

ESKOM GENERATION**2024****PROVISIONAL BILLS OF
QUANTITIES FOR THE
REPLACEMENT OF SERVICE
WATER PIPELINE AT CAMDEN
POWER STATION****CONTRACT NUMBER :****CONTRACTOR :****CONTRACT AMOUNT (EXCL. VAT) :****CONTRACT AMOUNT (INCL. VAT) :**

TABLE OF CONTENTS

REPLACEMENT OF SERVICE WATER PIPELINE PROVISIONAL BILLS OF QUANTIT

TABLE OF CONTENTS

Contract Data

NOTES TO TENDERERS

Bill of Quantities

BILL NO 1

PRELIMINARIES

Section 3

REPLACEMENT OF SERVICE WATER LINE BOQ

Final Summary

NOTES TO TENDERERS

REPLACEMENT OF SERVICE WATER PIPELINE PROVISIONAL BILLS OF QUANTITIES

NOTES TO TENDERERS

NOTES TO TENDERERS

1. BILLS OF QUANTITIES

This document comprises Notes to Tenderers and Bills of Quantities and is hereafter referred to as "the Bills of Quantities".

The Tenderers are to note that this is a Contract with a Bills of Quantities.

2.1 CONTRACT DOCUMENTS

The contract documents will consist of:

2.1.1 The NEC3 Engineering and Construction Contract Third Edition 2013 together with all amendments.

2.1.2 These Bills of Quantities, including all annexures and supplementary documentation referred to therein.

2.1.3 Documents to be provided by the Contractor in terms of the requirements of these Bills of Quantities.

2.1.4 Construction Regulations 2014

2.1.5 Occupational Health and Safety Act of 1993

2.1.6 "The contractor are to refer to the Specification Document ""Replacement of Service Water Pipelines "" Document Identifier: 240-161608452 enclosed with these Bills Of Quantities.

2.2 DRAWINGS

The Contractor is referred to the following drawings:

- a) C.W Plant Service Water East System P&I Diagram - 0.36/13938 Rev 8
- b) C.W Plant Service Water West System P&I Diagram - 0.36/13939 Rev 10
- c) Service Water Pump System P&I Diagram - 0.36/17010 Rev 01

3.VALUE ADDED TAX

Tenderers should compute their rates from the net costs (excluding Value Added Tax). Value Added Tax at the current rate of 15% is to be added to the net sub-total on the final summary page by means of a single sum calculation to establish the tender price.

4.SCOPE OF WORK

As a guide only, the work comprises as follows:-

The supply of material, fabrication, delivery, installation and commissioning of the service water pipework. This replacement shall include all equipment required for the complete replacement of the pipework (e.g. valves, pipes, flanges, strainers, gaskets, bolts, nuts, etc.)

5. POSSESSION OF SITE

The date of which possession of the Site shall be given to the Contractor shall be within 7 **working days** of the acceptance of this tender.

6.CONSTRUCTION PERIOD - DATES FOR PRACTICAL COMPLETION

The intended date for practical completion and penalty for each calendar day for non-completion shall be:

Practical Completion: _12_Month from the date of Site Handover

7. TENDERS

Tenderers are required to visit the site of the Works before tendering and must obtain a signature from the Employer or his duly authorised representative to the effect that they have done so. Failure to visit the site and to submit the Certificate of Acquaintance with the tender will result in the rejection of the tender.

A compulsory site inspection will be conducted.

The Employer will not be liable for any costs incurred in the preparation of the tender nor will he be bound to accept the lowest or any portion of any tender.

8. COMMON LAW OR BY-LAW REQUIREMENTS

No liability for not specifically mentioning any normal contractual, Common Law or By-Law requirements will be accepted by the Employer, or Contracts Manager.

9. AREA OF WORKS

The Tenderer shall ascertain by personal viewing of the site any restrictions to the area that may be occupied by the contractor including any restrictions imposed by any buildings, etc. and any limitations or restrictions that may be imposed by Eskom Engineers.

Access to the site shall be logically planned and enclosed to ensure minimum disruption to existing user operations.

The contractor is deemed to have allowed for all necessary temporary fencing, screening, hoardings, etc.

Space for the storage of Materials must be arranged with the Contracts Manager

The Contractor shall make all necessary provisions in all rates to take into account these requirements as no claims for extras arising from these matters will be subsequently entertained as admitted. Tenderers will be held responsible for any misunderstanding of incorrect information, however obtained, except information which may have been given in writing over the signature of the Contracts Manager.

10. MANAGEMENT OF WORKS

The Contractor shall, to the satisfaction of the Contracts Manager, provide, in addition to the Contractor's Site Representative, the services of an experienced and competent Construction Manager.

The names and CV's of the Contractor's proposed Management Team shall be submitted to the Contracts Manager prior to commencement on site and, after the Contracts Manager's agreement on the composition and competence thereof has been obtained, no changes shall be made nor shall any member of the said team be removed from the project while remaining in the employ of the Contractor without the Contracts Manager's prior written approval.

The Contractor shall make necessary provisions in all rates to take into account these requirements as no claims for extras arising from these matters will be subsequently entertained or admitted.

11. INSPECTION OF WORK

The Contractor shall obtain all local authority approvals if required and shall ensure that all work is also approved by the Contracts Manager prior to covering up. The fact that the work will be inspected periodically in no way absolves the Contractor from total responsibility for the quality of his workmanship and for compliance with the specification. He shall timeously notify the Contracts Manager so that inspections can be arranged.

12. SITE CLEANLINESS

The Contractor shall clear away all dirt, rubbish and superfluous material as they accumulate and leave the whole of the site clean and tidy on completion to the satisfaction of the Contracts Manager. The Contractor is advised that the adjacent site is functional at all times and that the incumbents should not be unduly inconvenienced.

13. ORDERING OF MATERIALS

No claims will be entertained due to non-availability of materials or labour. The Tenderer is therefore required to investigate and ensure that the specific materials and components required for the works will be available at the relevant estimated construction times, at the time of tendering.

14. PROGRAMME

The Contractor will be required to submit an outline programme of work to completion of the contract with the issue of the Form of Offer and Acceptance.

15. CONTRACT PRICE ADJUSTMENT

The Contract Sum shall be subject to CPA

16. PRICED BILLS OF QUANTITIES:

Tenderers must submit to the Contracts Manager a copy of the Bills of Quantities fully priced and extended, with his tender. After the Bills have been checked, and when called upon, each page of the Bills of Quantities shall be initialled and the Index page and the Final Summary page signed in full by the Tenderer.

17. PAYMENT OF PRELIMINARIES:

Tenderers are to note that the Payment of Preliminaries & Generals shall be on the NEC3 Engineering and Construction Engineering and Construction Standard Contract third Edition third Edition [Prorated to the Value of Work Executed]

18. ADJUSTMENT OF PRELIMINARIES:

Tenderers are to note that the Adjustment of Preliminaries & Generals shall be on NEC3 Engineering and Construction Standard Contract third Edition third Edition [Fixed - 10%, Value - 15% and Time - 75%]

19. DIFFERENCE AND DISCREPANCIES:

Should there be any difference or discrepancy between the prices or particulars contained in the official Tender Form and those contained in any covering letter from the Tenderer, the prices contained in the official Tender Form shall prevail.

Every Tenderer shall be deemed to have waived, renounced and abandoned any conditions printed or written upon any stationery used by him for the purpose of or in connection with the submission of his Tender, which are in conflict with the Conditions of Tender or Special and General Conditions of the NEC Contract.

Tenderers are warned that any material divergence from the official conditions or specifications may render their Tenders liable to disqualification.

The Tenderers are to note that if there are any arithmetical errors in the Tenderers' form of tender in calculation of the Tender Sum, the Contracts Manager will correct the calculation accordingly.

20 COMMUNICATION WITH MEMBERS OF THE CLIENT COMPANY OR PROFESSIONAL TEAM

A Tenderer shall not in any way communicate with a member of the Client Company or Professional Team or with any officer on a question affecting any contract or the supply of goods or for any work, undertaking or service which is the subject of a Tender during the period between the closing date for receipt of Tenders and the despatch of the written notification of the Employer's decision on the award of the contract; provided that a Tenderer shall not hereby be precluded from obtaining from the Employer or his authorised representative information as to the date upon which the award of the contract is likely to be made or, after the decision upon the award has been made by the Contracts Manager to which the Employer had delegated its powers, information as to the nature of the decision or such information as was publicly disclosed at the opening of Tenders.

21. IMPORT PERMITS:

Tenderers must apply direct for any import permit and/or currency required, however the Contracts Manager will furnish successful Tenderers with a supporting statement if required.

22. BILLS OF QUANTITIES:

No alteration, erasure, omission or addition is to be made to the text and conditions of these Bills of Quantities and should any such alteration, amendment, note or addition be made, the same will not be recognised, but the reading of the Bills of Quantities as prepared by the Contracts Manager will be adhered to.

It should be understood that the system of measurement herein adopted is the only system of measurement which will be recognised in connection with this contract. Before the signing of the contract, the Contracts Manager will be entitled to call for adjustments of individual rates and rectify discrepancies, as he considers necessary without alterations to the Tender Amount.

23. ESKOM TRAFFIC AUTHORITIES AND REGULATIONS

The Contractor shall comply with all requirements of ESKOM in connection with traffic control, gaining access to the site, prevention or disruption of the flow of traffic, transporting of materials and equipment.

24. PROTECTION OF PERSONS AND PROPERTY

The Contractor shall adopt all safety measures in compliance with all statutes, regulations, etc., and shall take all measures to protect all property and to secure the safety and freedom from injury of all persons.

The Contractor shall in addition take all necessary steps to prevent nuisance from dust and the like and shall use every endeavour to minimise noise emanating from the Contract Works. The Contractor is referred to the various forms that require his attention prior to commencing work on site - All forms duly completed and signed must be forwarded to the Contracts Manager.

Tenderers are to note that the building will remain occupied for the duration of the Works except for the sections of the Works under construction in terms of the requirements of the Sectional Completion.

25 EXISTING AND ADJOINING PROPERTIES, PAVINGS ETC.

The Contractor shall execute the whole of the Contract Works with the minimum of disturbance to the existing and adjoining premises and occupants thereof. He shall keep the Site dust free and clean, and shall keep pavements, surrounding roads etc., free of builder's rubble and clean to the entire satisfaction of the Contracts Manager and the Authorities.

The Contractor shall leave such buildings, structures, fences, pavings, roadways, kerbs, gardens, municipal pavements, streets, etc., in the same condition at completion as they were at the commencement of the Contract. Before commencing work, the Contractor shall arrange with the owners of the existing and adjoining buildings and/or the Authorities for an inspection to be made jointly with themselves, the Contractor and the Contracts Manager in order to make written notes of any defects, etc. which may later be claimed to have been caused by the operations under this Contract. Should defects be disclosed, the Contractor shall submit same in writing to the Contracts Manager before commencing the Contract, failing which it shall be understood that no such defects existed and the Contractor shall be liable for all claims in this connection.

26. PROCEDURE OF WORKS

The Contractor shall be solely responsible for ensuring that the procedure of works is kept to and no deviations will be entertained.

Should this, however not be possible then the Contractor shall timeously notify the Contracts Manager

The Contractor shall make any and all necessary allowances in his pricing for the disruption and costs that will be required to comply with any such restrictions.

SPECIAL CLAUSES

27. TRADE NAMES, ETC.

All materials, fittings, finishes, etc. specified under a "Trade Name", catalogue number or reference shall be either exactly as described or of equal quality, specification and weight to those described.

The Contracts Manager's written approval must be obtained for any departure from the specification before the submission of tenders, failing which specified materials, fittings, finishings, etc. shall be deemed to have been allowed for in the tenders.

Where articles other than what the manufacturer specified are used, an adjustment of the prices will be made and Variation Orders issued to cover these adjustments.

The Contractor must take delivery of, handle, store, use, apply and/or fix all proprietary branded products in strict accordance with the manufacturer's instructions after consultation with the manufacturer's authorised representative.

All references in these Bills of Quantities to Specifications of the Bureau of Standards shall be deemed to be reference to the latest issues of such Specifications, and any subsequent amendments thereto. All articles, materials or items described as to conform to the SABS Specifications must bear the SABS mark.

28. CONTRACTOR'S RESPONSIBILITY

The Contracts Manager and the other Professional Consultants shall not be responsible for any act or omission on the part of the Contractor, which may result in any patent or latent defects, in materials or workmanship, breach or neglect of any local regulations. The Contractor shall at all times be responsible for any such neglect, deviation or wrong act, whether the same is discovered before or after the final certificate, or any other Certificate, has been approved.

29. SITE INSTRUCTIONS AND RECORDS

The Contractor shall supply and have available at the site of the works at all times, the following site books:-

a) Site Instruction Book

Receiving and recording instructions in a suitable A4 size triplicate book kept on site. Instructions issued shall be recorded by the Contracts Manager or other Employer's Agents to whom the Contracts Manager has delegated Authority in the book.

Only site instructions issued in such a book shall be recognised.

b) Daily Record Book

The Contractor shall record in a suitable A4 size triplicate book kept at the site, a daily record of work done, all site visits by the Contracts Manager and other professional personnel and all events affecting the Works, such as progress, issue of plans, breakdown of machinery, etc. The labour, plant and material on site shall be recorded as well as work performed. Entries must be made by the Contractor and must be signed and forwarded to the Contracts Manager for his counter signature on a daily basis. Copies of these records shall be for the Contracts Manager, Employer and Contractor.

30. LOCATION OF TEMPORARY BUILDING AND TEMPORARY SERVICES

The Contractor shall provide all necessary temporary works, including temporary roads, tracks, crossings, hard standing and services, etc. required for his own and Sub-Contractor's use during the construction and maintenance period.

There is no guarantee given or implied that Site Conditions will be such that the Contractor will be able to erect such offices, stores and temporary accommodation within the site boundaries and it shall be the Contractor's responsibility to adopt whatever measures he deems necessary in this regard and to obtain permission and pay all cost in connection therewith.

By the submission of a tender, any Tenderer will, if awarded the contract to which this tender document relates, be deemed to be the mandatory as envisaged by Section 37 (2) of the Act. As a mandatory the successful Tenderer will be deemed to be the " Contractor" and an Employer in his/her/their own right with duties as prescribed in the Act and accordingly will be deemed to have agreed to be solely responsible for ensuring that in connection with the service to which this tender document relates, all work will be performed and machinery and plant used in accordance with the Act. Should the Contractor, for whatever reason be unable to perform as required by the Act, the Contractor undertakes to inform the Employer accordingly.

The Contractor (mandatory) will be required to:-

1. Provide the Employer with a Health and Safety programme and plan specifically related to the Works and ensure that the programme and plan are implemented and maintained, with the programme being subject to audit, at least once a month, by the Contracts Manager;
2. Exercise discretion and appoint a Full-time Safety Officer (in writing) to assist in the control of all safety related aspects, and to give input into the health and safety plan;
3. Appoint (in writing) a full time competent Supervisor (as defined in the Regulation in terms of the Act) to supervise the project;
4. Provide the Employer and any Sub-Contractors that may be engaged by the Contractor and/or Nominated Sub-Contractors with a programme of construction for the Works as well as a method statement with the necessary details and procedures for execution;
5. Provide the Employer both before commencing and during construction work with a copy of a risk assessment performed by a competent person who has been appointed in writing by the Contractor, and the risk assessment must form part of the health and safety plan;

6. Ensure that every employee or person (including visitors) who enters the site of the Works undergoes health and safety induction training pertaining to hazards identified on the site of the Works and upon such training having been successfully completed, the Contractor must issue written confirmation by a competent person to the trained employees or persons who shall be further instructed to carry such confirmation with them at all times whilst on the site of the Works;

7. Issue, on loan, the necessary personal protective equipment to visitors to the site of the Works; and

8. Be in good standing with the Compensation Commissioner at all times during the duration of the Contract.

9. The Contractor is to sign a Non-Disclosure Agreement prior to collecting or receiving any proprietary information from Eskom, drawings, documentation, reports and photographs

The Contractor will be deemed to have satisfied himself with his obligations in terms of the Act and to have allowed for all costs arising from compliance with the Act as no claim for extra costs arising from compliance with, and obligations in terms of the Act will be entertained.

31 CONTRACTORS TO VISIT SITE PRIOR TO SUBMISSION OF TENDER

The contractors are urged to visit the site that has been identified to get an overview of the nature of works and the location of the building prior to pricing this document.

32 PRICING OF THESE GENERAL NOTES

The Contractor must allow in his pricing for any additional costs arising from these "General Notes" as no later claims for additional costs will be considered.

33 TAX COMPLIANCE

Failure to provide mandatory information required in this Bid will result in the submissions being deemed null and void and shall be considered non-responsive. An Electronic Tax Compliance Status (TCS) System will be used to verify the bidder's tax compliance status so bidders must request a unique security personal identification number (PIN) from SARS which must be submitted with the bid

No alternative tender offers will be considered.

These Bills are not to be used for the purpose of ordering materials.

All Bill rates are to include for material, labour, plant, wastage, transport and profit.

PRELIMINARIES AND GENERAL

CAMDEN POWER STATION: REPLACEMENT OF SERVICE WATER PIPELINE PROVISIONAL BILLS OF QUANTITIES

	Schedule Description	Unit	Amount
	PRELIMINARIES AND GENERAL		
	ESTABLISHMENT OF FACILITIES ON SITE		
1	FIXED CHARGES		
1.1	Contractual requirements, (Contractor to supply Breakdown)	Sum	R
1.2	Establishment of facilities on site		
1.2.1	Transportation to site	Sum	R
1.2.2	Offices for Engineer & staff and signs	Sum	R
1.3	Facilities for the Contractor		
1.3.1	Storage sheds	Sum	R
1.3.2	Eating area	Sum	R
1.3.3	Ablution & latrine facilities	Sum	R
1.3.4	Plant,Tools & equipment	Sum	R
1.3.5	Water supplies& electric power connections	Sum	R
1.3.6	COC for all offices	Sum	R
1.3.7	Site Establishment	Sum	R
1.3.8	Survey/Setting Out	Sum	R
1.3.9	Quality	Sum	R
1.40	SAPS Vetting and /or Finger Print Check	Sum	R
1.41	Other fixed-charge obligations: security, deviations and dealing with traffic.	Sum	R
1.42	As Built Surveys	Sum	R
1.5	Contractor's obligations in respect of the Occupational Health and Safety Act		
1.5.1	Health and Safety Requirements	Sum	R
1.5.2	PPE	Sum	R
1.5.3	Medicals and Induction	Sum	R
1.5.4	Construction Regulation 2014	Sum	R
1,5,6	De- establishment	Sum	R
	TOTAL COST FIXED CHARGES (A)	R	

2	TIME RELATED CHARGES		
	FACILITIES FOR CONTRACTOR		
2.1	Contractual requirements, subsistence, transport and incidental expenses	Sum	R
2.2	Operate & maintain facilities for the duration of the contract	Sum	R
2.3	Offices for Engineer & staff and notice board	Sum	R
2.4	Facilities for the Contractor for the duration of construction	Sum	R
2.5	Offices & storage sheds	Sum	R
2.6	Workshops	Sum	R
2.7	Ablution & latrine facilities	Sum	R
2.8	Tools & equipment	Sum	R
2.9	Enviromental requirements	Sum	R
2.10	Accommodation	Sum	R
2.11	Transport	Sum	R
2.12	Plant	Sum	R
2.15	Other time-related obligations: security and other	Sum	R
	TOTAL COST TIME RELATED ITEMS (B)		R
	TOTAL COST A+B TRANSFERRED TO FINAL SUMMARY PAGE		R

**REPLACEMENT OF SERVICE
WATER PIPELINE PROVISIONAL
BILLS OF QUANTITIES**

Item No.	Description	Unit	Qty	Rate	Total
	<p><u>BILL NO.1 : SERVICE WATERLINE PROVISIONAL BILLS OF QUANTITIES</u></p> <p><u>PREAMBLES</u></p> <p>For Model Preambles refer to SANS Documents which is obtainable on request for the full descriptions of materials and work to be done in this Bill of Quantities</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Rate approvals:</u></p> <p>The tenderer is advised that any rate that is required for work must include the following breakdown:</p> <p>Material, labour, plant, wastage, transport and profit.</p> <p><u>NATURE OF GROUND</u></p> <p>The Tenderer must acquaint himself with the nature of the material to be excavated. The nature of the ground is assumed to be medium, dense and very dense material, therefore earth, but possibly interspersed with "hard rock" or "intermediate material".</p> <p><u>PRICING OF THIS BILLS OF QUANTITIES</u></p> <p>Any items left unpriced will be understood to be provided free of charge and no claim for any extras arising out of the Tenderers omission to price any item will be entertained.</p> <p><u>SCOPE OF WORKS</u></p> <p>The contractor are to refer to the Specification Document "Replacement of Service Water Pipelines " Document Identifier: 240-161608452 enclosed to these Bills of Quantities. The contractors are urged to study this Scope of works prior to pricing.</p> <p><u>REPLACEMENT SCOPE</u></p> <p>The supply of material, fabrication, delivery, installation and commissioning of the following service water pipework:</p> <p>The Service Water Pumps Suction Header (00 PCB 10 BR 010) starting from the tap off from the Raw Water Pump suction line (00 GAC 50 BR 010).</p> <p>NB. Size = 18inch, Total Pipe Length (to be purchased in 6m lengths) = ± 20m</p> <p>The suction pipework to each set of electrical and diesel pumps (00 PCB 21-23 BR 010 and 00 PCB 31-33 BR 010).</p> <p>NB. Size = 12inch, Total Pipe Length (to be purchased in 6m lengths) = ± 24m</p> <p>East and West Service Water Supply pipework (00 PCB 11 BR 010 and 00 PCB 12 BR 010) starting from valves 00 PCB 11/12 AA 505 up to and including the bend just before the vertical section (where the pipelines change elevation to the gantry crossing the road).</p> <p>NB. The replacement must include both Service Water strainers (00 PCB 11/12 AT001), isolation valves 00 PCB 22 AA 506 and 00 SGA 40 AA 501/502</p> <p><u>INSTALLATION OF NEW PIPES</u></p> <p>Design, supply of material, fabrication, delivery, installation and commissioning of a new service water system (including all necessary supports) which will replace the following lines:</p> <p>East and West Service Water Supply pipework (00 PCB 11 BR 010 and 00 PCB 12 BR 010) starting after the bend where the vertical section begins up to and including the tie-in to the Header supplying the Air Heaters and Ash Plant and the Header supplying the Boiler and Turbine tundishes.</p> <p>Header supplying the Air Heaters and Ash Plant (01/02 PCB 20 BR 010).</p> <p>Header supplying the Boiler and Turbine tundishes (01/02 PCB 10 BR 010).</p> <p>Tap offs from the Header supplying the Air Heaters and Ash Plant and the Header supplying the Boiler and Turbine tundishes to each unit up to and including the first isolation valve per unit tap off.</p> <p>Tap off to the East and West Ash Water Sealing System (01/02 PCB 23 BR 010).</p>				

<u>Other Requirements:</u>				
All welding will be in line with the requirements of EN13480 and the Eskom welding requirements document 240-106628253 Standard for Welding Requirements on Eskom Plant				
All fit-up inspections must be conducted by Welding Inspector				
All final welds must be NDT as per 240-83539994 Standard for Non-Destructive Testing (NDT) on Eskom Plant				
NB. NDT's to be conducted by an Eskom approved NDT company				
<u>DESIGN OF THE WORKS</u>				
The contractor must allow for the complete design of the works including all support structure for the new pipe line by a Professional Engineer	sum	1	R	
<u>TIE IN TO EXISTING</u>				
The Contractor is to pay carefull attention to the Tie in between the new line to existing infrastructure to minimise the down time for this activity as this activity will pose a serious threat to the functionality of the Power Station.	sum	1	R	
<u>SURVEY BEFORE AND AFTER</u>				
The Contractor must allow for a Professional Land surveyor to survey the proposed pipeline prior to the work being undertaken and to conduct a asbuilt Survey on completion of the works	sum	1	R	
<u>REMOVE EXISTING SERVICE WATER LINE</u>				
Carefully remove existing piping and transport to a dedicated point within Camden Facility.	m	44	R	
<u>PAINT SPECIFICATIONS</u>				
All pipelines to have a corrosive resistant internal and external coating as per Eskom specification (see Annexure B of the Specification Document)				
NB. Internal and external corrosion protection to comply with 240-106365693 - Standard for the External Corrosion Protection of Plant, Equipment and Associated Piping with Coatings and 240-101712128: Standard for the Internal Corrosion Protection of Water Systems, Chemical Tanks and Vessels and Associated Piping with linings Install gaskets and flange pipe sections together by fastening nuts and bolts				
2	<u>Install new pipelines including all valves and fittings</u>			
2.1	<u>Pipes to conform to ASMTM A234 WPB</u>			
2.1.1	100NB in 6m lengths	No.	22	R
2.1.2	250NB in 6m lengths	No.	325	R
2.1.3	300NB in 6m lengths	No.	217	R
2.1.4	450NB in 6m lengths	No.	4	R
3	<u>Flanges to conform to BS :10 Table E or latest equivalent</u>			
3.1	100NB	No.	47	R
3.2	250NB	No.	888	R
3.3	300NB	No.	17	R
3.4	450NB	No.	11	R
3.5	Weld flanges on new pipes	No.	1 348	R
4	<u>Gaskets</u>			
4.1	Klinger C4430 Gaskets	m	56	R
5	<u>Washers</u>			
5.1	M16 Washers-100NB	No.	200	R

5.2	M20 Washers-250NB	No.	6 451	R
5.3	M24 Washers-300NB	No.	190	R
6	<u>Nuts</u>			
6.1	M16 Nuts-100NB	No.	200	R
6.2	M20 Nuts-250NB	No.	6 451	R
6.3	M24 Nuts-300NB	No.	190	R
7	<u>Bolts</u>			
7.1	M16 Bolts-100NB	No.	200	R
7.2	M20 Bolts-250NB	No.	6 451	R
7.3	M24 Bolts-300NB	No.	190	R
8	<u>Bend to conform to ASMTM A234 WPB</u>			
8.1	100NB 90° Long Radius Pipe Bends, unflanged	No.	11	R
8.2	250NB 90° Long Radius Pipe Bends, unflanged	No.	29	R
8.3	300NB 90° Long Radius Pipe Bends, unflanged	No.	6	R
8.4	450NB 90° Long Radius Pipe Bends, unflanged	No.	5	R
8.5	100NB 90° Short Radius Pipe Bends, unflanged	No.	11	R
8.6	250NB 90° Short Radius Pipe Bends, unflanged	No.	44	R
8.7	300NB 90° Short Radius Pipe Bends, unflanged	No.	6	R
8.8	450NB 90° Short Radius Pipe Bends, unflanged	No.	5	R
8.9	100NB 45° Bend, unflanged	No.	11	R
8.10	250NB 45° Bend, unflanged	No.	43	R
8.11	300NB 45° Bend, unflanged	No.	6	R
8.12	450NB 45° Bend, unflanged	No.	5	R
9	<u>T-Piece to conform to ASMTM A234 WPB</u>			
9.1	250NB T-Piece, 250mm outlet	No.	7	R
9.2	250NB T-Piece, 250mm inlet	No.	7	R
9.3	450NB T-Piece, 250mm inlet	No.	21	R
9.4	450NB T-Piece, 100mm outlet	No.	21	R
9.5	450NB-T-Piece, 450mm inlet	No.	7	R
9.6	450NB T-Piece, 300mm outlet	No.	7	R
10	<u>Endcaps to conform to ASMTM A234 WPB</u>			
10.1	100NB Endcap	No.	11	R
10.2	250NB Endcap	No.	11	R
10.3	300NB Endcap	No.	11	R
10.4	450NB Endcap	No.	11	R
11	<u>Valves All valves conform to 240 - 105020315 Eskom Standard for Low Pressure Valves</u>			
11.1	100NB Valve	No.	11	R
11.2	250NB Valve	No.	11	R
11.3	300NB Valve	No.	11	R
11.4	450NB Valve	No.	11	R

12	<u>Reducers ASMTM A234 WPB</u>			
12.1	100NB Reducer	No.	6	R
12.2	200NB Reducer	No.	6	R
13	<u>Cast Iron Duplex Strainers:</u>			
	<u>Preamble</u>			
	2 x 10" duplex strainers – manufactured according to BS 10 Material = Cast iron Flange height from ground = 345mm Flange to flange measurement = 1143mm Flange diameter = 406.4mm Flange thickness = 15.9mm Pipe outer diameter = 273mm No of holes on flange = 8 Hole diameter = 22.2mm PCD = 355.6mm Strainer mesh size = 5mm Strainer material = Stainless steel			
13.1	2 x 10" duplex strainers – manufactured according to BS 10	No.	2	R
15	<u>Scaffolding</u>			
	<u>Preamble</u>			
	The Contractor must allow in his tender for the Design of the Scaffolding by Professional Registered Engineer The Contractor must also note that the Scaffolding Height will vary from 3m to a maximum height of 12 m high.Scaffolding will remain for the duration of the contract. The Contractor is advised that all scaffolding must be procured by an Eskom approved contractor called ORAM contact number is 083 320 2178			
15.1	The following pre-approved rates must be used for the scaffolding when pricing this document.	m	3 408	R
	<u>Scaffolding Supervisor (1NO)</u>			
	Normal Hours R 103.82 per hour Overtime R142.11 per hour Saterdag R142.11 per hour Sunday R189.48 per hour			
	<u>Safety Officer (1NO)</u>			
	Normal Hours R 163.25 per hour Overtime R205.72 per hour Saterdag R205.72per hour Sunday R274.29 per hour			
	<u>Scaffold Section Leader (5NO)</u>			
	Normal Hours R 77.41 per hour Overtime R104.72 per hour Saterdag R104.72 per hour Sunday R138.95 per hour			
	<u>Scaffold erectors(13NO)</u>			
	Normal Hours R 68.85 per hour Overtime R88.11 per hour Saterdag R88.11 per hour Sunday R117.48per hour			
	<u>Labourers (10 NO)</u>			
	Normal Hours R 42.38 per hour Overtime R53.06 per hour Saterdag R53.06 per hour Sunday R70.74 per hour			
	<u>Scaffold Material</u>			

	Scaffold Equipment R647 per ton				
	<u>PPE</u>				
	Disposal overalls R68.04 each				
	FF2 Disposal Respirators R11.91 each				
	Medical Induction R600 each				
	<u>Travel and Subsistence</u>				
16	PPE per person year R1800 each				
	22 Seater bus R37000 monthly				
16.1	Scaffolding built for the entire length of pipe that will be replaced (where required) for the duration of the contract	Sum	1	R	
	<u>As-built drawings</u>				
	The as-built drawing should include clear labels indicating all welds	Sum	1	R	
	<u>TESTING AND INSPECTIONS BEFORE DELIVERY</u>				
	The Contractor is to make Provision for Testing and Inspections before delivery of the contract.	Sum	1	R	
17	<u>PROVISIONAL SUMS</u>				
	NOTE: All P.C. Amounts and Provisional Sums appearing in these Bills of Quantities are Net Costs excluding Value Added Tax (VAT) and the Contractor must add for any profit, etc. If required against the item immediately following the P.C Amount or Provisional Sum concerned.				
	The Provisional Sums are all NET amounts (exclusive of commission or discount for the contractor)				
	Under no circumstances may any Provisional or Budgetary amount be extended at an amount lower than the amount given in the descriptions.				
	Provisional Sums and Budgetary allowances contained herein may be omitted or reduced at the Contracts Manager discretion and the Contractor shall not be entitled to claim for any loss by way of reductions or omission of any discount or percentage relating to Provisional amounts and Budgetary sums or any loss of profit related thereto.				
17.1	Provide the amount of R2 000,000.00 (Two million Rands) for undertaking any unforeseen work that might be required during the construction of the works			R	2 000 000.00
17.2	Profit on above item.			R	
17.3	Attendance on ditto.			R	
GRAND-TOTAL (EXCL. VAT) TRANSFERRED TO FINAL SUMMARY				R	

FINAL SUMMARY

REPLACEMENT OF SERVICE WATER PIPELINE PROVISIONAL BILLS OF QUANTITIES

FINAL SUMMARY

No.	<u>Description</u>			Amount
1	Preliminaries			R
2	Bills Of Quantities			R
	Sub Total			R
	<u>Value Added Tax</u>			
	Allow 15 per cent (15%) of the above sub-total for Value Added Tax			R
	Grand-Total (Excl. VAT) - Carried to Form of Offer and Acceptance			R