing services and relocating all services shown on the tender drawings shall be priced into the appropriate work forming part of the Contract.

The Contractor shall record the details of existing services on the as-built drawings.

The Contractor shall maintain and rehabilitate local public roads and private access roads that it uses for construction purposes. Dust suppression, grading, traffic and safety management will be required.

Existing services need to be exposed by the Contractor early during the Contract. The x, y, z coordinates of the exposed services and PI's need to be determined by the Contractor and provided to the Engineer. This information is required to assess the position and longitudinal

Tender
Part C3: Scope of Works

C3.4.3-26

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

sections and to make adjustments where necessary. The coordinates need to be provided to the Engineer at least four weeks before excavation along a specific section of pipeline takes place to allow adequate time for potential adjustments to the drawings.

PSD4.2 UNDERGROUND SERVICE DETECTION AND IDENTIFICATION

PSD4.2.1 Scope

The scope of underground service/utility detection and identification by the Contractor shall include determining the:

- Horizontal position and X&Y coordinates of services.
- Depth and level (Z coordinate) of services.
- Type of service.
- Material of service.
- Pipe, ducts or cable diameter.
- Condition of service.
- Chambers, manholes and sumps basic dimensions and invert levels.
- The invert levels of all incoming and outgoing services.

The above work shall be executed without damaging the services.

PSD4.2. Digital mapping of services (CAD requirements)

- a) Drawings to be in DWG format (supplied electronically). All services lines must be in 3D.
- b) All services to be included in text/ascii format in separate files and to include X, Y, Z data with descriptions.
- c) All services to be labelled correctly and with legends.
- d) All services to be on separate layers.
- e) All services to be correctly coordinated.
- f) All available cadastral and grid information to be added to CAD drawings.

PSD4.2.3 Other requirements

- a) The Contractor shall submit the name of the specialist subcontractor proposed for this work for the Engineer's approval 14 days before commencement of the work.
- b) The Z value must be the invert level for all the pipes.
- c) Surveyed locations to be in WG 29.
- d) Heights to be levelled to mean sea level.
- e) Standard survey procedures to be adopted in fixing control points (Class A accuracy) as set by PLATO.

Tender
Part C3: Scope of Works

C3.4.3-27

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



- f) Levels to be obtained from new and existing benchmarks to ensure required accuracy.
- g) Level accuracy of services to within 0.1m.
- h) List of all control points and survey report to be supplied in digital format (asci/txt) stored on DVD Rom.
- i) The GPR survey shall detect all underground services to a maximum depth of 5m below grade.
- j) The Contractor shall issue certificates to the Engineer confirming the details of the detected underground services within surveyed area.

PSD4.2.4 Methods and Equipment

The following equipment must be utilised, in conjunction with each other:

- Electro Magnetic (EM) detection (both Indirect and Direct modes);
- Sounding of non-pressurized, non-metallic utilities (i.e. sewer, empty sleeves, stormwater);
- Radio and Power modes, detecting all 50hZ and VLF signals;
- Ground Probing Radar (GPR) with a suitable antenna that penetrates all soil types. Ranges of antenna: 270hz –600hz;
- Seismic detection. This method is to be used to locate and detect all non-metallic, pressurized utilities i.e. potable water.

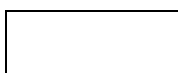
PSD4.2.5 Deliverables

- a) Survey results shall be presented on a drawing in the relevant systems in the surveyed province.
- b) All data shall be submitted on flash drive in Auto Cad format as well as three sets of hard copies.
- c) The Cad drawings shall include the general layout plan, sections and details in appropriate scale.
- d) The existing services to be indicate on the drawing with the following different colours/layers:
 - Sewage **YELLOW**
 - Stormwater **WHITE**
 - Telecommunications **GREEN**
 - Electrical HT & LT **RED**
 - Water (POTABLE & FIRE) **BLUE**
 - Gas/Diesel **ORANGE**
 - Unknown **BLACK**
- e) The vertical and horizontal datum used for survey shall be noted on the drawings.
- f) The drawings and maps shall include a legend that describes symbols, abbreviations, and graphic scale and north arrow.

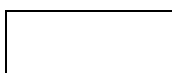
Tender
Part C3: Scope of Works

C3.4.3-28

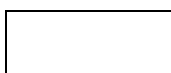
C3.4
Construction



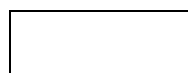
Employer



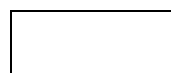
Witness 1



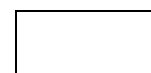
Witness 2



Contractor



Witness 1



Witness 2

PSD5 STORM WATER AND GROUND WATER (Sub-Clause 5.1.3)

Add the following clauses:

Adequate drainage lines must be put in place to prevent flooding and potential contamination of storm water through the Contractors activities. Storm water outside the site must be channelled away from the site and not allowed to flow through the camp or construction areas. Storm water originating on the site must be channelled off site without damaging other properties. Storm water berms must be put in place to divert water away from the works where channels are not appropriate.

All storm water must be channelled via storm water channels fitted with storm water arrestors to areas where the erosive forces of the water can be contained. In order to prevent storm water contamination, fuel, hazardous substances and hazardous wastes must be stored in a bunded, covered area and fitted with a sump. Water collected in the sump will need to be treated before re-use or release.

The Contractor shall not alter or damage existing drainage lines, levees or dams or modify the course or channel of water courses without the prior approval of the Engineer. The Contractor must ensure that all storm water lines are reinstalled or rehabilitated on completion of construction activities.

The Contractor shall be responsible for the prevention of erosion in areas impacted upon by the Contractor's activities. All erosion rehabilitation must be implemented at the first signs thereof and no erosion shall be allowed to develop in a large scale. The Contractor must present the site in an erosion free state before the issuing of the Completion and the Performance Certificates.

Steep slopes and other sections subject to severe erosion/ground slippages, shall be made geotechnical stable. Additional measures may involve:

- Geotechnical works such as gabions, Rheno mattresses, drainage lines and diversion berms;
- Installation of trench breakers prior to backfilling;
- Stone pitching, logging, extra-seeding, etc.

PSD6 DISPOSAL OF SURPLUS MATERIAL (Sub-Clause 5.1.4.3 and 5.2.2.3)

All surplus or unsuitable materials arising from the works shall be spoiled at sites approved by the landowner and relevant authorities or at registered landfill sites. Spoiling shall be in accordance with the specifications, environmental management plan, requirements of the owner of the spoil site and applicable acts, legislations and regulations. Spoiling shall not interfere with future works

Tender
Part C3: Scope of Works

C3.4.3-29

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

or disrupt natural flow of storm water run- off.

At spoil areas, rock and soil/clay must temporarily be stockpiled separately. Rock must be placed in the final spoiling position first, followed by soil/clay.

At completion, spoil areas shall be levelled and shaped to gradients not exceeding 1:5 and the areas shall be covered with top soil that were removed prior to commencing with activities.

The Contractor shall be responsible for the rehabilitation of access roads to spoil sites. Spoiling shall comply with the applicable statutory and municipal regulations and requirements of the local or rural authorities and land owners.

The Contractor will be responsible for all costs associated with the opening and development of spoil sites.

For the purpose of tendering it can be assumed that a spoil area will be available within a 15km radius from the middle of the pipeline route.

Where the pipeline is laid within a road reserve the route of the pipeline shall be finished neatly to be flush with the natural ground level or finished sidewalk level as may be applicable. Clause 5.6.7 of SANS 1200 DB shall apply to the cleaning of roadways.

PSD7

ACCOMMODATION OF TRAFFIC (Sub-Clause 5.1.6)

Vehicle and pedestrian traffic must be accommodated across the pipeline corridor at all existing public and private roads and pedestrian pathways.

Full closure of existing roads will not be allowed and alternative access to properties must be provided where closure of such accesses is required.

Open trenches and associated construction activities/infrastructure must be fenced, and sign boarded. Written notice (in terms of SANS 1200 DB) shall be served to landowners to notify them of any disruption in access to their properties. The position and period of disruption must be determined in consultation with the landowner. Where necessary, detours should be provided.

Traffic control shall comply with the latest issue of the Road Signs Note 13 as issued by CSRA and CUTA as a minimum.

The Contractor shall include costs for resources and equipment required for the proper accommodation of vehicle and pedestrian traffic in terms of the specifications in its tender prices, including but not limited to temporary barricades, the erection and re-erection of existing and/or temporary traffic signs, lights and flagmen for the guarding and protection of the Works, and for

Tender
Part C3: Scope of Works

C3.4.3-30

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

making all necessary arrangements with the relevant traffic authorities.

No work may proceed in any section where accommodation of traffic is required until such time as the relevant requirements with regard to signposting are met.

Payment shall be made monthly pro-rata to the overall progress of the works.

PSD8 CONSERVATION OF TOPSOIL (Sub-Clause 5.2.1.2)

Remove the last sentence of this sub-clause.

PSD9 BORROW PITS, SPOIL SITES AND HAUL ROADS (Sub-Clauses 5.2.2.2 and 5.2.2.3)

The Contractor shall be responsible for making his own arrangement regarding the provision of imported material, if required, from commercial borrow pits. The Contractor shall provide in his tender prices for all royalties payable and for the transport of the material to site.

Where applicable, the Contractor shall be responsible for the opening and closing of designated borrow pits and spoil sites and for the associated haul roads. The Employer or the Engineer will obtain the necessary permissions and authority to utilise such borrow pits, where applicable. The Contractor in turn shall in all respect comply with the various requirements of SABS 1200D, the Minerals Act (No 50 of 1991) and the environmental requirements in relation to the opening, closing and utilisation of borrow pits and spoil sites. Except for the crushing or screening of materials in accordance with the written instructions of the Engineer, and for royalties should such become payable, no additional payment will be made for excavating or processing material from designated borrow pits, regardless of the hardness or other properties of the material.

PSD10 TOPSOIL (Sub-Clause 5.2.1.2)

Topsoil shall be removed from all areas where pipelines and structures are to be constructed and shall be stockpiled on the construction servitude and in accordance with the environmental requirements for re-use in rehabilitation.

PSD11 SOILCRETE

Soilcrete backfilling shall be a G5 material (maximum size of 10 mm) as specified in SANS 1200M, stabilised with 5% cement and compacted to 93% modified AASHTO maximum dry density.

PSD12 FREEHAUL AND OVERHAUL (Sub-Clause 5.2.5)

Add the following to the sub-clause:

“The freehaul distance shall be 1.0 km”.

Tender
Part C3: Scope of Works

C3.4.3-31

**C3.4
Construction**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

PSD13 OVERHAUL (Sub-Clause 5.2.5.2)

Delete the second sentence of the paragraph and replace with the following:

“All overhaul beyond the freehaul distance will be measured as long overhaul and no limited overhaul will be measured”.

PSD 13 CONSTRUCTION (Clause 5)

Add the following sub-clauses:

PSD 13.1 Water courses and wetlands

The banks and contours of the water course shall be reshaped in accordance with the photographic and topographical survey to tie in with the surrounding landscape. The bed of the watercourse shall be restored to contain the same bedding material as prior to construction activities taking place.

Wetlands must be identified before construction and the Contractor must submit a method statement to manage and rehabilitate the work in accordance with the specification.

The wetlands shall be rehabilitated immediately after the works have been completed as these are sensitive habitats and disturbance must be kept to a minimum. The beds of the wetlands shall be restored to a similar state, in terms of the soil profile, as well as physical and chemical properties as established in a pre-construction survey.

The Contractor must ensure substratum restoration during the rehabilitation phase of the contract. Impermeable clay layers must be recreated / restored to reinstate the sub-surface hydrology and to ensure the perched water tables sustaining wetland habitats are kept intact. Any impermeable layers encountered within the wetland, shall be recorded, and their depths and types noted. These layers will need to be recreated during rehabilitation. The Contractor shall submit to the Engineer for approval, a method statement that deals specifically with the restoration of impermeable substratum layers prior to the commencement of works.

The Contractor shall take all necessary measures when working within rivers/wetlands to ensure that the water quality of these systems is not adversely impacted by the construction activities.

PSD 14 FILL MATERIAL FOR PLATFORM (Sub-Clause 8.3.4)

Add the following to the sub-clause:

Fill material for the platform shall be placed and compacted in 150 mm thick layers to 97% MOD

Tender
Part C3: Scope of Works

C3.4.3-32

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

AASHTO density.

The G5 material supplied from commercial sources shall be stabilised with Portland cement to form an equivalent C3 layer with UCS of 1 MPa minimum and 2 MPa maximum.

PSD11 SPOILING HARD ROCK BOULDERS

Add the following to the sub-clause:

During past granite mining activity conducted on site, the un-used granite boulders were spoiled on site, within or in close proximity to the proposed work area. Where these granite boulders create a safety risk during construction, the Contractor may, upon written instruction from the Engineer, spoil these boulders at a spoil site designated by the Engineer.

The quantity of hard rock boulders spoiled will be measured per truck load with a haul distance not exceeding one kilometre.

The rate shall include for loading of hard rock boulders (all sizes) onto trucks, transporting to spoil site, off-loading hard rock boulders and spreading. The rate shall also include full compensation for overheads, charges and profits.

Tender
Part C3: Scope of Works

C3.4.3-33

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

PSDB EARTHWORKS (PIPE TRENCHES)

PSDB1 SPECIAL WATER HAZARDS (Sub-Clause 5.1.2.2)

Where ground water is present during construction to such an extent that, in the opinion of the Engineer, it would hamper the placing and consolidation of granular or concrete bedding, or would cause buoyancy of the pipes, the Engineer may order the provision of a drain in the bottom of the trench to assist with dewatering during the construction and until the trench has been backfilled to such an extent that buoyancy of the pipeline will be prevented.

The drain shall be constructed over the full width of the trench as follows:

Method 1:

300mm thick 19mm stone enclosed in non-woven, needle punched, continuous filament, polyester geotextile (Bidim A5 or similar product approved by Engineer)

or

Method 2:

500mm thick well graded dump rock enclosed within high strength composite (woven and non-woven) geotextile with high modulus characteristics for reinforcement and drainage applications (Rockgrip PC 100/100 or similar product approved by the Engineer)

or

a combination of Method 1 and 2 above with method 1 on top of method 2.

The method of stabilization will be based on the geotechnical conditions and will be subject to the approval of the Engineer.

Sumps shall be formed from which ground water can be pumped to maintain the water table below the pipe bedding level. The Contractor shall establish on site, operate and remove on completion dewatering pumps of 10l/s minimum capacity as per the requirements of Item 8.3.4(b) of 1200 DB. Lengths of trench opened at any one stage shall be limited by the dewatering capacity of the pump.

PSDB2 EXISTING SERVICES (Sub-Clauses 5.1.4)

Where any existing service occurs within the specified trench excavation, and the presence of such service is known before being exposed, the protection of the service will be scheduled and measured as provided for in Clause 8.3.5 of 1200DB. Only known services (as defined in Clause 5.4 of 1200A) shall be measured for payment.

Where an unknown existing service is damaged during construction, and the Engineer orders that the Contractor should undertake the repair of such service, then such repair will either be

Tender
Part C3: Scope of Works

C3.4.3-34

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

measured and paid as dayworks or alternatively as a contractual variation in terms of the General Conditions of Contract.

No construction activity which may affect the integrity of telephone or electrical poles or stays may be carried out without the prior written approval of the Engineer, which approval shall only be given subject to the acceptance of a method statement that will ensure the integrity of such services during construction.

PSDB3 TRENCH WIDTHS (Sub-Clauses 4.1 and 5.2)

Trenches in general shall not exceed the widths laid down in Sub-Clause 8.2.3. If trenches exceed the specified width the Contractor shall be liable for the associated additional cost (e.g. stronger pipes, higher quality bedding) which may be required as a result of the additional trench width.

PSDB4 EXCAVATION (Sub-Clause 5.4)

The Contractor will be required to follow a procedure, whereby laying, jointing, testing and backfilling for each section of the pipeline will follow soon after trenching, and he will not be permitted to open up lengths of trench far in advance of pipe laying and backfilling operations. If in the opinion of the Engineer, trenching has proceeded too far ahead of pipe laying and backfilling, the Engineer shall have the right to stop trenching until the pipe laying and backfilling has caught up and the Contractor shall not be entitled to any extra payment due to this instruction.

Refer to the limitation in pipeline construction activities specified in section C3.5.

PSDB5 TRENCH BOTTOMS (Sub-Clause 5.5)

Replace the first paragraph of this sub-clause "Material that compacted as directed" with the following:

"Where a firm foundation cannot be obtained at the grade indicated due to soft or unsuitable material, the Contractor shall remove such unsuitable material and backfill the excess depth with approved selected material or concrete, as directed by the Engineer in each particular case. Backfill other than concrete, shall be placed in layers of 150mm uncompacted thickness, each layer thoroughly compacted to 90% of modified AASHTO maximum density, to provide adequate support for the pipe bedding to be placed on top of it.

Should the Contractor remove more soil than is required to secure the proper grade of the pipeline, the Contractor shall, at his own cost, backfill the excess excavation with approved selected material or concrete, as directed by the Engineer in each particular case."

Tender
Part C3: Scope of Works

C3.4.3-35

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

PSDB6 FREEHAUL AND OVERHAUL (Sub-Clause 5.6.8)

All haul shall be considered as per PSD12.

PSDB7 AREAS SUBJECTED TO TRAFFIC LOADS (Clause 5.7.2)

The requirements of Clause 5.7.2 shall apply only to pipes and sleeves crossing streets or paved areas and pipes running parallel to the road as described below.

All service trenches running parallel to the road of which the roadside edge of the trench is located less than 1,4 m away from the edge of the road, will be subject to the requirements for the above-mentioned clause.

The measurement and payment will apply to the full trench width. Pipes and sleeves crossing streets or paved areas will be measured and paid for to a length equal to the width of road or length of pavement crossed plus 1,4 m either side of the road edges.

Compaction of other pipe trenches running parallel to the roads shall be considered areas subject to traffic loads only where instructed by the Engineer in writing. The volume will be computed from the minimum base width determined in accordance with Sub-Clause 5.2 and the depth from the top of the back fill to the top of the bedding as specified in Sub-Clause 8.3.3.1.

PSDB8 REINSTATEMENT ROADS AND PAVED AREAS (Clause 3.6 and 5.9.4)

Apart from the re-instating of tarred road surfaces, the Contractor shall also be responsible for the re-instatement of any kerbing, channelling, paving and side drains damaged by the Contractor and any subsidence and re-surfacing and re-instatement work required or deemed necessary by the Engineer.

The Contractor shall remove all paving blocks from driveways before excavating across the driveway and store and protect these blocks. After backfilling has been completed the paving shall be reinstated to match the existing paving. The Contractor shall obtain written confirmation from the relevant owner that the driveway has been re-instated satisfactorily.

The Contractor shall remove grassing in sods before excavation takes place, stack, water and protect the sods. After backfilling has been completed the grassed areas shall be reinstated, using the sods, to the satisfaction of the Engineer. These re-instated areas must be watered for a period of 14 days after re-instatement.

Crushed stone sidewalks shall be reinstated to match the surrounding crushed stone areas, all to the satisfaction of the Engineer.

Tender
Part C3: Scope of Works

C3.4.3-36

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



Unless otherwise specified on the drawings, trenches through roads and paved areas shall be reinstated with a 150 mm upper selected subgrade layer compacted to 93 % mod AASHTO density, followed by a 150 mm subbase layer compacted to 95 % mod AASHTO density and a 150 mm graded crushed stone base compacted to 98 % mod AASHTO density. Bitumen surfaced roads shall be provided with a 25mm thick asphalt seal.

The upper selected subgrade layer shall have a CBR of at least 15, a grading modulus of at least 0,75 and a maximum PI of 12. The subbase shall conform to SABS 1200 ME and the base to SABS 1200 MF.

PSDB9 MEASUREMENT AND PAYMENT (Clause 8.3.2)

PSDB9.1 Basic Principles (Clause 8.1)

Add the following to the sub-clause 8.1.2(a):

Payment for the excavation and backfilling of trenches shall be made at the tendered rates and at the following stages of the construction:

- i. upon completion and approval of the trench bottom, prior to bedding: 40 %
- ii. upon completion and approval of top of selected backfill: 70% (cumulative)
- iii. upon completion and approval of the main fill: remaining 30 %.

Tender
Part C3: Scope of Works

C3.4.3-37

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



PSDK GABIONS AND PITCHING

PSDK1 MATERIALS

PSDK 1.1 Stone (Sub-Clause 3.2.1)

Replace the contents of table 2 with the following:

"TABLE 2 SIZE AND MASS OF INDIVIDUAL STONES FOR PITCHING

1	2	3	4
Size/mass of pitching	Thickness of pitching mm, min	Least dimension mm, min	Mass kg, min
Extra heavy	600	300	180
Heavy	400	190	50
Medium	300	150	27
Light	200	110	11

PSDK2 CONSTRUCTION

PSDK2.1 Grouted pitching

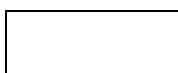
Replace the words "(table 4)" in the second line of the first paragraph with "(table 2)".

PSDK3 PITCHING (Sub-Clause 3.2.1.2)

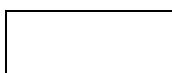
Type of pitching shall be Grouted Ordinary Stone Pitching, unless otherwise instructed by the Engineer.

PSDK4 GEOTEXTILE (Sub-Clause 3.1.4)

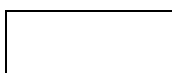
Shall be Bidim U24, or similar approved unless shown otherwise on Drawings.



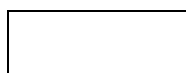
Employer



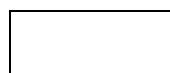
Witness 1



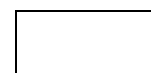
Witness 2



Contractor



Witness 1



Witness 2

PSDM1 TREATMENT OF ROADBED (Clause 5.2.3.3)

Replace item b)1)ii) of this sub-clause "the depth below formation level of drilling and blasting and 850mm in the case of blasting" with the following :-

The maximum allowable depth below formation level of drilling and blasting in both camber and crossfall road super elevations shall be 300mm. The Contractor shall be liable for the cost of drilling and blasting beyond this maximum allowable depth of 300mm below formation level.

PSDM1 OVERHAUL

Refer to clause PSD12 and PSD13 in this regard.

PSDM2 ACCOMMODATION OF TRAFFIC

Refer to clause PSD7 in this regard.

PSDM3 DISPOSAL OF SURPLUS MATERIAL

Refer to clause PSD6 in this regard.

PSDM4 BORROW PITS

Refer to clause PSD9 in this regard.

PSDM5 ROLLING BY SPECIFIED NUMBER OF PASSES (Subclause 5.2.3.3)

PSDM5.1 General

Where shown on the drawings or ordered by the Engineer, the road-bed shall be subjected to a specified number of passes using a designated type of roller.

PSDM5.1.1 Pneumatic-tyre roller

A pneumatic-tyre roller shall consist of pneumatic-tyre wheels mounted on a rigid frame with a loading platform or body suitable for ballast loading to produce a load of at least 70kN on each wheel and arranged in a manner that allows all wheels to bear equally while operating on uneven surfaces.

The total load on any axle line shall not exceed 300kN. Tyres shall be uniformly inflated under operating conditions to a pressure within the range 500-800 kPa.

Tender
Part C3: Scope of Works

C3.4.3-39

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

PSDM5.1.2 Vibratory roller

The vibratory roller shall be capable of exerting a combined static and dynamic force of not less than 120 kN/m width for every metre of loose-layer thickness at an operating frequency not exceeding 25 Hz and shall move at a speed not exceeding 4 km/h.

PSDM5.1.3 Grid roller

A grid roller shall have a mass of at least 13 t when ballasted and shall be operated at this mass.

PSDM5.1.4 Impact roller

Type 1

Impact roller type 1 shall be a single multifaced roller having a maximum of five flat or nearly flat faces and a mass of over 8 t. The roller shall be of the free fall type, and the roller and towing mechanism shall be so designed that all the energy applied in lifting the roller to the position in which it is supported on an edge between consecutive faces, is dissipated on impact when the roller drops again. The roller shall be towed by a tractor of engine power not less than 160kW and towed within 20 % of its optimum towing speed.

Type 2

Impact roller type 2 shall be an impact compactor or roller delivering impact energy per blow of not less than 25 kilojoules, of the HEIC Series 600 type supplied by Compaction Technology (Pty) Limited or equal approved. The roller shall be towed by a tractor of engine power not less than 160kW and towed within 20 % of its optimum towing speed.

PSDM5.2 Roller Compaction

Any layer which is shown on the drawings or is specified or is prescribed by the Engineer to be rolled by a specified number of passes shall be prepared by shaping if necessary and then be compacted with a specified roller which complies with the requirements specified in sub-clause PSDM5.1.

A pass for a double drum roller is hereby defined as two passes of the roller over a suitable lane width such that one drum of the roller during its second passage travels in the interdrum space created by the first passage of the roller. Adjacent lanes shall not overlap or have a gap exceeding 250mm.

Except where otherwise authorised by the Engineer, compaction shall comprise not less than the required number of complete coverages by the wheels of the roller, specified or ordered, over every portion of the area being compacted. Although it is not the intention that water be applied to the roadbed by the Contractor under this class of compaction and no rigid control of the moisture content will be exercised during compaction, the Contractor shall nevertheless satisfy

Tender
Part C3: Scope of Works

C3.4.3-40

**C3.4
Construction**

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

the Engineer that every possible endeavour is being made to take advantage of favourable soil-moisture conditions and to carry out such compaction in so far as is possible during periods when the roadbed is neither excessively dry not excessively wet. The Engineer shall instruct the Contractor to water the roadbed at the Contractor's expense where, in the opinion of the Engineer, the Contractor has failed to comply with these requirements.

PSDM5.3 Payment

Payments for roller compaction shall be measured as follows:

- (a) Heavy pneumatic-tyred roller..... m².pass
- (b) Vibratory roller m².pass
- (c) Grid roller m².pass
- d) Tamping roller m².pass
- (e) Impact roller m².pass

PSDM7 TEMPORARY STOCKPILING OF MATERIALS (sub-clause 5.2.2.4 and 8.3.11)

Add the following to the Sub-Clauses:

“All relevant rates shall include for temporary stockpiling where this operation is utilised by the Contractor to ease his own construction operations. It will be accepted that the Contractor has provided for the maintenance of all such temporary stockpiles in his tendered rates.

However, when measured in the Bill of Quantities, such temporary stockpiling will only be executed and paid for upon written instruction from the Engineer”.

PSDM6 GRADED ROADS

Add the following new payment clause:

“Graded roads Unit: m²

Where ordered by the Engineer, roads which are not provided with bituminous or gravel surfacing shall be graded. The roads shall be graded to follow the slope of the natural ground so that stormwater is not concentrated.

The grading of roads will be measured per square meter.

Tender
Part C3: Scope of Works

C3.4.3-41

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

If required, additional compaction in terms of clause PSDM 5 may be specified. The compaction will be measured separately”.

PSG CONCRETE (STRUCTURAL)

PSG1 SCOPE (Sub-Clause 1)

This specification covers the requirements for water retaining structural concrete for civil engineering work.

PSG2 INTERPRETATIONS

PSG2.1 Definition (Sub-Clause 2.3)

For purpose of this Clause the following structures will be regarded as water retaining structures:

- Bospoort North Reservoir
- All valve chamber associated with the project.

The Standard Specification shall be applicable to all other concrete structures not mentioned above.

PSG2.2 Explanation of Terms

PSG2.2.1 Exposure Conditions

For the purpose of this Specification, Water retaining structures shall be deemed to be classified under clause 2.4.1.3 (severe conditions) as specified in SABS 1200G unless specified otherwise in the project specification.

PSG3 CEMENT

PSG3.1 Applicable standards (Sub-Clause 3.2.1)

All cementitious material used in concrete shall comply with the following standards, as relevant:

Common cements

SABS ENV 197-1:1992 Cement B composition, specifications and conformity criteria B Part 1: Common cements

Cement extenders

SABS 1491: Part I-1989 Ground granulated blast furnace slag

Tender
Part C3: Scope of Works

C3.4.3-42

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

SABS 1491: Part II-1989 Fly ash
SABS 1491: Part III-1989 Condensed silica fume

PSG3.2 Alternative types of Cement (Sub-Clause 3.2.2)

Only CEM II B-V shall be used in water retaining structures. The target Fly Ash content shall be 25-30%.

Other types of cementitious material may be used only if specifically approved by the Engineer.

PSG4 AGGREGATES (Sub-Clause 3.4)

The following additional requirements shall be applicable to water retaining structures:

PSG4.1 Fine Aggregate

Samples of the proposed fine aggregate shall be submitted to the Engineer for his approval before use.

The Contractor shall submit a sieve grading analysis to the Engineer for approval and if unacceptable, the Contractor shall offer another sample and grading for approval, or may blend aggregate from different sources and submit the blend for approval.

The water demand of the fine aggregate shall not exceed 195 l/m³.

Fine aggregate shall be stored on a concrete surface and washed sand shall be allowed to drain for at least 24 (twenty-four) hours before use. The Engineer may require the Contractor to test the sand daily (or more frequently if necessary) for moisture content, impurities and grading before use.

PSG4.2 Coarse Aggregate

The voids ratio of the coarse aggregate shall not exceed 47% (forty-seven per cent). Single sized aggregates shall be stored on a concrete surface in separate stock piles, according to size. The proportions of the various single sized aggregates required for the various portions of the work shall be submitted by the Contractor for the Engineer's approval.

PSG5 CONSTRUCTION

PSG5.1 Reinforcement

The following additional requirements shall be applicable to water retaining structures:

Tender
Part C3: Scope of Works

C3.4.3-43

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

PSG5.1.1 Fixing (Sub-clause 5.1.2)

The use of plastic spacer blocks will not be allowed. Concrete spacer blocks, of same mix design as the strength concrete, shall be used.

"The Engineer will inspect the reinforcing after it has been fixed in place, the formwork has been cleaned, cover blocks have been positioned, and before concreting commences.

Welding of reinforcing steel will not be permitted."

PSG5.1.2 Cover (Sub-clause 5.1.3)

In water retaining structures the exposure condition of a reinforcing bar closest to the face in direct contact with water or soil backfilling, shall be classified as severe.

It should be noted that in some water retaining structures only one face of the structural elements will be in contact with water.

The nominal concrete cover is generally 50 mm, unless otherwise specified on the Drawings.

The soffit of a slab suspended above the water (e.g. a reservoir roof) will be treated as being in contact with the water for the purpose of determining the cover.

PSG5.2 Concrete

PSG5.2.1 Strength concrete (Sub-Clause 5.5.1.7)

It is a requirement that the Contractor employ the services of an approved specialist to recommend design mixes compatible with the Specification. The preferred specialist shall confirm in writing:

- (a) The proposed concrete mix is suitable for water retaining structures with aggressive (waste) water being retained.
- (b) The proposed concrete mix is of grade 35/19 (minimum).

No concrete shall be placed until the Contractor's concrete mix design has been approved by the Engineer. The Contractor shall submit to the Engineer a statement of the mix proportion proposed, together with a report from an approved testing laboratory, showing the 28-day concrete strength obtained when using the materials proposed for the work.

The strength determinations shall be based on not less than three concrete test specimens.

Tender
Part C3: Scope of Works

C3.4.3-44

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

When the Contractor can furnish reliable test records of concrete of a quality at least equal to that specified, having been made with materials from the same sources and of the same qualities as he proposes to use, the Engineer may waive all or part of the strength tests required in the above paragraph.

The preparation of the 150 mm test cube specimens and the sampling techniques shall be in accordance with the relevant SABS specification.

Concrete for water retaining structures shall be class (min) 35 MPa/19 mm concrete and shall have a cement/water ratio not less than 2.2 and a cement content of 420 kg/m³.

Admixtures may be used to increase the workability of the concrete but only with the express approval of the Engineer and when the details of the active ingredients of the admixture and their effects are supplied to the Engineer for approval before use. No additives likely to impair low permeability of the concrete will be approved. Calcium chloride or admixtures containing chlorides may not be used in concrete for water retaining structures. Other admixtures and constituents may only be used with the approval of, or as specified by the Engineer.

PSG5.2.2 Placing (Sub-Clause 5.5.5)

Panels between construction joints shall be cast alternatively.

PSG5.2.3 Construction Joints (Sub-Clause 5.5.7)

The following additional requirements shall be applicable to water retaining structures:

The Engineer may allow the Contractor to cut an additional straight construction joint if it is possible without prejudicing the water tightness of the structure. The additional construction joint shall be sealed with the same seal that is specified for planned construction joints at the expense of the Contractor.

Construction joints in reinforced concrete walls, embankments, etc. shall consist only of horizontal joints. If under abnormal conditions a vertical construction joint is unavoidable it may only be constructed with the approval of the Engineer.

Construction joints shall only be placed at intervals shown on the drawings or as directed by the Engineer. The exact position of construction joints shall be marked on the formwork in order to obtain truly horizontal joints.

Preparation of Surface

Prior to placing any further concrete the joint must be clean, damp and free of latance. During the period when the concrete is still green, all loose material shall be removed, without disturbing the aggregates, by light brushing. Where this is not possible, or if the concrete has already set,

Tender
Part C3: Scope of Works

C3.4.3-45

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

the surface film shall be removed by mechanical means appropriate to the degree of hardness of concrete so as to expose the aggregate over the entire surface and leave a sound, irregular surface.

Before Placing Concrete

Where the concrete of the previous lift is more than 3 days old, it shall be kept continuously wet before the mortar and fresh concrete is placed.

On all construction joints the following steps shall be taken after the surface has been prepared and at the most, 30 minutes before placing the concrete:

- (i) Remove all surface water with an air hose and dry sprinkle waterproofing additive (Vandex Premix or similar approved) at 9,8 kg per m².
- (ii) Place a layer of approximately 10 mm thickness consisting of cement, sand and water mixed in the same proportions as used in the concrete.
- (iii) Place concrete within 30 minutes.

PSG5.2.4 Curing and Protection (Sub-Clause 5.5.8)

SABS 1200G Clause 5.5.8 will be deleted for the purpose of this Specification and replaced with the following:

“All concrete other than blinding concrete shall be maintained continuously saturated for at least ten days or as directed on the drawings immediately after placement or after stripping formwork in the case of walls, by methods which shall receive the prior written approval of the Engineer if different from the following:

- a) For floors
Ponded water with a minimum depth of 30 mm.
- b) For Columns and Walls
Continuously saturated heavy jute sacking or other approved absorbent material maintained in contact with the concrete surface by fastenings spaced at not more than 2 m centres.
- c) For Floors and Columns
Covering the previously saturated surfaces with approved plastic sheets maintained in contact with the concrete surface and with all edges and joints sealed by methods approved by the Engineer.

Where the ambient temperature is below 4°C the curing period of 10 days or as directed on the drawings, will be extended by 72 hours.

Tender
Part C3: Scope of Works

C3.4.3-46

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Newly cast concrete sections shall not be used for supporting loaded wheel-barrows, monorails, material or scaffolding, etc., until permission is obtained from the Engineer.”

PSG5.2.5 Adverse Weather Conditions (Sub-Clause 5.5.9)

(a) Concreting in cold weather

During cold weather no material having a temperature below 5°C shall be used for making concrete.

No concrete shall be placed when the ground or air temperature is below 2°C or if the ground or air temperature is likely to fall below 2°C within 6 (six) hours of placing the concrete.

The temperature of placed concrete shall not be allowed to fall below 5°C until the concrete has attained a strength of at least 5 MPa, and the Contractor shall be responsible for all the necessary protective measures to ensure this. All concrete that has been damaged by frost or by the formation of ice in the concrete shall be removed and replaced by the Contractor at his own expense.

(b) Concreting in hot weather

During hot weather, the temperature of the concrete, as placed, shall not exceed 30°C. The Contractor shall ensure that the placing of the fresh concrete does not exceed the ambient temperature by more than 5°C. Where necessary this shall be accomplished by shading aggregate stockpiles, shading or insulating water pipes and water storage tanks.

PSG5.2.6 Concrete Surfaces (Subclause 5.5.10)

(a) Wood-Floated Finish

Where wood floating is specified or scheduled, the surface shall first be given a finish as specified in Sub-Clause 5.5.10.1 of SABS 1200 G after the concrete has hardened sufficiently, it shall be floated to a uniform surface free of trowel marks. The screeded surface shall be wood-floated, either by hand or machine, only sufficiently to produce a uniform surface free from screed marks.

(b) Steel-Floated Finish

Where steel is specified or scheduled, the surface shall be treated as specified in PSG6.1 except that, when the moisture film has disappeared and the concrete has hardened sufficiently to prevent laitance from being worked to the surface, the screeded surface shall be steel trowelled under firm pressure to produce a dense, smooth uniform surface free from trowel marks.

Tender
Part C3: Scope of Works

C3.4.3-47

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

(c) *Power-Floated Finish*

Where power floating is specified or scheduled, the surface shall be treated as specified in PSG6.1 except that the screeded surface shall be power-floated to produce a high quality dense, smooth, uniform surface free from trowel marks.

PSG5.2.7 Watertight Concrete (Sub-Clause 5.5.11)

(a) *Construction Joints (Sub-Clause 5.5.7)*

Joints are the concrete at which special measures are taken to achieve subsequent continuity are termed construction joints. Construction joints will be permitted only where shown on the drawings or approved by the Engineer and shall be formed true to line on all formed or exposed surfaces. Horizontal joints shall be formed by casting against a timber or metal former. Recesses shall be formed as detailed on the drawings. Where detailed on the drawings, galvanized metal strips or waterbars shall be cast into the joints. No unplanned construction joints will be allowed. If a breakdown occurs, the contractor shall strip the shuttering as soon as possible and break out all concrete up to the previous planned construction joint.

Except in the case where movement joints are required, the entire joint contact area of the concrete already placed shall be thoroughly roughened by chipping with sharp chipping picks before placing concrete against the surface. This surface will not be accepted unless the coarse aggregate projects 5 mm beyond the surrounding matrix. In this connection approved light pneumatic or electric tools are preferred provided that no structural damage is done to the concrete being chipped: otherwise hand tools are to be used. Chipping shall not be commenced until at least 48 (forty-eight) hours after the concrete was placed.

Alternative methods of preparing the surfaces of construction joints to those given above will be considered. The Contractor shall submit proposed alternative methods of achieving the roughened surface required to the Engineer for approval.

Should the Engineer at any time withhold or withdraw permission for alternative methods to be used then the Contractor shall prepare the surfaces of construction joints in accordance with the above specification.

Immediately before the adjoining concrete is placed, the chipped surface shall be thoroughly cleaned by brushing and washing and then thoroughly wetted.

At the discretion of the Engineer the percentage of coarse aggregate of the mix may be slightly reduced in a layer not exceeding 200 mm in depth immediately above the chipped surface of a horizontal construction joint. Suitable temporary openings shall be left in the shuttering to allow for the removal of sawdust, shavings, nails, debris, etc.

The application of compounds to the surfaces of stop ends at vertical joints to retard the setting of a film of concrete in contact with the stop end will be permitted subject to the Engineer's

Tender
Part C3: Scope of Works

C3.4.3-48

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

approval of the compound to be utilized and the Contractor's methods for the application of the same.

(b) Movement Joints

Movement joints shall be formed where shown on the Drawings.

Movement joints shall be formed true to line and shall be thoroughly cleaned of all accretions of concrete or other foreign matter by scraping or other approved means. The surfaces in contact with joint sealing material shall be prepared strictly in accordance with the manufacturer's Specification.

Care shall be taken to ensure that the waterbars are in perfect contact with well compacted void-free concrete throughout, particularly on horizontal joints where special procedures shall be adopted for placing and compacting concrete under the waterbars, to the approval of the Engineer.

WATERPROOFING OF CONCRETE JOINTS

Three different systems of waterproofing (or construction of systems) exist, and the appropriate system (or combination) will be applied as specified on the drawings: The three systems are:

- a) Waterproofing with hypalon bandage system
- b) Waterproofing with waterbars
- c) Waterproofing with surface sealants

(i) Hypalon system

Hypalon bandage joint sealing system shall be the Sikadur-Combiflex Hypalon bandage system as supplied by Sika (Pty) Ltd.

The joint shall consist of 2 mm thick Combiflex Hypalon sheeting, 200 mm and 250 mm wide, as shown on the drawings. The Hypalon sheeting shall have a tensile strength of 6 N/mm² and an elongation at failure of not less than 400%.

The Hypalon sheeting shall be bonded to the concrete with Sikadur 31 two component, solvent free, moisture intensive, high viscosity, epoxy paste adhesive.

(ii) Waterbars

Except where otherwise specified waterbars shall be manufactured from virgin polyvinyl chloride complying with BS 2571: latest amendment (Class 3 compounds) and the Tenderer shall provide full details of the composition and properties of the material in the relevant annexure where applicable.

Tender
Part C3: Scope of Works

C3.4.3-49

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



Samples of waterbars shall be submitted for approval and all material subsequently supplied shall be identical in size, shape, colour and quality to the approved sample. The waterbar shall be of uniform cross-section and size and shall have lugs welded at 1m centres on both edges of the waterbar to hold it securely in position during concreting operations.

It shall be possible for all sizes of waterbar to be turned through a 75mm radius without damage or permanent set to the waterbar.

Joints in waterbars shall be kept to a minimum by the use of the longest possible lengths.

Waterbars shall be held to the required shape, lines, etc, in suitable formwork: site joints shall be bonded as directed by the manufacturer in such a way as to form a continuous watertight seal free from pin holes at any point of the length or width of the strip.

Formwork shall be designed to accommodate the waterbars without subsequent bending and the waterbars shall be adequately supported and protected from damage and sunlight until finally encased in concrete.

Waterbars shall be tested in accordance with BS 2782 and ISO R527.

(iii) Waterproofing with surface sealants

a) General

A groove of dimensions specified shall be formed, where indicated, and sealed by an approved sealant. The sealant shall be non-toxic and shall be either a hand applied bitumen putty sealant or a polysulphide sealant. The type of sealant to be specified on the drawings and the product to be used shall be approved by the Engineer.

b) Bitumen Putty Sealant

All joints shall be clean, dry and free of laitance. The concrete shall be at least four weeks old. The joint surfaces shall then be primed by an ancillary product and the sealant applied as per the suppliers specification. Special precautionary measures shall be taken to acquire a neat finish by covering the face edges of the joint with masking tape before priming. Any excess material will be cut away and finished flush.

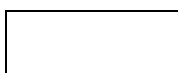
c) Polysulphide Sealant

All joints shall be clean, dry and free of laitance. Prime joint face if required – following the suppliers specification. Apply the sealant and finish off flush with the concrete surface.

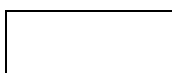
Tender
Part C3: Scope of Works

C3.4.3-50

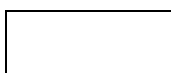
C3.4
Construction



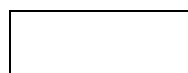
Employer



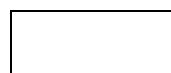
Witness 1



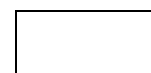
Witness 2



Contractor



Witness 1



Witness 2

PSG6 MISCELLANEOUS

PSG6.1 Porous concrete/No-fines concrete

Porous or no-fines concrete shall be laid under foundations and floor slabs and behind walls, etc, where shown on the drawings and where directed by the Engineer. Porous concrete shall be placed behind shuttering to form a vertical layer against the external face of foundations etc where shown on drawings and where directed by the Engineer. The thickness of the horizontal, sloping and vertical layers shall not be less than that shown on the drawings.

The exposed faces, both horizontal and vertical, of the porous concrete shall be finished with a cement mortar seal where reinforced concrete is to be cast against it. The porous concrete shall be sealed with a 10mm thick layer of mortar composed of one part normal portland cement to two parts of fine aggregate by mass, trowelled on before the porous concrete has hardened, and finished with a screed to provide a smooth, uniform plane surface without filling any of the internal voids of the porous concrete. The surface of the seal shall have a steel or power float surface.

The schedule rates for porous concrete shall include the cost of mortar seal and steel float finish.

Porous concrete shall comprise water, cement, coarse aggregate and not more than 5% (five percent) by mass of fine sand. The voids ratio of porous concrete shall not be less than 27.5% (twenty-seven and one half) percent. Testing of porous concrete shall be carried out in accordance with test method 3 of BS 1881 Part 3 – 1970.

(a) Classes of no-fines concrete

No-fines concrete shall be classified by the prefix NF and the size of aggregate to be used. Class NF 19 means a no-fines concrete with a 19 mm nominal size aggregate.

The volume of aggregate per 50 kg of cement for each class of concrete shall be as follows:

<u>Class</u>	<u>Aggregate per 50 kg cement</u>
NF 38	0,33 m ²
NF 19	0,30 m ²
NF 13	0,27 m ²

(b) Batching and Mixing

Cement shall be measured by mass or in full pockets of 50 kg each and aggregate shall be measured by volume in approved measuring boxes or barrows.

Tender
Part C3: Scope of Works

C3.4.3-51

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



The aggregate shall be moist or wetted before the cement is added. Where drum mixers are used, about 20% of the water shall be poured into the drum before the aggregate and cement are loaded. The mixing time in the drum shall be about 45 to 50 seconds.

The quantity of water added shall be just sufficient to form a smooth grout which will adhere to and completely coat each and every particle of aggregate, and which is just wet enough to ensure that, at points of contact of aggregate, the grout will run together to form a small fillet to bond the aggregate together. The mix shall contain no more than 20 liters of water for every 50 kg of cement.

Mixing shall be done in an approved batch-type mechanical mixer, but small quantities may be hand-mixed.

(c) Placing

No-fines concrete shall be placed in accordance with the procedure approved by the Engineer. It shall be placed in its final position within 15 minutes of having been mixed.

The concrete shall be worked sufficiently to ensure that it will completely fill the space to be concreted and that adjacent aggregate particles are in contact with one another. Excessive tamping or ramming shall be avoided and under no circumstances shall the concrete be vibrated.

(d) Protection

All no-fines concrete shall be protected from the elements and loss of moisture. Protection against loss of moisture shall be accomplished by one or more of the following methods:

- Retaining formwork in place
- Covering exposed surfaces with sacking or other approved material kept continuously wet
- Covering exposed surfaces with plastic sheeting

No-fines concrete placed during cold weather shall be adequately protected against frost for at least 3 days.

(e) Measurement and Payment

Cast-in-situ no-fines concrete (state class) Unit: m³

The provisions of sub-clause 8.1.3 of SABS 1200 G shall apply *mutatis mutandis*.

PSG6.2 Bond breaker

Where indicated on the drawings, site or porous concrete under floor slabs and wall footings etc. shall be covered with a bond breaker consisting of 250 µm tear resistant damp proof membrane

Tender
Part C3: Scope of Works

C3.4.3-52

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

to SABS 952 (1969) C having 150mm laps and pierced at 1m intervals to allow the passage of water.

PSG6.3 Pipe work

All pipe specials shall be cast in by the Contractor. Special care shall be taken to maintain them in the exact position shown on the drawings and also to render the joints watertight.

PSG6.4 Holding Down Bolts

All holding down bolts and nuts, other than those used in structures retaining liquid shall be galvanised in accordance with SABS 763.

All holding down bolts and nuts in structures retaining liquid shall be stainless steel, Grade 316.

All holding down bolts and anchorages, shall be set in accordance with the drawings by means of accurate constructed steel templates and securely fixed in position to prevent displacement during the concreting.

Exposed threads of holdings down bolts shall be adequately protected with grease and sacking and this protection shall be maintained in all portions of the works until they are taken over.

PSG6.5 Ferrule Cap Holes

Holes formed in reinforced concrete walls during the fixing of formwork shall be repaired on the waterside face with an approved epoxy or non-shrink grout. On the dry face the holes left in the concrete shall be repaired with a 1:3 cement-sand mortar. All grouting material shall be thoroughly panned in.

No system leaving holes passing through the walls will be permitted. Ferrules shall be of the permanent sacrificial type.

PSG6.6 Sterilization of Reservoirs

Before a reservoir is sterilised, the roof shall have been tested for water tightness as set out in Clause 9.7 below, and the pipelines serving the reservoir shall have been sterilised. The reservoir shall then be thoroughly cleaned out and washed down with clean water.

The roof, beams, columns and walls shall thereafter be thoroughly sprayed down, using pressurised equipment, and the floors shall be scrubbed with water containing 0,015 g per litre of chloride of lime.

Tender
Part C3: Scope of Works

C3.4.3-53

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

On completion of the sterilisation, the sterilising solution shall be run to waste before the reservoir is filled for testing its water tightness.

Should additional work be required to be done inside the reservoir after the water tightness test has been completed, the reservoir shall be re-sterilised at the Contractor's expense.

PSG6.7 Testing for Water tightness

Each water-retaining structure shall be filled with water at a uniform rate not exceeding 2.0m 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 benchmark, and the structure shall be allowed to remain filled for a period of two weeks to permit complete absorption of water by the concrete.

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.

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 water tightness 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 water tightness has been obtained.

The water tightness of the reservoir roof shall be tested before that of the reservoir itself by water being continuously sprinkled over the roof in an approved manner so that a film of water is maintained on the surface of the slab. The roof shall be considered watertight if no damp patches are visible on the underside after 48 hours of sprinkling.

Before the expiry of the defects notification period, the Engineer shall have the right to retest the structure for water tightness. 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.

Tender
Part C3: Scope of Works

C3.4.3-54

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



The costs of re-testing a water-retaining structure for water tightness shall be borne by the Contractor.

PSG7 TESTS

PSG7.1 Facilities (Sub-Clause 7.1.1)

Add the following:

"The Contractor shall provide sufficient storage capacity for the concrete cubes and shall arrange to have them tested by an approved laboratory.

The cost of all testing, including the cost of sampling, storage and transport of samples shall be included in the rates tendered for concrete work."

PSG8 ACCEPTANCE CRITERIA FOR STRENGTH CONCRETE (Sub-Clause 7.3)

Add the following:

"Test results obtained from the supplier of ready-mixed concrete will not be accepted for evaluation in terms of sub-clause 7.3, but samples for testing shall be taken of such concrete at the point of placing."

PSG9 MEASUREMENT AND PAYMENT

PSG9.1 Measurement and Rates

PSG9.1.1 Formwork (Sub-Clause 8.1.1)

Delete "or splays over 20 mm x 20 mm" from the first line of paragraph 8.1.1.2.

Add the following to paragraph 8.1.1.2:

"Splays up to and including 25 mm x 25 mm will not be measured separately and will be deemed to be included in the formwork costs."

Add the following paragraphs:

"8.1.1.7 For construction joints at kickers, all additional costs for formwork to edges up to 300 mm high will be deemed to be included in the rates tendered for vertical formwork to sides of walls and will not be measured separately in narrow widths.

Tender
Part C3: Scope of Works

C3.4.3-55

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

8.1.1.8 No formwork will be measured to edges of blinding layers under structures, and the cost thereof (if needed) will be deemed to be included in the rates tendered for concrete in blinding layers.

8.1.1.9 Back-shuttering or formwork to top revealed surfaces of sloping or conical formwork will only be measured to surfaces of over 40° and up to 85° to the horizontal.

8.1.1.10 Formwork to horizontal surfaces in pump stations, valve chambers, manholes or sumps can either be removed through the manhole cover opening or the Contractor may use permanent formwork at his own cost as no claims in this regard will be considered."

PSG9.2 Scheduled Concrete Items

PSG9.2.1 Strength concrete (Sub-Clause 8.4.3)

Add the following after the last sentence:

"In the case of structural floor screeds, the unit of measurement shall be the square meter and the average thickness and proportions will be stated."

Replace "Unit: m³" With "Unit: m³, m²"

PSG9.2.2 Unformed surface finishes (Sub-Clause 8.4.4)

(b) Steel-floated finishes

Add the following sub-item:

"(i) Extra over subitem (b) for special finishing tolerances to top of outside ringwalls as specified Unit: m²

The quoted rate shall include full compensation for the additional cost of finishing the ringwalls to closer tolerances as specified on the Drawings and in Clause PSG 6.2.3 (i)."

PSG9.3 Joints (Sub-Clause 8.5)

Replace "Unit: m" with "Unit: m or m²".

ADD THE FOLLOWING ITEMS:

Tender
Part C3: Scope of Works

C3.4.3-56

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

"PSG9.4 PSG8.9 Miscellaneous work other than metalwork Unit: as scheduled

Separate items will be scheduled for each type of miscellaneous work.

The tendered rates shall include full compensation for providing all labour, materials and equipment required to carry out the work, for all preparatory work, for constructing the work scheduled in a workmanlike manner and for finishing off and cleaning up when the work has been completed.

PSG9.5 PSG8.10 Testing for watertightness:

- a) (Structure stated) Unit: sum
- b) Etc for other structures
- c) The unit of measurement shall be the number of each structure successfully passing the specified watertightness tests to the satisfaction of the Engineer.

The sums tendered shall include full compensation for the provision of all labour, plant and materials necessary for carrying out the test for watertightness as specified.

PSG9.6 PSG8.11 Screeds

- a) Floor screeds (1:3) with falls including V-joints to form panels and a smooth steel-trowelled fish/power float finish to top:
 - i. Description of application and thickness Unit: m²
 - ii. Etc for other applications and thickness

The unit of measurement shall be the square meter of screed constructed.

The tendered rate shall include full compensation for constructing the screeds as specified including supplying of all materials, preparing the concrete surface to receive the screeds and for all else that may be necessary to complete the work.

PSG9.7 PSG8.12 Casting in pipes with or without puddle flanges

- a) Up to 300 mm nominal bore:
 - i. Through (description and thickness of structural elements)..... Unit: number
- b) Over 300 mm up to 600 mm nominal bore:
 - i. Through (description and thickness of structural elements)..... Unit: number
- c) Etc for other nominal bores in increments of 300 mm

Tender
Part C3: Scope of Works

C3.4.3-57

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

The unit of measurement shall be the number of each size of pipe installed.

The tendered rates shall include full compensation for installing the pipe where new pipes are used (with or without a puddle flange) in the exact position as shown on the Drawings, for splitting or cutting the formwork where required, for ensuring watertightness where required and for all additional costs required to install the pipes specified or shown on the Drawings.

New pipes shall be measured under the items of the relevant section of the specifications.

PSG9.8 PSG8.13 Corrosion protection by

- (a) Vinyl anti-fouling paint and undercoats to form an algae- resistant coating on:
- i. (Description of structural element stated)..... Unit: m²
 - ii. Etc for other structural elements
- (b) Solvent-free abrasion-resistant coating and primer to a minimum thickness of 3 mm on:
- i. (Description of structural element stated)..... Unit: m²
 - ii. Etc for other structural elements

The unit of measurement shall be the square meter of surface protected against corrosion.

The tendered rates shall include full compensation for surface preparation for supplying and applying the materials as specified, for all labour, equipment and appurtenant materials necessary to carry out the work and for all waste and cleaning up after the work has been completed."

PSG9.9 PSG 8.13 Emergency site reinforcement and equipment Unit: ton

The Contractor must bring onto site the following site reinforcement that is to be used for emergency situations at the sole discretion of the Engineer:

- 10 straight lengths of 10 m of Y10 reinforcement, plus
- 10 straight lengths of 10 m of Y12 reinforcement, plus
- 10 straight lengths of 10 m of Y16 reinforcement, plus
- 10 straight lengths of 10 m of Y20 reinforcement

In addition to the above, the Contractor must keep on site manual tools for cutting and bending the above reinforcement in emergency situations as per Engineers' instructions.

Tender
Part C3: Scope of Works

C3.4.3-58

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



All the above reinforcement and equipment must be kept dry, clean and available for use at very short notice. Any of the above reinforcement that is used, must be replaced as soon as practically possible.

Payment will be as follows:

1. 80% of the tendered amount will be paid when the above material and equipment is brought to site and stored in a manner that is acceptable to the Engineer.
2. Reinforcement used will be paid for under the “normal” reinforcement items.
3. The remaining 20% of the tendered amount will be paid when all material and equipment is removed from site, after being instructed to do so by the Engineer.

Tender
Part C3: Scope of Works

C3.4.3-59

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

PSL MEDIUM-PRESSURE PIPELINES

PSL1 MATERIALS (Clause 3)

PSL 1.1 Steel pipes

Steel pipes shall comply with the following Particular Specifications:

PLN: Manufacture, supply and testing of steel pipes.

PLQ: Corrosion protection of steel pipes and fittings.

PLS: Cement mortar lining of steel pipelines

PSL 1.2 Glass Reinforced Plastic Pipe (GRP)

GRP pipes shall have a stiffness of at least SN 5000.

Manufacturing of the GRP shall be strictly in accordance with SABS 1748-1.

Quality control by a suitable 3rd party quality inspectorate approved by the Engineer shall be implemented during manufacturing, handling, transport and installation of the GRP pipework and the cost for this external inspectorate shall in be included in the rates tendered.

PSL 1.3 uPVC pipe and HDPE pipes

uPVC and HDPE pipes shall comply with the following Particular Specification:

PLTP: Manufacture, supply and testing of plastic pipes

PSL2 HANDLING AND RIGGING (Clause 4.1)

Pipes, fittings, specials and valves shall be protected during transportation and handling against damage.

Pipes, fittings, specials and valves shall not be laid or stacked directly onto the ground but shall be supported on suitable padded cradles or other approved material near each end of the pipe, fitting, special or valve. Particular care shall be taken with pipes with fitted couplings to prevent pressure on the couplings. Cradles, spiders, jacks etc. shall be used to maintain the shape of pipes during transport, laying, welding and jointing.

The Contractor shall thoroughly inspect all pipes, fittings, specials and valves delivered to site.

Tender
Part C3: Scope of Works

C3.4.3-60

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



All pipes with MDPE, 3LPE or Bituguard coatings shall be painted with a white PVA overcoat (to be approved by the Engineer) for protection against ultraviolet damage. The overcoat to be maintained by applying additional layers until the pipe is backfilled.

All pipes shall be stored (at the factory or on site) on sandbags at third of the pipe length from each pipe end. The width of the sandbags shall be at least 500 mm for pipes with Bituguard coating.

PSL2 WELDING (Clauses 5.2.3 and 7.2)

The welding specifications are applicable to all pipe diameters (not only 600 mm or greater).

100% of all site welds shall be examined radiographically in accordance with API 1104 and the Contractor shall price for it accordingly.

Only under special circumstances where allowed by the Engineer, 100% of the site welds of each welder shall be examined radiographically in accordance with API 1104 initially. When a 100% success rate of at least ten consecutive welds is achieved by a welder, the frequency of testing may be reduced to 50%. When a 100% success rate of at least five consecutive tests is achieved by a welder, the frequency of testing may be reduced to 10%. When a weld defect occurs again, the previous five welds of the relevant welder must also be radiographically examined, and the frequency of further tests shall immediately increase to 100%. Any defect in the previous five welds will activate the testing of five further previous welds until a 100% success rate of the five welds is achieved. The testing rate may always be reduced to 50% and 10% as described above.

The following site welds shall in all cases be 100% radiographically examined:

- All welds not subject to hydraulic testing.
- All welds under road and railway lines, under river/stream crossings, under any structures, in sleeve pipes, in culverts and where the pipe will be encased in concrete.
- All mitres.

PSL3 DISINFECTION OF POTABLE WATER PIPELINES (Clause 5.10)

The disinfection shall be done in accordance with SANS 1200L with the exemption that the concentration of calcium hypochlorite can be reduced to 60mg/l.

PSL4 CONSTRUCTION (Clause 5)

Add the following clauses:

Tender
Part C3: Scope of Works

C3.4.3-61

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

PSL4.1 Connection to pipelines in operation

The Contractor shall give the Employer 14 days' notice in writing for connections to pipelines in operation. The Contractor shall ensure that all required material is available, and all preparation work is completed at least 12 hours before the "shutdown" of existing works for the connections. The Contractor shall complete and commission the connections within 12 hours after commencement of the "shutdown".

The Employer will empty the reservoir and existing pipelines as far as possible through existing scour valves. It is the responsibility of the Contractor to control and pump out water which cannot be drained at existing scour valves or water in the pipe as a result of leaking valves. No claims will be considered for standing time due to the scouring of pipes or any other work which is done by the Employer.

PSL4.2 Additional external protection for pipes cast into chamber walls

After the concrete has cured for 7 days, wire brush or scabble the exterior and interior surfaces of the wall to remove laitance. Dry brush to remove all loose powder.

Mix ABE Super Laykold (or similar material approved by the Engineer) and water (1:1 ratio) and apply as a primer to the concrete and the pipe surfaces. After 1 hour apply a thick coat of ABE Super Laykold to the concrete and the pipe and immediately embed 250 mm wide ABE non-woven polyester membrane "SBP" into the Super Laykold. After 3 hours apply another coat of Super Laykold.

This additional protection is required on the inside and outside of chamber walls.

There must be no contact between the steel pipe and the chamber reinforcement.

PSL4.3 Deflection/ovality of pipes

The Contractor shall ensure that his handling and construction methods do not result in horizontal or vertical pipe deflection more than 2% for steel pipes with cement mortar lining and 3% for steel pipes with epoxy lining and plastic pipes.

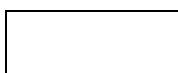
The deflection is calculated as follows.

- Measure the actual vertical diameter of the pipe [D_v]
- Calculate the difference [Δd] between D_v and the inside diameter of a perfectly round pipe
- The deflection $\Delta = \frac{\Delta d}{ND} \times 100 \%$, where ND is the nominal diameter of the pipe

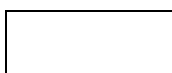
Tender
Part C3: Scope of Works

C3.4.3-62

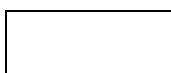
C3.4
Construction



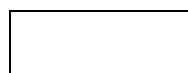
Employer



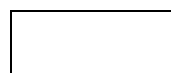
Witness 1



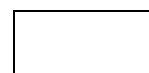
Witness 2



Contractor



Witness 1



Witness 2

After completion of the main backfilling (including joint / “fox” holes) the Contractor shall determine the internal deflection of the pipe every 20m for pipes with a nominal diameter of 600 mm and larger. Should these 20m measurements indicate a position where the allowable deflection is exceeded, additional measurements shall be taken to determine the extent of the problem.

These measurements shall be done within 2 working days of the completion of the main backfill unless otherwise approved by the Engineer in writing.

The Contractor shall submit a method statement for the review of the Engineer to rectify deflection problems.

PSL4.4 Pipe coating performance requirements and integrity surveys

PSL4.4.1 Introduction

This section of the Specification provides the performance requirements for the external coatings after installation and field joint repairs.

Excessive apparent coating conductance may be caused by defective field joint coatings, mechanical damage, or spurious contacts to foreign objects or valve chamber reinforcement.

Location of such defective areas may be assisted by the DCVG surveys during construction.

The overall performance of the coated pipeline is defined in terms of specific coating conductance, in accordance with NACE TM 0102. Values normalised for soil resistivity are not utilised.

It should be noted that the requirements of both the construction DCVG survey and the coating conductance measurement must be fulfilled.

Also surveys shall be done by specialist Subcontractors to be nominated by the Engineer or proposed by the Contractor for the Engineer’s approval, as specified in the Bill of Quantities.

PSL4.4.2 Standards

The following normative standards are referenced in this section:

NACE TM 0102	Measurement of Protective Coating Electrical Conductance on Underground Pipelines
NACE TM 0109	Aboveground Survey Techniques for the Evaluation of Underground Pipeline Coating Condition

Tender
Part C3: Scope of Works

C3.4.3-63

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

NACE SP 0207	Performing Close-Interval Potential Surveys and DC Surface Potential Gradient Surveys on Buried or Submerged Metallic Pipelines
NACE SP 0502 – 2002	Pipeline External Corrosion Direct Assessment Methodology

PSL4.4.3 Construction DCVG Survey

The coating system is required to be free of significant (as defined by %IR below) defects at the time of installation. This will be ensured by the use of over-the-ditch holiday detection and a DCVG survey after backfilling and consolidation.

A minimum of three months shall elapse between backfilling and evaluation, unless the backfill is hydraulically compacted or significant rainfall has occurred which ensures that the pipeline is fully bedded and in intimate contact with the soil. The timing of this inspection will be determined by the Engineer and is dependent on the backfill becoming conductive. This may take considerably longer than three months, at least until the soil becomes conductive (due to infiltration of groundwater or seasonal rains).

The coating integrity survey shall be undertaken by means of DCVG survey technique in accordance with NACE TM 0109 Section 6. All DCVG indications shall be geo-referenced by means of DGPS.

On completion of the survey, sufficient calibration digs shall be conducted to characterise %IR values in the range of 1 – 5% for determination of the repair level required.

Evaluation of the construction DCVG results shall be undertaken in accordance with the following categories for %IR:

- <1% IR No repairs required.
- 1 – 5% IR Repairs may be required based on results of calibration digs.
- >5% IR Repairs required.

The %IR values quoted above are only applicable to new construction. Pipeline coatings which have been buried for longer than 2 years shall be evaluated in terms of NACE SP0502 – 2002 Appendix A6.4

All excavations and repairs shall be undertaken at the cost of the Contractor.

PSL4.4.4 Coating Performance Requirements

The CP design is based on the use of coated pipe. The coating is required to be resistant to the effects of high voltage transients due to the proximity of high voltage overhead power lines and

Tender
Part C3: Scope of Works

C3.4.3-64

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

existing and future AC traction systems (e.g. of the railways). The performance of the coating is evaluated by means of a current drainage test (CDT)

The specific coating electrical characteristics form an integral part of the CP and ACM design in determining, inter alia, spacing between anode installations.

After installation and backfilling of the pipeline, the pipeline coating shall be evaluated in sections not exceeding 5 km in terms of NACE TM 0102.

A minimum of three months shall elapse between backfilling and evaluation, unless the backfill is hydraulically compacted or significant rainfall has occurred which ensures that the pipeline is fully bedded and in intimate contact with the soil.

The specific coating conductance of the 5 km construction sections shall be less than 60 $\mu\text{S}/\text{m}^2$.

In the event that the pipeline does not meet the coating conductance criterion, alternative survey techniques shall be utilised to determine the cause of the non-compliance. These techniques may include any of the surveys described in NACE TM 0109 or SP 0207 as appropriate and subject to the approval of the Engineer.

All surveys shall be conducted by Contractor.

PSL4.4.5 Tests on Completion and end of Defects Notification Period

On completion of construction and prior to the issue of the Taking Over Certificate (TOC), the pipeline shall be subjected to a CDT and a coating integrity survey.

The coating conductance shall be calculated on the current requirement for the completed pipeline.

The specific coating conductance for the completed pipeline shall be < 60 $\mu\text{S}/\text{m}^2$.

The pipeline coating integrity shall be evaluated over the entire pipeline length by means of a hybrid CIPS/DCVG survey, which shall be completed in accordance with NACE SP 0207 utilising a 10m longitudinal DCVG component. The results of the survey shall be correlated with those of the construction DCVG surveys.

The significance of coating defects or other anomalies identified from the DCVG survey results will be evaluated by assessing the relative loss of polarisation at the coating defect utilising CIPS results. Where DCVG defects result in a local loss in polarisation to a level below the relevant cathodic protection criterion, the Contractor will be required to rectify the defect.

Tender
Part C3: Scope of Works

C3.4.3-65

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

The hybrid CIPS/DCVG survey shall be repeated at the end of the Defects Notification Period (DNP) prior to the issue of the Performance Certificate.

The CDT and CIPS/DCVG tests related to TOC and DNP shall be undertaken by a Specialist Service Provider/Sub-Contractor approved by the Engineer.

Any non-compliance with the requirements of the CDT or the hybrid CIPS/DCVG survey shall be investigated and rectified by the Contractor. The Contractor shall prepare method statements for the investigation and rectification and submit it to the Engineer for approval.

PSL4.5 Curing of cement mortar lining of pipes on site

The Contractor responsible for the construction of the pipeline shall be responsible for the following curing process of cement mortar lined pipes for a period of 28 days after it has been off-loaded on site:

- The pipes must be stored horizontally.
- Seal pipe ends with plastic cover.
- Add 5 litre water per day into each pipe and keep pipe ends closed.

PSL4.6 UV protection of joint coating

Joint coatings shall be protected by the Contractor against ultraviolet (UV) damage with filter cloth (Kaymat or similar) if exposed for more than 7 days.

PSL4.7 Pipeline markers

Pipeline markers shall be installed exactly above the pipe centre line at the following positions:

- Horizontal bends.
- Servitude boundaries of provincial roads and railway lines.
- Both ends of concrete encased sections.
- Property boundaries.
- Between horizontal bends and valve chambers where distances in between exceed 300 m.

PSL5 STANDARD HYDRAULIC PIPE TEST (Clause 7.3)

Unless otherwise specified on the Drawings, the test pressure for field testing shall:

Tender
Part C3: Scope of Works

C3.4.3-66

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



- Not be less than 1.25 times the maximum operating pressure at design flow or static flow conditions whichever is the highest (excluding transient/surge pressure).
- Not be less than 1.10 times the design pressure including transient/surge pressure with surge protection measures as designed operating effectively.
- Not exceed 1.5 times the maximum allowable operating pressure of the pipeline.
- Not exceed the allowable test pressure for the specific pipe class.
- Not exceed 1.5 times the allowable working pressure of the specific valve and fitting class.
- Not exceed 800 microstrain (circumferential) for metallic pipes with cement mortar lining.

Immediately after the completion of the hydraulic pipe testing, the valves shall be tested as follows:

- Air valves

Isolate the air valve and remove the drain plug on the air valve to check that the float is dropping. Check that the isolating valve is sealing. Put the drain plug back and open the isolating valve to check that the float is closing and the air valve is sealing.

- Scour valves

Check the opening, closing and sealing of the scour valves and the functioning of the scour outlet structure and erosion protection measures.

- a) First air valve from Bospoort WTP:
 - Install new pipework and valves.
 - Assess the off take to the houses.
- b) Second air valve from Bospoort WTP:
 - Install new pipework and valves.
- c) Old cross-connection between Bospoort pipeline and Magalies Water Vaalkop pipeline:
 - Open the off-take Tee on the 450 mm dia Bospoort pipeline and blank it off as close as possible to the pipeline.

PSL6 REFURBISHMENT OF EXISTING BOSPOORT PUMPING LINE

Refer to the following report in section C4.1:

Bospoort Pipeline, Condition Assessment and Current Drainage Testing, May 2019, No. 6705/161259[1].

Tender
Part C3: Scope of Works

C3.4.3-67

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



The refurbishment of the 1260 m section of 450 ND steel pipeline from the WTW to the point where it crosses Magalies Water's Vaalkop pumping line (Point A on dwg 1890.11.00.AAA.01.A012) shall include the following work by the Contractor.

PSL6.1 Corrosion protection

- Possible damage to the internal lining to be investigated at the significant dent in the pipeline next to the pump station chamber.
- The pipeline to be pressure tested prior to being put into service.
- The installation of a cathodic protection system.
- An Insulating Flange (IF) kit needs to be installed at the pump station to electrically isolate it from the pipeline.
- The electrical continuity of the pipeline over its full length must be ensured.

PSL6.2 Pipework

- a) General
 - Replace all corroded bolts, nuts and washers.
- b) Site water off-take downstream of Bospoort WTP High Lift Pumping Station
 - Install new flange adaptors at the pressure reducing valves.
 - Refurbish pressure reducing valves.
 - New standby pressure reducing valve and new flow meter.
 - Replace corroded 45° bend with a new one.
- c) Water meter installation downstream of Bospoort WTP High Lift Pumping Station

Refer to the "as-built" drawing in the Report.

- Assess the feasibility and accuracy of the existing flow meters and implement correction measures where required.
 - Install new pipework, with insulating flanges where specified by corrosion engineer.
 - Investigate the outflow and disposal of the scoured water and implement correction measures.
- d) Non-return valve installation at Bospoort WTP
 - Install new 300 ND Class 25 non-return valve.
 - Inspect pipework lining and coating and refurbish or replace if necessary.
 - Install new flange adaptors.
 - Install new 80 ND Class 25 air valve.
 - e) First air valve from Bospoort WTP

Tender
Part C3: Scope of Works

C3.4.3-68

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



- Install new pipework and valves.
 - Assess the off-take to the houses.
- f) Second air valve from Bospoort WTP
- Install new pipework and valves.
- g) Old cross-connection between Bospoort pipeline and Magalies Water Vaalkop pipeline
- Open the off-take Tee on the 450 ND Bospoort pipeline and blank it off as close as possible to the pipeline.

Tender
Part C3: Scope of Works

C3.4.3-69

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

PSLB BEDDING (PIPES)

PSLB1 SELECTED GRANULAR MATERIAL (Clause 3.1)

Replace the clause with the following:

Refer to drawing LB-2. For flexible pipes, the bedding cradle shall be from the trench bottom up to 300 mm above the top of the pipe.

Requirements for the bedding cradle (from trench bottom up to 300 mm above the pipe) for flexible pipes are:

- 100% of material shall pass a 9.5 mm sieve opening except for steel pipes, joints, specials and fittings with Polymer Modified Bitumen (Bituguard) or tape wrapping coating where 100% of material shall pass a 3 mm sieve opening.
- Compatibility factor (as determined in test given in section LB of Part 3 of SABS 0120) shall not exceed 0.4.
- To be free from vegetation and other organic material to a standard acceptable to the Engineer.
- Material types SW, SP, GW and GP under the USC Classification with 12% or less passing the No. 200 sieve (0.075 mm).
- Material types GM, GC, SM and SC under the USC Classification with more than 12% passing the No. 200 sieve (0.075 mm).

The use of A-3 and A-2-4 material (based on AASHTO classification) shall be subject to the Engineer's approval, and it shall be compacted at Optimum Moisture Content (OMC) plus 2% or minus 1%. This material shall not be placed and worked in wet conditions nor be allowed to become saturated before it has been placed in position and compacted. If the material has dried out before it is covered, the top surface will break down during activities on the surface and the material shall then be reworked to achieve the specified density.

PSLB2 SELECTED FILL MATERIAL (Clause 3.2)

Replace the clause with the following:

Requirements for the selected fill blanket for flexible pipes (where applicable) are:

- Plasticity Index (PI) less than 20,
- Material does not contain vegetation or stones exceeding 50mm in diameter.

Tender
Part C3: Scope of Works

C3.4.3-70

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

In accordance with PSLB1 above, the selected fill blanket forms part of the bedding cradle and is not applicable for flexible pipes on this contract.

PSLB3 MAIN FILL

Main fill shall be well graded material with particles less than 200 mm in diameter with no organic material. All material above the selected fill blanket (drawing SABS LB-2), or bedding cradle where the selected fill blanket is not applicable, will be regarded as main fill and shall be compacted to at least 87% modified AASHTO maximum density.

PSLB4 SELECTION OF SUITABLE MATERIAL

The Contractor shall use the following sources for material for bedding and selected backfilling if it complies with the Specifications:

- a) Separation of excavated material
The Contractor shall separate the suitable material from the unsuitable material during excavation.
- b) Sieving / screening of excavated material.
Where provision is made for this item in the Bill of Quantities, the Contractor shall allow in the rate for sieving/screening of the excavated material for bedding and selected backfilling. The Contractor shall only use source b) if the material from source a) is not sufficient.
- c) Commercial sources
The Contractor shall only use source c) if the material from sources a) and b) is not sufficient.

PSLB5 DETAILS OF BEDDING (Clause 5.1.2)

Rigid Pipes:

All clay and concrete pipes will be regarded as rigid and shall be laid on a class C bedding as shown on Drawing LB-1 of SANS 1200LB.

Flexible Pipes:

Steel, uPVC, mPVC, PVC-O, GRP, Ductile iron and polyethylene pipes (PE) will be regarded as flexible and shall be bedded as per Drawing LB-2 of SANS 1200 LB, as amended in the drawings.

PSLB6 CLASS A BEDDING (Sub-Clause 5.2.1)

Concrete to be used in class A bedding to pipes shall be of class 20/19.

Tender
Part C3: Scope of Works

C3.4.3-71

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

PSLB7 CONCRETE CASING TO PIPES (Sub-Clause 5.4)

Concrete to be used in the casing of pipes shall be of class 20/19.

PSLB8 TOLERANCE ON COMPACTION OF BEDDING MATERIAL (Clause 6.1)

Degree of accuracy II shall prevail.

PSLB9 VOLUME OF BEDDING MATERIAL (Sub-Clause 8.1.3)

The volume computed for bedding material is net, excluding the volume of the pipe and based on trench width specified in SANS 1200 LB.

PSLB10 STONE BEDDING (Sub-Clause 8.2.6)

Add the following new sub-clause:

Stone bedding will be measured per cubic metre under the appropriate item in SABS 1200LB. Type A bedding (crushed stone wrapped in a geotextile blanket) shall be measured per linear metre along the centreline of the trench. The provision, operation and removal of a de-watering pump where authorised by the Engineer will be measured as dayworks under the appropriate item in Schedule 2.

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



PSPLT FLOW METERS (Particular Specification PT)

Each flow meter supplied under this contract shall be equipped with separate mountable signal converter unit complete with sufficient length of signal cable. The signal converter shall be locally programmable and shall be supplied complete with programmer unit. The signal converter shall furthermore have an LCD display for instantaneous flow and totalize flow and shall have a 4-20 mA and pulsed output for remote indications. The signal converter unit will be mounted in an outdoor type cubicle.

END OF SECTION

Tender
Part C3: Scope of Works

C3.4.3-73

C3.4
Construction

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

C3.5.1 CONTRACTOR'S PROJECT MANAGEMENT PLAN

The Contractor is required to prepare and submit a project management plan for the construction. The particular contents that should be included in the Contractor's Project Management Plan are listed below:

- **Project structures and agreements**

The Contractor shall indicate how responsibility for the various work packages will be divided between joint venture partners (where applicable) and sub-contractors. A contract organogram shall be provided showing work apportionment and project management responsibilities. The particular division of work shall match the established capabilities and capacities of each particular partner or subcontractor.

- **Plant, materials and equipment**

The Contractor shall prepare a Plant and Materials procurement plan, indicating the source of key Plant and Materials designated for inclusion in the Works, and demonstrating that such Plant and Materials have a proven track record of successful maintenance support in South Africa.

The Contractor shall also prepare a plan of Contractor's Equipment, indicating the source and details of construction equipment planned for use on the Contract and based on the Contractor's particular approach.

- **Staffing plan**

The Contractor shall prepare a detailed staffing plan showing in an organogram all key members of the Contractor's Personnel, providing a detailed CV for each such key position. The Contractor shall also show the numbers and source of all non-key staff and indicating the particular local content offering of the Contractor.

- **Method statements**

The Contractor shall clearly describe the overall methodology proposed for construction of the Works and include particular method statements for each work discipline included in the Works.

C3.5.2 CONSTRUCTION PROGRAMME

C3.5.2.1 General

The Contractor shall submit within the period stated in the Contract Data a suitable and realistic construction programme for the consideration of the Engineer.

The programme shall be of a Gantt chart and shall include the following details:

Tender
Part C3: Scope of Works

C3.5-1

C3.5
Management

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

- A work breakdown structure, identifying the major activity groups.
- For each activity group further details shall be provided with regard to the scheduled start and end dates of individual activities.
- The linkages between activities shall be clearly indicated and the logical network upon which the programme is based, shall be separately submitted to the Engineer if requested. Any constraints shall be classified as being time-related or resource-related.
- The critical path(s) shall be clearly indicated and floats on non-critical activities shall be shown (also to be used for the valuation of Contractor's claims)
- The Contractor shall indicate the working hours per day, night, week and month allowed for in the programme.
- Where relevant the Contractor shall state the production rates for key activities, e.g. earthworks, etc.

The Programme shall comply with the Time for achieving Practical Completion as specified in the Contract Data (Section C1.2).

Together with the programme as detailed above the contractor shall submit to the Engineer a cash flow projection, indicating projected monthly invoice amounts. The cash flow projection shall be updated at monthly intervals to reflect actual payments to date and anticipated further payments.

The programme will be reviewed at the monthly site meetings at which the Contractor shall provide sufficient detail that will allow the comparison of completed work per activity that has fallen behind. The updated programme shall be submitted to the Engineer at least two days prior to the monthly meetings.

If the programme has to be revised by reason of the Contractor falling behind his programme, he shall produce a revised programme showing how he intends to regain lost time in order to ensure completion of the Works within the time for completion or any granted extension of time. Any proposal to increase the tempo of work must be accompanied by positive steps to increase production by providing more labour and plant on site, or by using the available labour and plant on site, or by using the available labour and plant in a more efficient manner.

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

The approval by the Engineer of any programme shall have no contractual significance other than that the Engineer will be satisfied that the work is carried out according to such programme and that the Contractor undertakes to carry out the work in accordance with the programme. It shall not limit the right of the Engineer to instruct the Contractor to vary the programme if required by circumstances.

The initial Programme shall be approved by the Engineer in writing and shall constitute the baseline programmes. The critical path shall be clearly indicated on the programmes and shall be used to assess any claims by the Contractor for extension of time due to any reason whatsoever. No extension of time will be

Tender
Part C3: Scope of Works

C3.5-2

C3.5
Management

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

granted in the absence of an approved baseline programme, which may be updated from time to time as ordered by the Engineer. Any revisions of the baseline program that influences the critical path shall be brought to the Engineer's attention in writing, also stating the reason for such changes.

C3.5.2.2 Activity limitations

The pipeline construction activities at each pipe laying work front will be subject to the following limitations:

- a) Clearing of site shall not be more than 2 km in advance of trench excavation.
- b) Trench excavation shall not be more than 500 m in advance of pipe bedding but not more than 100 m in built-up area.
- c) Bedding shall not be more than 200 m in advance of pipe laying but not more than 100m in built-up area.
- d) Last laid pipe shall not be more than 300 m in advance of selected filling but not more than 100 m in built-up area.
- e) Last laid pipe shall not be more than 100 m in advance of coating repairs and not more than 200 m in advance of lining repairs.
- f) Selected filling shall not be more than 200 m in advance of main fill but not more than 100 m in built-up area.
- g) Installation of pipe fittings and valves shall proceed with the laying of pipes.
- h) Valve chambers shall be completed within 500 m of last laid pipe and valves.
- i) Permanent fencing shall be completed within 2 weeks of placing of topsoil.
- j) Road surfaces shall be reinstated within 24 hours of pipe installation.

C3.5.2.3 Shutdown work

Connections to existing pipework shall be done during plant shut-down periods.

Scheduled shutdowns must be arranged with the Employer and other relevant parties, at least 14 days prior to the specific date. For the purpose of tendering it must be assumed that shutdown time will be from Saturday morning 06:00 hours to Sunday evening 18:00 hours. All fittings should be on site and preparation work must be completed prior to the commencement of the shutdown. It is the Contractor's responsibility to ensure that sufficient resources are available in order to complete all connections and shutdown work within the allocated time. After the allocated time, normal operation of services must continue.

The following work will be done during the scheduled shutdown periods:

- Connection of the new 800 mm diameter gravity main to the existing 700 mm diameter RLM pipeline including valves and a flow meter and the installation of a new isolating valve in an existing chamber (Detail B on Drawing 1890.11.00.AAA.01.A012); and
- Installation of the new valves and a flow meter on the existing RLM pipeline downstream of the RW-RLM flow meter at Detail B.

Tender
Part C3: Scope of Works

C3.5-3

C3.5
Management

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

C3.5.3 QUALITY MANAGEMENT

C3.5.3.1 General

The Contractor will be solely responsible for the production of work that complies with the Specifications to the satisfaction of the Engineer. The Contractor will provide experienced personnel as well as all the necessary transport, instruments and equipment, to ensure adequate supervision and positive control of the works at all times in order to comply with the requirements. The Contractor shall deliver to the Engineer, for his consideration, quality assurance programmes prior to the Contractor's appointment of any suppliers or commencement of the Works.

It will be the full responsibility of the Contractor to institute an appropriate Quality Assurance (QA) system on site. The Engineer will audit the Contractor's QA system on a regular basis to verify that adequate independent checks and tests are being carried out and to ensure that the Contractor's own control is sufficient to identify any possible quality problems which could cause a delay or failure.

Where applicable the Employer will appoint an independent inspectorate (Employer's Inspectorate) to assist the Engineer with quality control. This item could also form part of the provisional sums in the Bill of Quantities.

The Quality Plan shall specify quality control hold points (subject to the approval of the Engineer) that will be applicable to specific activities. Work shall not proceed beyond the hold points unless the Engineer or Employer's Inspectorate has signed off the quality control at the specific hold point.

The onus to produce work that conforms in quality and accuracy to the requirements of the specifications and the drawings rests with the Contractor, and the Contractor shall, at its own expense, institute a QA system and provide experienced engineers, foremen, surveyors, materials technicians, other technicians and technical staff, together with all transport, instruments and equipment to ensure adequate supervision and positive control of the quality of the Works at all stages of the Contract. The cost of the Contractor's supervision and process control, including all testing carried out by the Contractor, shall be deemed to be included in the amounts tendered.

Before commencement of manufacturing of plant and materials and construction, the Contractor shall submit a comprehensive proposal for a quality assurance plan to the Engineer for consideration. Only the Engineer may sign off quality assurance plans.

The Contractor shall keep systematic records of the test results and all worksheets relating thereto. All test results obtained by the Contractor in the course of his process control of the Works shall be submitted to the Engineer or his Representative prior to requesting inspection of the relevant portions of the Works. Any request for inspection shall be submitted on the prescribed forms.

The Contractor and all sub-contractors shall work to defined quality assurance programmes compliant with ISO 9001 or similar approved standard. ISO 14001 will be applicable to environmental management.

Tender
Part C3: Scope of Works

C3.5-4

C3.5
Management

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

In respect of sub-contractors, the Contractor shall undertake, where no such acceptable information is available or where the sub-contractor has not been subject to an acceptable external quality audit in accordance with the Contractor's QA procedures, to carry out a quality audit of that sub-contractor to ensure that completion of the work shall be compliant with the Contract requirements.

Nominated sub-contractor(s) shall also be subject to quality audit by the Contractor in which the Engineer may participate.

The Contractor shall establish and maintain a document inspection system capable of producing objective evidence that major components comply with the quality requirements of the Contract.

The Contractor shall include in its orders to sub-contractors a note advising that materials and equipment will be subject to inspection as determined by the Quality Plan.

The Contractor shall advise the Engineer of the readiness for inspection at least ten (10) working days prior to a nominated witness or hold point. Work shall not proceed beyond a hold point without the written agreement of the Engineer or after five working days, if no such agreement or rejection is given.

The Contractor shall keep the Engineer informed in advance of the time of starting and of the progress of the work in its various stages so that arrangements can be made for inspections and tests.

The inspections and tests by the Engineer or Employer's Inspectorate of any components, or lack thereof, do not relieve the Contractor of any responsibility regarding defects or other failures.

The Contractor shall be responsible under the Contract for the quality and testing of materials, workmanship and production processes in fulfilment of the Contract. To this end the Contractor shall institute and operate a quality management system which details the following in order to satisfy the Specifications relevant to each operation pursuant to the Works in accordance with the Contract:

- Quality control procedures;
- Personnel responsibilities;
- Procurement procedures;
- Testing procedures, both on and off-site;
- Equipment and calibration;
- Frequency of testing, calibration, etc.;
- Hold points in production for inspection;
- Rejection and rectification procedures;
- Documentation and communication;
- Drawing issue procedures; and
- Drawing register

Tender
Part C3: Scope of Works

C3.5-5

C3.5
Management

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

As much of the testing as is practicable shall be carried out on Site, including trial, acceptance and routine testing to be implemented by the Contractor and any other tests as instructed by the Engineer for any complementary investigations required from time to time during the course of the Contract.

The Contractor shall submit a general outline of the above Quality Management system with comprehensive examples of documentation to be used with its tender.

Within 28 days after the Commencement Date and based on the general outline and any amendments thereto requested, the Contractor shall submit comprehensive details of the system as required above, making use wherever possible of diagrams, charts, organograms, etc., in preference to lengthy description, all for the approval of the Engineer. Such details shall be updated from time to time as appropriate or as directed by the Engineer.

The Contractor shall commence the operation of the Quality Management system without delay and in accordance with the Engineer's approval of the general outline and documentation examples as accepted and shall thereafter modify the system from time to time in accordance with further details as approved by the Engineer.

Unless otherwise stated in the Specifications, all testing shall be carried out and interpreted in strict accordance with the methods specified in the relevant South African and British Standards.

Unless otherwise stated in the Specifications, the testing laboratories of the South African Bureau of Standards, the Council of Scientific and Industrial Research (South Africa), and the Portland Cement Institute (South Africa) will be accepted as approved independent laboratories in which tests or design work required in terms of a Specifications may be carried out. Other testing laboratories may be used by the Contractor subject to the approval of the Engineer.

When required by the Engineer, the Contractor shall furnish all information of the materials to be used in the Works and shall give the Engineer such other particulars as may be required.

When requested, the Contractor shall provide samples, information and manufacturer's test certificates of the materials to be incorporated in the Works.

Unless otherwise specified, all proprietary materials shall be used and placed in strict accordance with the relevant manufacturer's instructions.

The competence of personnel required to undertake operations involving particular skills affecting the quality of the Works shall be demonstrated to the Engineer by means of tests arranged by the Contractor. These could include the following activities: welding, concrete compaction, repairs, grouting, formwork erection, etc. Should the competence of any member of the Contractor's workforce be in doubt, the Engineer may order any re-testing he considers necessary at any stage throughout the Contract.

Tender
Part C3: Scope of Works

C3.5-6

C3.5
Management

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Workmen shall only receive their practical training on those parts of the Works as agreed by the Engineer.

The Contractor shall carry out sufficient inspection and tests to satisfy himself that all requirements of the Specifications are being met and the results of inspections and tests shall be submitted to the Engineer in accordance with the Contractor's Quality Management System. The Engineer may carry out such inspections and tests as he deems necessary and the results of the Engineer's inspections and tests will be made available to the Contractor if requested. Where the Contractor's or Engineer's inspections and/or tests reveal that the requirements of the Specifications have not been attained, the Contractor shall, at his expense, rectify the work to the extent that it conforms to the Specifications.

Whenever the normal period for carrying out work is to be changed, the Engineer shall be given notice in sufficient time (at least 10 working days) to rearrange staffing for proper inspection. The Engineer shall be given notice of any other proposed changes to normal working times at the weekly progress meetings or as necessary to cope with emergencies.

Reports to the Engineer shall be in a format acceptable to the Engineer.

The Contractor shall submit detailed reports at monthly intervals (at site meetings) of personnel on Site, principal materials ordered, stocks on Site, Contractor's Equipment, Plant and Temporary Works on the Site. The Contractor shall also submit a detailed report at monthly intervals on progress of manufacture of any Plant or Contractor's Equipment ordered.

Records shall be kept daily of labour, materials and equipment where there is an agreement to pay by dayworks. Such records shall be valid only when signed by the Engineer or his Representative. Failure to submit daywork sheets on a daily basis could result in the rejection of the sheets by the Engineer.

In cases where there is any dispute or uncertainty on payment procedure, sheets shall be signed daily by both parties as an agreed record of work done but shall not imply any commitment concerning payment. These sheets shall be annotated "For record purposes only".

The Contractor shall arrange for all tests required for process control to be done by a laboratory acceptable to and approved by the Engineer.

The Contractor may establish his own laboratory on site or he may employ the services of an independent commercial laboratory. Whatever method is used, the Contractor must submit the results of tests carried out on materials and workmanship when submitting work for acceptance by the Engineer. The costs for these tests shall be deemed to be included in the relevant rates and no additional payment will be made for testing as required.

The process control test results submitted by the Contractor for approval of materials and workmanship may be used by the Engineer for acceptance control. However, before accepting any work, the Engineer may have further control tests carried out by a laboratory of his choice. The cost of such additional tests will be covered

Tender
Part C3: Scope of Works

C3.5-7

C3.5
Management

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

by a provisional sum provided in the Bill of Quantities, but tests that failed to confirm compliance with the specifications, will be for the account of the Contractor.

Acceptance control, record keeping and payment certificates shall be done in accordance with the Engineer's standard system except if the Engineer approves that the Contractor's standard system may be used.

C3.5.3.2 Method Statements

The Contractor shall prepare method statements and acquire the Engineer's approval before commencing work. A method statement is required for each and every activity, including site establishment. The following minimum information will be required in each method statement:

- Goal of activity
- Dangers identified
- Safety measures
- Security measures
- Measures to accommodate environmental and social requirements
- Work method
- Material to be used
- Quality assurance procedure to ensure compliance to specifications
- Reference to the relevant specifications
- Reference to other relevant method statements

Inspectors and workmen shall be trained to execute the work in accordance with the approved method statements and a copy of the method statement shall be available on site where the work is executed.

The Contractor shall allow for the following time periods for the approval of method statements:

Review by the Engineer and Employer of first submission	2 weeks
Amendments by Contractor (if required)	1 week
Final review and approval by Engineer	2 weeks

Work on an activity shall not commence without a method statement approved by the Engineer. Approval of a method statement by the Engineer will not release the Contractor from his responsibilities and liabilities and it will not mean that the Engineer will be responsible or liable for the construction of the work.

C3.5.3.3 Quality assurance for welding, lining and coating of pipelines on site

The following requirements are applicable to welding, lining and coating of pipelines.

Tender
Part C3: Scope of Works

C3.5-8

C3.5
Management

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

a) Storage, handling and transport of pipes, pipe specials and valves

Pipes, specials and valves shall not be transported before the corrosion protection has cured in accordance with the guidelines of the manufacturers of the materials. Minimum 500mm wide soft slings that cannot damage the pipe coating shall be used for handling of the material and each item shall be adequately supported on padded cradles and properly fastened to prevent movement during transport. Each truck load has to be checked for conformity and signed off by the Employer's Inspectorate at the factory.

On site all material shall be supported on padded supports in a cleared area, where it cannot be damaged by veld fires or construction activities.

b) Welding of pipes

Welding rings shall be used to align pipe ends for welding. The welding of a joint must be 100% completed before the end of a working day. Each weld must be approved and signed off by the Employer's Inspectorate before the coating repair can commence.

c) Corrosion protection on site

- Coating

Each pipe and pipe fitting delivered to or manufactured on site shall be tested by the Contractor for coating damage and pinholes by means of holiday detection and repaired at the following stages:

- Before it is moved into the trench
- Before backfilling commences

Each stage shall be a hold point and further work shall only proceed after each pipe has been signed off by the Employer' Inspectorate.

The following stages of coating repair at joints and damaged areas shall be hold points and work can only proceed after the approval by the Employer's Inspectorate:

- After surface preparation
- After repair

Coating integrity surveys are required as specified elsewhere.

The selected bedding and blanket of the pipeline must be completed within seven days after the coating repair to prevent ultraviolet damage of the material.

Tender
Part C3: Scope of Works

C3.5-9

C3.5
Management

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

- Lining

The surface preparation of each epoxy lining joint and lining damage must be approved and signed off by the Employer's Inspectorate before the joint repair can commence (hold point).

Lining repairs shall follow the pipe laying activities as specified in paragraph C3.5.2.

Method statements for lining and coating protection

The following method statements shall be submitted by the Contractor for approval by the Engineer before the relevant activity can commence:

- Transport and handling of pipes.
- Repair of coating damage on site.
- Repair of coating at joints on site.
- Prevention of damage to linings by movement of workmen and inspectors inside the pipe.
- Repair of lining damage on site.
- Repair of lining at joints on site.

C3.5.4 OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT

It is a requirement of this contract that the Contractor shall provide a safe and healthy working environment and to direct all his activities in such a manner that his employees and any other persons, who may be directly affected by his activities, are not exposed to hazards to their health and safety. To this end the Contractor shall assume full responsibility to conform to all the provisions of the Occupational Health and Safety Act (OHSA) No 85 and Amendment Act No 181 of 1993, and the OHSA Construction Regulations GNR.84 of 7 February 2014.

The successful Contractor shall, on receipt of notification that he has been awarded the contract, submit without delay his own documented Health and Safety Plan for the execution of the work under the contract in accordance with the OHSA and Construction Regulations to the Engineer. The Health and Safety Plan must at least cover the following:

- a proper risk assessment of the works, risk items, work methods and procedures;
- pro-active identification of potential hazards and unsafe working conditions;
- provision of a safe working environment and equipment;
- statements of methods to ensure the health and safety of subcontractors, employees and visitors to the site, including safety training in hazards and risk areas;
- monitoring health and safety on the site of works on a regular basis, and keeping of records and registers;
- details of the Construction Supervisor, the Construction Safety Officers and other competent persons he intends to appoint for the construction works;

Tender
Part C3: Scope of Works

C3.5-10

C3.5
Management

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

- details of methods to ensure that his Health and Safety Plan is carried out effectively.

The Contractor's Health and Safety Plan will be subject to approval by the Employer or Engineer before commencement of construction work. The Contractor will not be allowed to commence work, or his work will be suspended if he had already commenced work, before he has obtained the Employer's or the Engineer's written approval of his Health and Safety Plan.

Approval of the Contractor's Health and Safety Plan by the Employer or the Engineer will not release the Contractor from his responsibilities and liabilities and the Employer or the Engineer will not be responsible or liable for any activities forming part of the Contractor's responsibilities and liabilities in terms of the Contract.

Time lost due to delayed commencement or suspension of the work as a result of the Contractor's failure to obtain approval for his safety plan, shall not be used as a reason to claim for extension of time or standing time and related costs.

The rates and prices tendered by the Contractor shall be deemed to include all costs for conforming to the requirements of the OHSA, the Construction Regulations and the Employer's Health and Safety Specification as applicable to this contract. Should the Contractor fail to comply with the provisions, he will be liable for penalties as provided in the Construction Regulations and in the Employer's Health and Safety Specification.

The Employer's SHE Management System is included in Section C3.5.B

C.3.5.5 ENVIRONMENTAL MANAGEMENT

The Works shall comply with the Environmental Authorisation (Record of Decision), the Environmental Management Plan and the Employer's Specifications (if applicable). The applicable documents are included in Section C3.5.C.

C3.5.6 GENERAL CONSTRUCTION AND MANAGEMENT REQUIREMENTS

C3.5.6.1 General

The Contractor is referred to SANS 1921: 2004: Construction and Management Requirements for Works Contracts, Part 1: General Engineering and Construction Works, and COLTO 1500 - Accommodation of Traffic. These specifications shall be applicable to the contract under consideration and the Contractor shall comply with all requirements relevant to the project.

Certain aspects however require further attention as described hereafter.

Tender
Part C3: Scope of Works

C3.5-11

C3.5
Management

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

C3.5.6.2 Management and disposal of water

The Contractor shall pay special attention to the management and disposal of water and storm water on the site. It is essential that all completed works or parts thereof are kept dry and properly drained. Claims for delay and for repair of damage caused to the works as a result of the Contractor's failure to properly manage rain and surface water, will not be considered.

The Contractor shall implement special measures to keep storm water out of excavations and pipe trenches. These measures shall include for example, cut-off berms, cross-fall of construction road away from trench, coffer dams and drainage pipes across the trench or diversions at water courses, limiting length of open trenches, adequate water pumps.

C3.5.7 SITE ADMINISTRATION

C3.5.7.1 General

Acceptance control, record keeping and payment certificates shall be done in accordance with a system approved by the Engineer.

C3.5.7.2 Daily site diary

The daily site diary, in accordance with Bigen Africa's pro forma, shall be kept up to date by the Contractor's Representative and will be signed on a daily basis by the Engineer's Representative.

C3.5.7.3 Information in respect of Plant

Information relating to plant on Site shall be recorded in the daily site diary. In addition, the Contractor shall deliver to the Engineer, on a monthly basis, a detailed summary of construction plant kept on the Site, full particulars given for each day of the month. Distinction shall be made between plant in working order and plant out-of-order. Such inventory shall be submitted by the first day of the month following the month to be reported.

C3.5.7.4 Information in respect of Employees

Information relating to labour and management on Site shall be recorded in the daily site diary. In addition, the Contractor shall deliver to the Engineer, on a monthly basis, a detailed summary of supervisory staff, labour employed (own and local labour) by category, and sub-contractors (both local and imported) for each day of the month. Such return shall be submitted by the first day of the month following the month to be reported.

Tender
Part C3: Scope of Works

C3.5-12

C3.5
Management

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

C3.5.7.5 Rainfall records

Rainfall records for the period of construction shall be taken on Site and recorded in the daily site diary. The Contractor shall provide and install all the necessary equipment for accurately measuring the rainfall. The Contractor shall also provide, erect and maintain a security fence plus gate, padlock and keys at each measuring station, all at his own cost. The Contractor shall take and record the daily rainfall readings. The Employer's Agent or his Representative shall be permitted to attend these readings, or take separate readings. Access to the measuring gauge(s) shall at all times be under the Engineer's control.

C3.5.7.6 Site instructions

Site instructions by the Engineer, addressed to the Contractor, will be numbered consecutively and will be deemed to have been received by the Contractor's Representative unless a break in the sequence of numbers is brought to the notice of the Engineer in writing immediately.

C3.5.7.7 Site meetings

The Contractor and his authorised representative shall attend all meetings held on the Site as requested by the Engineer at dates and times to be determined by the Engineer. Such meetings will be held to evaluate the progress of the Contract and to discuss matters pertaining to the Contract. It is not the intention to discuss day-to-day technical matters at such meetings.

Progress meetings shall be held at least once a month on Site from the Commencement Date to the date of Taking-over for coordination purposes and to evaluate the progress of the Contract.

Ad-hoc technical meetings will be arranged at a suitable venue as and when required.

The Contractor shall also allow in his tender for attending at least one HAZOP meeting at the Engineer's offices once the mechanical designs have been completed.

The Contractor or his authorized representative(s) shall attend all steering committee meetings with the appointed Community Liaison Officer.

Weekly commissioning meetings shall be held during the testing and commissioning stages.

The Engineer will chair all progress and technical meetings, prepare and circulate minutes, as determined by him in consultation with the Employer. The Contractor shall chair the commissioning meetings and be responsible for associated administration.

The Contractor shall submit monthly progress reports as required by Sub-Clause 4.21 of the Conditions of Contract in a format to be agreed between the Contractor and Engineer.

Tender
Part C3: Scope of Works

C3.5-13

C3.5
Management

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

C3.5.7.8 Payment certificates

Monthly progress payment certificates shall be submitted by the Contractor to the Engineer not later than the 20th of each month (or on the last working day prior to this date) in order to allow for checking and reconciliation of all quantities, rates, extensions and additions in the certificate. All quantity calculations and certificates submitted by the Contractor for checking shall be in accordance with the Engineer's standard site administration forms and formats.

Where dayworks have been instructed by the Engineer, the Contractor shall submit the returns to the Engineer for signature and approval within twenty-four (24) hours of the end of the working day on which the work was executed. Daywork returns shall be submitted on forms according to the Engineer's standard format. Failure to comply with the terms of this clause could result in non-payment for such dayworks, depending on the Engineer's decision in this regard.

The tax invoice submitted with the certificate shall be dated the date of submission to the Engineer of the payment certificate that was agreed between the Contractor and the Engineer. All costs for the preparation and submission of progress certificates shall be borne by the Contractor.

C3.5.7.9 Photographic records

The Contractor shall keep photographic records of the Works also showing progress, including the following:

- The pipeline routes before commencing work and after clearing.
- State of existing fencing before commencing work and during work and the new fencing at completion.
- Trench excavation and the materials encountered
- Pipe laying operations, including earthworks
- Pipe jacking, river and stream crossings, road and railway crossing etc.
- Borrow and spoil areas, before, during and at completion of activities
- Structures
- Ancillary structures
- Landscaping and rehabilitation activities
- Other specific photographs requested by the Engineer
- Environmental aspects
- Health and safety aspects
- Social aspects
- The completed pipeline route

The photos shall be inscribed with the date taken, location and brief description.

Three prints and an electronic copy on CD shall be delivered to the Engineer each month.

Tender
Part C3: Scope of Works

C3.5-14

C3.5
Management

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

C3.5.8 CONTRACT SKILLS DEVELOPMENT GOALS

C3.5.8.1 General

The Contractor shall, in the performance of the Contract, achieve the Contract Skills Development Goal (CSDG) as established in Government Gazette No. 48491 of 28 April 2023.

The applicable CSDG for this contract is 0.25%.

C3.5.8.2 Procurement

Based on the agreed skills methods the contractor may employ part/full Occupational Qualification Learners and /or Trade Qualification Learners and/or Work Integrated Learners and/or Candidates directly or through a Skills Development Agency (SDA), training provider or skills development facilitator (Form A1 - List of CIDB accredited SDAs). The contractor shall ensure that no more than one Method shall be applied to any individual concurrently in the calculation of the CSDG for the contract.

The contractor may only place 33% employees employed by him or that of his subcontractors contributing to the CSDG.

The contractor shall employ at least 60% of the learners from a Public FET / TVET college should the contractor select to have trade qualification learners (Method 2) contributing to the CSDG.

C3.5.4.3 Management

The contractor shall achieve the measurable CSDG by providing opportunities to learners requiring structured workplace learning using one or a combination of any of the Skills Methods as agreed: Part/Full Occupational Qualification Learners (Method 1) and/or Trade Qualification Learners (Method 2) and/or Work Integrated Learners (Method 3) and/or Candidates (Method 4) as per the Standard in relation to work directly related to the contract or order as indicated under **clause 4.2 and 4.3 in the Standard**.

The contractor must ensure all beneficiaries of the Standard are registered with CIDB Skills Development Agency (SDA)

The Format of Communications:

The contractor shall, within 30 days of award of the contract and in the specific format (Form A2 Baseline Training Plan), submit to the Employer's Agent a baseline training plan.

The contractor shall submit to the Employer's Agen:

- an interim contract compliance training report in the specific format (**Form A3 Project Interim Report**) at intervals which do not exceed 3 months; and
- a final contract compliance training report, in the specific format (**Form A5 Project Completion Report**). This report shall, respectively, be submitted within 15 days of; reaching completion, end of the service, the delivery date for all work required or practical completion (in the case of

Tender
Part C3: Scope of Works

C3.5-15

C3.5
Management

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

professional service), service, design and construct contracts, and engineering and construction works contracts

The Key Personal:

For Structured Workplace Learning Opportunities for Learners (Method 1 and Method 2)

The Contractor shall:

- appoint a responsible supervisor to allocate learning tasks, to learners in line with their training plans.
- appoint an artisan in the applicable trade with a minimum of 3 years to mentor learners associated with structured workplace learning.

For Structured Workplace Learning for Candidates (Method 3 and Method 4)

The contractor shall:

- a. appoint a supervisor who is actively engaged in work directly associated with the contract to issue tasks,
- b. appoint a suitable mentor as required by the professional body or statutory council.

Management Meetings:

The contractor shall report to the Employer's Agent on the implementation and progress of the CSDG.

The Forms for contract administration:

The contractor shall submit to the Employer's Agent the following proformas:

- Form A2 Baseline Training Plan
- Form A3 Project Interim Report
- Form A5 Project Completion Report

Records:

The contractor shall:

- keep records for learners and candidates of the hours worked and registration with the cidb SDA, Sector Education Training Authorities SETA's (where required) and professional statutory councils (where required) particulars towards compliance with this Standard.
- ensure all the documentation required in terms of clause 4 in the Standard is provided in a timely manner and according to a prescribed format where applicable.
- upon termination of the opportunities provided to satisfy the CSDG, certify the quantum and nature of the opportunity and submit the certificate and counter-certified by the relevant individual, to the Employer's representative for record-keeping purposes.

Tender
Part C3: Scope of Works

C3.5-16

C3.5
Management

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Payment Certificates:

The contractor shall:

- achieve the measurable CSDG as agreed by providing opportunities to learners requiring structured workplace learning using one or a combination of any of the Skills Methods as per the Standard in relation to work directly related to the contract or order as indicated under **clause 4.2 and 4.3 in the Standard**.
- submit payment certificates to the Employer's Representative at intervals determined in the Contract.

Tender
Part C3: Scope of Works

C3.5-17

C3.5
Management

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



PRO-FORMA DOCUMENTS

- Annexure 1 - Form A1 List of Recognised Skills Development Agencies
- Annexure 2 - Form A2 Baseline Training Plan
- Annexure 3 - Form A3 Project Interim Report
- Annexure 4 - Form A4 Supervisor Agreement
- Annexure 5 - Form A5 Project Completion Report

Tender
Part C3: Scope of Works

C3.5-18

C3.5
Management

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Annexure 1 Form A1 List of Recognised Skills Development Agencies

CIDB Recognised Skills Development Agencies								
No.	Name of SDA	SDA Registration Number	Status	Recognition date end	Province	Contact person	Contact number	Email address
C1	CIDB SDA	SDA/ZA/16/0001	Active	01/04/2025	National	Pranveer Harriparsadh	012 482 7230	pranveerh@cidb.org.za
C2						Thabelo Remaru	012 482 7249	thabelor@cidb.org.za
C3								
C4								

Tender
Part C3: Scope of Works

C3.5-19

C3.5
Management

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Annexure 2 - Form A2 Baseline Training Plan

CIDB SKILLS STANDARD BASELINE TRAINING PLAN

Contractor Details						
Contractor Name:						
CRS Number:						
Estimated start date						
Estimated Completion date:						
Size of Organisation	Small (1-49 employees)		Medium (50-149 employees)		Large (≥150 employees)	

Contractor Contact Details	
Name of Contact Person	
Designation of Contact Person	
Contact Details	Cell Number:
	Landline Number:
	Email address:

Construction Skills Development Goal (CSDG) Baseline Training Plan					
Training Method	Number of Employed Learners	Number of Unemployed Learners	Area/s of Specialisation/Trade	Duration of Placement	Total Notional Cost
Method 1: Skills Programme	1	3	Scaffolding	3 months	R57 000
Method 2: FET College Graduates/ Apprenticeship	0	2	Bricklaying and Plastering	12 months	R92 000
Method 3: P1 and P2 learners or a 240 credit qualification	0	0			
Method 4: Candidacy with 360 credit qualification	0	1	Project Management	9 months	R184 500
Total	1	6			R333 500

Tender
Part C3: Scope of Works

C3.5-20

C3.5
Management

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2



Note: Refer to Table 3 in the Standard for Developing Skills through Infrastructure Contracts Government Gazette 43495 of 3 July 2020 for the notional costs

Contractor's
Representative
Name: _____

Designation: _____

Signature: _____

Date: _____

Employer's
Representative
Name: _____

Designation: _____

Signature: _____

Date: _____

Tender
Part C3: Scope of Works

C3.5-21

C3.5
Management

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Annexure 3 - Form A3 Project interim report

cidb PROJECT ASSESSMENT SCHEME. STANDARD FOR DEVELOPING SKILLS PROJECT INTERIM TRAINING REPORT																													
Section A: Employer Information																													
CIDB Employee Number:																													
Employee Name:																													
Section B: Contract Date																													
CIDB Contract Number:																													
Contract Title:																													
Tender Value (R):																													
Contract Skills Development Goal (R):																													
SIP Number (if applicable):																													
SIP Project Code (if applicable):																													
Definitions																													
Training Methods: Method 1: structured workplace learning opportunities for learners towards the attainment of a part of full occupational qualifications. Method 2: structured workplace learning opportunities for apprentices or other artisan learners towards the attainment of a trade qualification leading to a listed subject to at least 60% of the artisan learners being holders of public TVET college qualifications. Method 3: work integrated learning opportunities for University of Technology or Comprehensive University students completing their national diplomas. Method 4: structured workplace learning opportunities for candidates towards registration in a professional category by a statutory council in Table 1 above.																													
Learner / Candidates full name and surname	Gender		Ethnic Group					Identity Number	Training Method (please tick)				Placement state Date	Placement end date	Occupation description	Description of Practical Task completed (as per logbook or POE)	Status	Supporting documents available of request (please tick)											
	Male	Female	Black	White	Coloured	Indian	Other		M1	M2	M3	M4						Learner Training Plan	Attendance Register	Signed Logbook /	Medical Assessments	Induction	Health and Safety	PPE Register					
Eg. Joe Smith	1				1			1234567891		X			01 May 2016	31 May 2016	Bricklaying	Read and interpret drawings	Completed												
																Set out building as per drawing	In progress	X	X	X	X	X	X	X	X	X	X	X	
																Transfer leaves using dumpy level	In progress												

Tender
Part C3: Scope of Works

C3.5-22

C3.5
Management

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

[illegible]

Tender
Part C3: Scope of Works

C3.5-23

C3.5 Management

11/11/2019

Employer

Witness 1

□

Witness 2

Contractor

11/11/2019

Witness 1

Witness 2

Annexure 4 - Form A4 Supervisor Agreement

Supervisor/Learner Agreement

Memorandum of understanding between Supervisor and Learner

The Contractor is responsible for the effective management of the learning opportunities provided through the CIDB Standard for the Development of Skills through Infrastructure Contracts (CIDB Skills Standard). The attainment of successful learning outcomes and professional development of the learners is largely dependent on the relationship between the assigned Supervisor and the Learner. As a participant in the implementation of the CIDB Skills Standard you agree to the Supervisor relationship and commit to endeavour through the challenges of a construction project to give value to the training programme.

The Responsibilities of a Supervisor to the Learner include:

- stimulating a passion for construction,
- sharing technical and practical knowledge,
- fostering the development of technical and leadership skills,
- facilitating networking within the working community,
- instilling an expectation of personal growth and learning by the Learner,
- developing knowledge and understanding in the areas of health, safety, environment, quality and production,
- inculcating professionalism and a desire for continual improvement by the Learner,
- creating a nurturing relationship that instils a sense of discipline and professional pride,
- giving constructive feedback and
- signing the Learners logbook.

Supervisor's name _____

Signature: _____ Date: _____

The Responsibilities of a Learner are:

- adhere to the Host Employer's onsite rules and policies,
- have an expectation of personal growth and learning,
- to be enthusiastic and motivated,
- to be open and accept supervision from the Supervisor and other colleagues,
- to develop a thorough understanding of health, safety, environment, quality and production,
- to have a positive attitude,
- to display a strong sense of discipline and to be conscious of time management,
- to operate within the team,
- to take the time to learn and practice new skills,

to make time to fill in your logbook and obtain the Supervisor's signature for completed tasks.

Intern's Name: _____ ID No: _____

Signature: _____ Date: _____

Tender
Part C3: Scope of Works

C3.5-24

C3.5
Management

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2

Annexure 5 - Form A5 Project Completion Report

Form A5: cidb PROJECT ASSESSMENT SCHEME: STANDARD FOR DEVELOPING SKILLS PROJECT COMPLETION REPORT											
Section A: Contractor / JV Information											
cidb Contractor Registration Number of main / lead contractor											
Name of contractor /Joint Venture											
Contact Person Title				Initials				Surname			
Designation											
e-mail											
Mobile		0		-		-					
Office Telephone		0		-		-					
Section B: Employer Information											
cidb Employer Number											
Employer Name											
Section C: Contract Data											
cidb Contract Number											
Contract Title											
Date of Completion		Y		Y		Y		M		D	
Tender Value R										. 0 0	
Section D: Approved Exemptions and Variations Granted											
Section E: Budgeted Training Costs											
GB	0,50% x Tender Value =	R									. 0 0
CE	0,25% x Tender Value =	R									. 0 0
CE & GB	0,375% x Tender Value =	R									. 0 0
EB	0,25% x Tender Value =	R									. 0 0
EP	0,25% x Tender Value =	R									. 0 0
ME	0,25% x Tender Value =	R									. 0 0
SW	0,25% x Tender Value =	R									. 0 0
Section F: Actual Training Costs Achieved											
Actual training costs achieved		R									. 0 0
CSDG achieved		Yes	☐	No	☐						

END OF SECTION

Tender
Part C3: Scope of Works

C3.5-25

C3.5
Management

Employer

Witness 1

Witness 2

Contractor

Witness 1

Witness 2