NGAKA MODIRI MOLEMA DISTRICT MUNICIPALITY

BID DESCRIPTION: PANEL OF SERVICE PROVIDER FOR THE ASSESSMENT OF THE EXISTING BOREHOLES-PUMP-TESTING, RE-DRILLING, EQUIPPING OF BOREHOLES, CONSTRUCTION OF PUMP HOUSES WITH PALISADE FENCE, INSTALLATION OF STORAGE TANKS AND PIPELINE INCLUDING REPLACEMENT OF LEAKING BULK PIPELINE IN NGAKA MODIRI MOLEMA DISTRICT MUNICIPALITY FOR PERIOD OF THREE (03) YEARS ON AS AND WHEN REQUIRED BASIS

BID NUMBER: NMMDM 26/27/05 PWBS

TENDER SUBMITTED BY:
COMPANY DIRECTOR:.....

NAME OF COMPANY:.....

ADDRESS: .....

.....

TEL. / CELL NUMBER:.....

E-MAIL ADDRESS:.....

ISSUED BY:

Acting Municipal Manager
Ngaka Modiri Molema District Municipality
Private Bag X 2167
Mafikeng
2745
Tel: (018) 381 9400

CLOSING DATE: 03rd DECEMBER 2026 AT 11:00AM

INDEX

INVITATION TO BID 3
LIST OF RETURNABLE DOCUMENTS 6
MBD 4 10
MBD 5 13
MBD6.1 15
90/10 16
80/20 or 90/10 17
CONTRACT FORM - RENDERING OF SERVICES 20
PART 1 (TO BE FILLED IN BY THE SERVICE PROVIDER) 20
MBD 8 23
MBD 9 25
FUCTIONALITY 35
PRICING SCHEDULE 37
GENERAL CONDITIONS OF CONTRACT 74

NGAKA MODIRI MOLEMA DISTRICT MUNICIPALITY

INVITATION TO BID

Prospective service providers are hereby invited to bid for the: **PANEL OF SERVICE PROVIDER FOR THE ASSESSMENT OF THE EXISTING WATER SOURCES AQUIFER-TESTING, RE-DRILLING, EQUIPPING OF BOREHOLES, CONSTRUCTION OF PUMP HOUSES WITH PALISADE FENCE, INSTALLATION OF STORAGE TANKS AND PIPELINE INCLUDING REPLACEMENT OF LEAKING BULK PIPELINE IN NGAKA MODIRI MOLEMA DISTRICT MUNICIPALITY FOR PERIOD OF THREE (03) YEARS ON AS AND WHEN REQUIRED BASIS.**

Detailed bids documents are obtainable from www.etenders.gov.za / www.nmmdm.gov.za/tenders

Tenders completed as prescribed shall be sealed in an envelope marked **"BID NO: NMMDM 26/27/05 PWBS: PANEL OF SERVICE PROVIDER FOR THE ASSESSMENT OF THE EXISTING WATER SOURCES AQUIFER-TESTING, RE-DRILLING, EQUIPPING OF BOREHOLES, CONSTRUCTION OF PUMP HOUSES WITH PALISADE FENCE, INSTALLATION OF STORAGE TANKS AND PIPELINE INCLUDING REPLACEMENT OF LEAKING BULK PIPELINE IN NGAKA MODIRI MOLEMA DISTRICT MUNICIPALITY FOR PERIOD OF THREE (03) YEARS ON AS AND WHEN REQUIRED BASIS.** and deposited in the bid box at Ngaka Modiri Molema District Municipality, Cnr Carrington and 1st Avenue, Industrial Sites, Mahikeng, to reach its destination not later than **03rd DECEMBER 2026 AT 11H00AM** when tenders shall be opened in public.

Bids will be adjudicated according to Council's Supply Chain Management Policy, based on the Preferential Procurement Regulations 2022 using compliance, functionality and 90/10 points system.

The validity period for this tender is 90 days.

Any enquiries regarding the bidding procedure may be directed to Ms. B. Mokate / Mr. O. Seope (018) 381 9450, e-mail mokateb@nmmdm.gov.za / seopeo@nmmdm.gov.za
Any enquiries regarding technical information may be directed to Mr K. Bonokwane 066 278 0298 / Mr. M.A Senwedi 083 377 6543, e-mail bonokwanek@nmmdm.gov.za, senwedim@gmail.com

SIGNED
Mr. F.T MABOKELA
ACTING MUNICIPAL MANAGER

PART A
INVITATION TO BID

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE (*NAME OF MUNICIPALITY/ MUNICIPAL ENTITY*)					
BID NUMBER:		CLOSING DATE:		CLOSING TIME:	
DESCRIPTION					
THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (MBD7.2).					

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

SUPPLIER INFORMATION						
NAME OF BIDDER						
POSTAL ADDRESS						
STREET ADDRESS						
TELEPHONE NUMBER	CODE		NUMBER			
CELLPHONE NUMBER						
FACSIMILE NUMBER	CODE		NUMBER			
E-MAIL ADDRESS						
VAT REGISTRATION NUMBER						
TAX COMPLIANCE STATUS	TCS PIN:		**OR**	CSD No:		
ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES OFFERED?	☐Yes ☐No [IF YES ENCLOSE PROOF]		ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES OFFERED?	☐Yes ☐No [IF YES, ANSWER PART B:3]		
TOTAL NUMBER OF ITEMS OFFERED			**TOTAL BID PRICE**	**R**		
SIGNATURE OF BIDDER	.....		**DATE**			
CAPACITY UNDER WHICH THIS BID IS SIGNED						

BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO:		**TECHNICAL INFORMATION MAY BE DIRECTED TO:**	
DEPARTMENT		CONTACT PERSON	
CONTACT PERSON		TELEPHONE NUMBER	
TELEPHONE NUMBER		FACSIMILE NUMBER	
FACSIMILE NUMBER		E-MAIL ADDRESS	
E-MAIL ADDRESS			

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 (NOT TO BE RE-TYPED) OR ONLINE**

1.3. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATIONS 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

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: ……...

LIST OF RETURNABLE DOCUMENTS

1. Proof of Central Suppliers Database (CSD) registration
2. A signed Joint Venture Agreement (In case of a Joint Venture)
3. Municipal Rates and Taxes Statements of all the Directors
    - 3.1 Municipal rates and taxes statement not older than three months from the date of tender closure for each directors' address must be attached; or
    - 3.2 Valid lease agreement of the director/s (showing all critical contractual obligations), the director must submit the statement of rates and taxes of the lessor or a letter from a tribal authority if the lessor is residing in a tribal land, or
    - 3.3 A letter from tribal authority (a copy acceptable) not older than three (3) months if the director/s are residing in a tribal land, or
    - 3.4 If the rates and taxes account are not in the names of the director/s the attached municipal rates and taxes statement of the residence owner must be submitted together with an original affidavit from the lessor and from the director of the company to confirm that the director resides on the property.
    - 3.5 the address that appears on the rates statement must correspond to the address on the CSD.
4. Municipal Rates and Taxes Statements of the Company
    - 4.1 Municipal rates and taxes statement not older than three months from the date of closure for the company's' address must be attached; or
    - 4.2 Valid lease agreement of the company (showing all critical contractual obligations), the lessor must submit the statement of rates and taxes or a letter from a tribal authority if the lessor is residing in a tribal land, or
    - 4.3 A letter from a tribal authority (a copy acceptable) not older than three (3) months if the company is operating from a tribal land, or
    - 4.4 If the rates and taxes account are not in the names of the company, the attached municipal rates and taxes statement of the lessor must be submitted together with an original affidavit from the lessor and from director of the company confirming that the company operates from the property.

4.5 the address that appears on the rates statement must correspond to the address on the CSD.

5. Should the Company (Bidder) be operating from the Same Address as the Director, An affidavit confirming such should be submitted.
6. Three Years Audited Annual Financial Statements, if not required by law then Annual Financial Statements by independent reviewer.
7. A valid Compensation for Occupational Injuries and Disease Act (COIDA) certificate.
8. **A valid CIDB Grade 5 CE or higher.**
9. The tenderer must submit a detailed Safety Plan outlining the procedures as defined by Occupational Health and Safety Act No 85 of 1993 with its regulations. Should the bidder fail to present such documentation this will result in immediate disqualification.
10. Requirements should be submitted for J.V based on their applicability.
11. Soft copy of the entire document including returnable saved in a USB is **compulsory.**

BID REQUIREMENTS

1. Late bids will not be considered. Please note that bids are late if they are received after the closing date and time.
2. Bids will be valid for 90 days.
3. All MBDs must be fully completed and signed.
4. All prices must be quoted in South African currency and must be VAT Inclusive.
5. All the items in the Pricing Schedule table must be priced, failure to price all items will render your bid non-responsive.
6. All relevant forms attached to this bid document must be completed and signed in black ink where applicable by a duly authorised official. Use of tippex and pencil will not be acceptable.
7. Certified copies must have a date of certification and should be not older than 3 months as at the close of the tender. (Should the copy not have the date of certification the tender will be regarded as non-responsive)
8. Only original stamp and signature will be accepted.
9. Copy of a certified copy will be considered non-responsive.
10. 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
11. 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
12. Proof of residence from ward councillors will not be accepted.

NGAKA MODIRI MOLEMA DISTRICT MUNICIPALITY

SIGNATORY AUTHORISATION

(To be completed by the Bidder)

SIGNATORY AUTHORISATION

I/We the undersigned, am/are authorized to enter into this contract on behalf of

---

(Name of Firm)

By virtue of resolution dated ----------day of ----------20----------
(Month)

The certified copy of resolution that is herewith attached to this Bid.

…… ……..…….
(Initials and Surname in full) Signature

WITNESS

……..……
Signature

NGAKA MODIRI MOLEMA DISTRICT MUNICIPALITY

DECLARATION OF INTEREST

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

2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority and/or take an oath declaring his/her interest.

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

3.1 Full Name:
……

3.2 Identity Number:
……

3.3 Position occupied in the Company (director, trustee, shareholder)……

3.3 Company Registration Number:……

3.5 Tax Reference Number:
……

3.6 VAT Registration Number:
……

3.7 The names of all directors / trustees / shareholder members, their individual identity numbers and state employee numbers must be indicated in paragraph 4 below.

3.8 Are you presently in the service of the state*
YES/NO

MSCM Regulations: "in the service of the state" means to be –
- **(a) a member of –**
  - **(i) any municipal council;**
  - **(ii) any provincial legislature; or**
  - **(iii) the national Assembly or the national Council of provinces;**
- **(b) a member of the board of directors of any municipal entity;**
- **(c) an official of any municipality or municipal entity;**

3.8.1 If so, furnish particulars:

……

3.9 Have you been in the service of the state for the past twelve months?
YES/NO

3.9.1 If so, furnish particulars:

……

3.10 Do you, have any relationship (family, friend, other) with persons in the service of the state and who may be involved with the evaluation and or adjudication of this bid? **YES/NO**

3.10.1 If so, furnish particulars:

……
……

3.11 Are you, aware of any relationship (family, friend, other) between any bidder and any persons in the service of the state who may be involved with the evaluation and or adjudication of this bid? **YES/NO**

3.11.1 If so, furnish particulars:

……
……..

3.12 Are any of the company's directors, managers, principle shareholders or stakeholders in service of the state?
YES/NO

3.12.1 If so, furnish particulars:

……
.

3.13 Are any spouse, child or parent of the company's directors Managers, principle shareholders or stakeholders in service of the state?
YES/NO

3.13.1 If so, furnish particulars:

……

3.14 Do you or any other of the directors, Managers, principle shareholders or stakeholders of this company have any interest in any other related companies

---

(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);

business whether or not they are bidding for this contract?

YES/NO

3.14.1 If so, furnish particulars:

.....

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

Full Name	**Identity Number**	**State Employee Number**

I, THE UNDERSIGNED (NAME)

.....
CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS CORRECT.
I ACCEPT THAT THE STATE MAY ACT AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

....
Signature Date

.....
Position

.....
Name of Bidder

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.

……

……

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.

……

……

*** Delete if not applicable**

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 and whether any 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 (NAME)

.....

.....

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

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

---------- **----------**

Signature **Date**

---------- **----------**

Position **Name of Bidder**

MBD6.1

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

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

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

1. GENERAL CONDITIONS

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

- the 90/10 system for requirements with a Rand value of above R50 000 000 (all applicable taxes included)

1.2 To be completed by the organ of state
(delete whichever is not applicable for this tender).

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

b. 90/10 preference point system will be applicable in this tender. The lowest acceptable tender will be used to determine the accurate system once tenders are received.

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

a. Price; and
b. Specific Goals.

1.4 To be completed by the organ of state:

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	**90**
SPECIFIC GOALS **COMPANIES BASED WITHIN THE NMMDM JURISDICTION**	**10**
Total points for Price and SPECIFIC GOALS	**100**

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

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 90/10 PREFERENCE POINT SYSTEMS

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

90/10

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

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmin = Price of lowest acceptable tender

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

3.2.1 POINTS AWARDED FOR PRICE

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

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

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

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmax = Price of highest acceptable tender

4. POINTS AWARDED FOR SPECIFIC GOALS

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

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

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

b. any other invitation for tender, that the 80/20 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system,

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

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

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

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

The specific goals allocated points in terms of this tender	Number of points allocated (90/10 system) (To be completed by the organ of state)	Number of points claimed (90/10 system) (To be completed by the tenderer)
COMPANIES BASED WITHIN THE NMMDM JURISDICTION	**10**	

DECLARATION WITH REGARD TO COMPANY/FIRM

3.1. Name of company/firm.....

3.2. Company registration number: .....

3.3. 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]

3.4. 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

forward the matter for criminal prosecution, if deemed necessary.

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

SURNAME AND NAME: .....

DATE: .....

ADDRESS: .....

.....

.....

.....

CONTRACT FORM - RENDERING OF SERVICES

THIS FORM MUST BE FILLED IN DUPLICATE BY BOTH THE SERVICE PROVIDER (PART 1) AND THE PURCHASER (PART 2). BOTH FORMS MUST BE SIGNED IN THE ORIGINAL SO THAT THE SERVICE PROVIDER AND THE PURCHASER WOULD BE IN POSSESSION OF ORIGINALLY SIGNED CONTRACTS FOR THEIR RESPECTIVE RECORDS.

PART 1 (TO BE FILLED IN BY THE SERVICE PROVIDER)

1. I hereby undertake to render services described in the attached bidding documents to (name of the institution)……. in accordance with the requirements and task directives / proposals specifications stipulated in Bid Number…….. at the price/s quoted. My offer/s remain binding upon me and open for acceptance by the Purchaser during the validity period indicated and calculated from the closing date of the bid.

2. The following documents shall be deemed to form and be read and construed as part of this agreement:

   (i) Bidding documents, *viz*
   - Invitation to bid;
   - Proof of tax compliance status;
   - Pricing schedule(s);
   - Filled in task directive/proposal;
   - Preference claim form for Preferential Procurement in terms of the Preferential Procurement Regulations;
   - Declaration of interest;
   - Declaration of Bidder's past SCM practices;
   - Certificate of Independent Bid Determination;
   - Special Conditions of Contract;

   (ii) General Conditions of Contract; and
   (iii) Other (specify)

3. I confirm that I have satisfied myself as to the correctness and validity of my bid; that the price(s) and rate(s) quoted cover all the services specified in the bidding documents; that the price(s) and rate(s) cover all my obligations and I accept that any mistakes regarding price(s) and rate(s) and calculations will be at my own risk.

4. I accept full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on me under this agreement as the principal liable for the due fulfillment of this contract.

5. I declare that I have no participation in any collusive practices with any bidder or any other person regarding this or any other bid.

6. I confirm that I am duly authorised to sign this contract.

NAME (PRINT) .....

CAPACITY .....

SIGNATURE .....

NAME OF FIRM .....

DATE .....

WITNESSES

1 .....

2 .....

DATE:

CONTRACT FORM - RENDERING OF SERVICES

PART 2 (TO BE FILLED IN BY THE PURCHASER)

1. I…… in my capacity as…….. accept your bid under reference number ……dated……for the rendering of services indicated hereunder and/or further specified in the annexure(s).

2. An official order indicating service delivery instructions is forthcoming.

3. I undertake to make payment for the services rendered in accordance with the terms and conditions of the contract, within 30 (thirty) days after receipt of an invoice.

DESCRIPTION OF SERVICE	**PRICE (ALL APPLICABLE TAXES INCLUDED)**	**COMPLETION DATE**	**B-BBEE STATUS LEVEL OF CONTRIBUTION**	**MINIMUM THRESHOLD FOR LOCAL PRODUCTION AND CONTENT (if applicable)**

4. I confirm that I am duly authorised to sign this contract.

SIGNED AT …… ON ……..

NAME (PRINT) …….

SIGNATURE ……

OFFICIAL STAMP

WITNESSES

1 …….

2 …….

DATE:

DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

1. This Municipal Bidding Documents must form part of all bids invited.

2. It serves as a declaration to be used by municipalities and municipal entities in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.

3. The bid of any bidder may be rejected if that bidder, or any of its directors have:

   a. abused the municipality's / municipal entity's supply chain management system or committed any improper conduct in relation to such system;
   b. been convicted for fraud or corruption during the past five years;
   c. wilfully neglected, reneged on or failed to comply with any government, municipal or other public sector during the past five years;
   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 as a company or person 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 National Treasury after the *audi alteram partum* rule was applied)**	☐	☐
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)? **(To access this Register enter the National Treasury's website,** www.treasury.gov.za**, click on the icon "Register for Tender Defaulters" or submit your written request for a hard copy of the Register to facsimile number (012) 326 5445).**	☐	☐
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?	☐	☐

Item	Question	Yes	No
4.3.1	If so, furnish particulars		
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?	☐	☐
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?	☐	☐
4.5.1	If so, furnish particulars		

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME)

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

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

....
Signature Date

....
Position Name of Bidder

CERTIFICATE OF INDEPENDENT BID DETERMINATION

1 This Municipal Bidding Document (MBD) must form part of all bids[1] 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 *per 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:

I, the undersigned, in submitting the accompanying bid:

_____

(Bid Number and Description)

in response to the invitation for the bid made by:

_____

(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)

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

    (a) has been requested to submit a bid in response to this bid invitation;
    (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
    (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder

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 consortium[3] 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.

…… ……

Signature Date

…… ……

Position Name of Bidder

[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.

[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.

TERMS OF REFERENCE (ToR)

Prospective tenderers must take note of the fact that the contract will be executed on the basis of a "Schedule of Rates" contract.

Terms of reference for Contracting Service is inline with the Standard Operating Procedure (SOP) for Groundwater Resource Development for Community Water Supply Projects and Operation. This further includes the Maintenance purpose of existing boreholes infrastructure.

The National Groundwater Strategy has identified the development of a SOP for Groundwater Development for Community Water Supply Projects as a high priority intervention requirement to support a turn-around programme to ensure a higher reliable supply from groundwater sources.

The work should not only address the development of the new sources, but it should also include a comprehensive assessment requirement of the existing supply infrastructure.

It must be strongly emphasised that when work is being done on an existing project to either enhance the source from groundwater or to refurbish groundwater related infrastructure, that this SOP prescribed the following guiding principles:

- the source(s) of the current community water supply,
- the quantity of water available,
- the number of people served,
- the existence of administrative structures responsible for community water supply matters and
- an indication of the capacity.
- the probable availability of groundwater resources in terms of their accessibility and exploitability,
- any restrictions on the utilisation of groundwater and
- its economic viability over the development of alternative sources.

If information is not available, all groundwater (boreholes) in the community should be re-assessed and included into a recommendation report for the entire community supply system for O&M purposes and not only the new borehole that is going to be developed or added to the water supply system.

THE PURPOSE OF THE STANDARD OPERATING PROCEDURE FOR GROUNDWATER DEVELOPMENT FOR COMMUNITY WATER SUPPLY PROJECTS IS TO:

- Ensure and enforce a common approach and a high standard to groundwater development for community water supply projects.

- To guide the sector and practitioners to enable high standards throughout the exploration, development and monitoring of groundwater usage.

The work to be undertaken within this contract comprises of an Assessment of existing water source for domestic purposes as guided by SANS 10299 (Borehole-Aquifer pump testing, Re-Drilling, and equipping of boreholes) and water quality analysis as per SANS 241.

Existing Boreholes that need to be rehabilitated/re-drilled/ cleaned or newly drilled will subjected to be equipped only in the case when the borehole it is declare successful and productive (>0.5 L/s)

APPROACH AND RESPONSIBILITY:

- The appointed contractor under this tender shall function **under the direct supervision of an Engineering Consulting team /and with a Geo-hydrologist/and Project Management Unit Project Managers** appointed by the Ngaka Modiri Molema Municipality.
- The contractor(s) must maintain the sites as per the Occupation Health Safety (OHS) Act No 85 of 1993 with all its regulations.

1. SCOPE OF WORK:

The main objective of this contract is to seek and establish the capacity of the water supply of existing boreholes as identified by the client or on behalf of the client as appointed Service Providers as/consulting Engineers.

The Tendered shall assess the existing water sources particularly boreholes, springs, wetland areas, artificial boreholes and any other identified source of water that is deemed possible water supply for a respectively community.

2.1. ASSESSMENT OF EXISTING SOURCES AND INTERPRETATION (BOREHOLE PER SANS 10299)

This activity entails the assessment of individual aquifer (boreholes wellfield) within identified target areas which shall include following:

- Rehabilitation of existing boreholes by cleaning and flushing of borehole to access the groundwater table;
- Removal of existing equipment (As and When necessary),
- Pump testing of potential identified borehole (Borehole as Per SANS 10299)
- Groundwater quality sampling by an accredited water laboratory in-line with SANS-241.

2.2. GROUNDWATER SOURCE DEVELOPMENT: BOREHOLE SITTING/SURVEY AND DRILLING

This activity entails the drilling of a water supply borehole and its proper construction and development. It must be accomplished by a suitable experienced drilling contractor functioning under the direct supervision of the Geohydrological team responsible for the siting of the borehole. The contractor must at always at Liaison with tribal authority offices before commencing with drilling onsite. Detailed project action includes

- Geological, Geo-hydrological and Geo-physical surveys by use of different field methods such as Magnetic, electromagnetic, electrical resistivity surveys, seismic refraction surveys and equivalent scientific technique. This step will help in identifying drilling target areas of new boreholes to be developed;
- Pump testing of potential identified borehole (Borehole as Per SANS 10299);
- Groundwater quality sampling of successfully Re-drilled boreholes;
- Development of Groundwater management plan;
- Average drilling depth should be preferably up to 150 m, should drilling depth needs to be more than the Municipal official will furnish with further instruction (Drilling of boreholes as per SANS 10299);
- Borehole registration with Department of Water and Sanitation and WULA.

It is vital that the borehole be constructed and completed to certain minimum standards in order to secure the long-term viability and serviceability of the installation. This component of the project is served jointly by the Hydrogeological Consultant and the Drilling Contractor.

It is therefore expected of these parties to function as a team within the framework of their individual briefs as set out in their respective contract agreements with the Implementing Authority. The following are Techniques employed:

- Rotary air percussion drilling;
- mud rotary drilling;
- Odex drilling;
- Horizontal drilling/ directional drilling

2.3. TECHNICAL COMPLETION REPORT:

Technical report requirements as described By the Department of Water and Sanitation in the "Minimum standards and guidelines for groundwater resource development for community water supply and sanitation programme"

2.4 EQUIPPING OF SUCCESSFUL BOREHOLES AS PER SABS 1200

- This phase will depend on the outcome of the borehole is recommended to be successful with a yield not less than 0.5 l/s and above with recommended water quality suitable for portable use;
- The successful borehole must be installed with the detailed approved design and recommendations in respect of: The type of pumping equipment suitable for a successful borehole and the depth to which pumping equipment must be installed;
- It is required that every production borehole shall be fitted with a conduit tube (Piezometer tube) for measurement of groundwater levels;
- It is required that every production borehole shall be attached/ display with detailed information board which include the following:
    i) Borehole number / Refence number
    ii) site Co-ordinates,
    iii) Depth of borehole,
    iv) static water level (mbgl-meter below ground-level)
    v) recommended yield (l/s- liter per second),
    vi) class of water quality,
    vii) Date of borehole drilled
    viii) Date of borehole pump tested,
    ix) Installation depth of pump fitted,
    x) Type of pump installed (mono or submersible)
    xi) size of pump fitted and
    xii) pumping schedule (8hrs/12hrs/24hrs).

2.5. EQUIPMENT USED ON NEW AND EXISTING BOREHOLE (REFER TO ADDITIONAL SPECIFICATION BELOW)

- Mono pump or submersible type pump with all fittings as prescribed on borehole designs and specifications;
- Installation of Diesel or Petrol Driven Engines with all fittings and stands as prescribed on designs and specifications;
- Engines must be provided with a 100-litre diesel tank with stand and or more-bigger size where necessary.
- Engines and standby generators must be fitted with a minimum 1.2m extension exhaust pipe,
- Filters, clutch pulley and starting handle must also be provided as standard;
- Standby (diesel or petrol) generator shall be provided as prescribed by the Client or on behalf of client;
- Dismantling and re-installation of existing borehole equipment/s shall be done by the appointed contractor;

2.6. SUPPLY AND INSTALLATION OF STORAGE TANK AND STANDS (REFER TO ADDITIONAL SPECIFICATION BELOW)

- Where necessary the contractor/s must repair or replace all damaged existing storage stands, steel panels and leaking storage tank after consultation with Municipality;
- Where necessary the contractor/s relocating of existing infrastructure as and when required after consultation with Municipality;
- All storage tanks must be fitted with a flow meter gauge to measure the outflow and inflow of water.
- All flow meter gauge installed must be well secured.

2.7. CONSTRUCTION OF NEW PUMP HOUSE (ALL MATERIAL MUST BE CONCRETE)

- The pump house must have concrete roof with lockable (inside) steel manhole at the top for maintenance purposes;
- Pump house foundation must be 75mm thick pre-cast concrete;
- Pump house must be free of air flow and have access of exhaust pipe to the outside;

- The door must be **steel Plate** (10mm thickness) and the frame with a lockable steel burglar door inside or outside;
- The door must be to the minimum heavy-duty steel with a minimum 6mm thickness and 7 leafy system with a 120mm frame mounted on the door.
- The door must able to able to remove/ replace water engine and standby generator (e,g 1.9m (H) x 1.2m (B)) which is up to 50 KVa size) with a lockable steel burglar door inside or outside;

2.8. INSTALLATION OF SECURITY CONCRETE PALISADE AND OTHER SECURITY FACILITIES:

- The preferred palisade concrete fence must be installed around the pump house, storage tank and any other water infrastructure (e.g pump station);
- Lockable gate (Palisade) 1.8m X 3m.
- Installation of fluorescent 50- 100 lumens per watt Security light;
- Installation of razor wire and/or electric wire shall be fitted around the palisade fence
- The contractor will be required Repair of existing palisade (steel or concrete) as ad when need arise;

2.9. INSTALLATION OF WATER PIPELINE

- Galvanised steel, Mono, Cast-iron, UPVC and HDPE are the most common pipe material used. The size and class of pipes in the distribution network is based on the peak demand expected, the minimum required pressure head after friction losses and the available static head provided by elevated storage;
- The pipeline work must be contracted according to the engineering standards for water supply and must be fitted with air valve covers;
- The design of the communal standpipes must meet the standard for community water supply;
- The contractor must provide the municipality with As-Built drawing on all installed pipeline and communal taps

2.10. FINAL ACCEPTANCE

- The Municipality shall accept a successful finished community water supply infrastructure by verifying the work done and certifying the Contractor's invoice for such work as true and correct for payment processing.
- The claim submitted by the appointed contractor must reflect the rate approved by the Municipality. **Any rate that is claimed, which not in the approved Bill of Quantities will not be acceptable and processed.**
- Any invoice submitted must be accompanied by a well detailed Technical Report which must include the following:
  - i) Site and description locality with coordinates;
  - ii) Geology/geohydrological characteristics of the site;
  - iii) The population demand of the area;
  - iv) Pictures before work commenced, picture during construction and picture after construction is completed
  - v) Financial records of a projects must be indicated
  - vi) Job cards and/ completion certificate with coordinates must be attached with the report
  - vii) Job cards and/ completion certificate must be signed by the contractor/Engineer and municipal official.

2.11 SKILLS TRANSFER

The appointed service provider shall be required to implement a structured skills transfer and capacity-building programme throughout the duration of the contract. The programme must be aimed at equipping designated municipal officials with the necessary technical knowledge, practical skills and competencies relevant to the services being procured.

FUCTIONALITY

No.	Description	Allocated Points	Allocated Score	Total Points Scored
1.	**KEY PERSONNEL** **30 Points**	NB: ATTACH CV AND CERTIFIED COPIES WITH ORIGINAL STAMPS AND NOT OLDER THAN THREE (03) MONTHS AT THE TIME OF TENDER CLOSURE 01 x Site Agent- Minimum National Diploma: Civil Engineering with 2 Yrs. Experience in Civil Construction responsibility =15 points 01 x Geohydrologist/ Geologist/ Geophysician survey Minimum National Diploma: Geology and 5 Experience in Survey, Borehole Drilling, Testing responsibility =10 points Must be a Registered Professional Scientist with South African Council for Natural Scientific Profession (SACNSP)	25	
		01 X Safety officer- 3 minimum Yrs. Experience in OHS responsibility. With OHSA (construction regulation) qualification	5	
2.	**RELEVANT COMPANY EXPERIENCE ON SIMILAR PROJECTS** **= 30 Points** (Attach copy of Appointment Letter with corresponding Completion Certificate or reference letter signed by the Accounting Officer on the client's letterhead)	**Drilling and Pump Testing of boreholes:** appointment letters with corresponding completion certificate 3 or more = **10 points**) 2 **=5 points**) (1 **=2points**)	10	
		Equipping of boreholes and pipeline reticulation: (2 or more reference letter: R5 million=**10 points**) (1 reference letter: R 2 million = **5 points**) (1 reference letter: R 0,5million = **2 points**)	10	
		Building and structural works: (1 or more reference letter: R 10million=**10 points**) (1 reference letter: R5 million =**5 points**) (1 reference letter: R 0,5million =**2 points**)	10	
3.	Plant and Equipment = 15 Points (Attach copy of Ownership or Lease agreement)	Drilling Rig =**10 points** TLB =**2 points** Excavator =**3 points**	15	
		TOTAL	**85**	

The Tenderer must score a minimum of 55 points to be evaluated further. The municipality reserves the right to verify the submitted functionality documents

- The experience of the Bidder as opposed to the key staff members / experts in similar projects or similar areas and conditions in relation to the scope of work will be evaluated.

- Bidders should very briefly describe the company experience in this regard and attach it.

- Copies of Appointment Letters and Reference Letters from previous Employers on their letterheads be attached regarding previous work done. Reference letters must be stamped and be on the letter head of the employer and not older than ten (10) years

  NB: No points will be allocated for either Appointment or Reference letters without the Other.

PRICING SCHEDULE

NB: THE FORM OF OFFER MUST BE COMPLETED IN FULL: ALL ITEMS MUST BE PRICED FAILURE TO DO SO WILL RENDER THE BID DOCUMENT NON-RESPONSIVE.

AQUIFER ASSESSMENT: INCLUDING INFRASTRUCTURE VERIFICATION				
Description	**Unit**	**Qty.**	**Rate**	**Amount**
Removal of Existing equipment	P/Borehole			
Set-up at first borehole	Sum			
Inter-hole move	Move			
Site Establishment	Sum			
Installation of test pump	P/Borehole			
Laying of discharge hose	P/Borehole			
Calibration test (min 15min test)	P/Borehole			
Step Discharge Test (min 60min test)	P/Hour			
Constant Discharge test for yield	P/Hour			
Recovery monitoring	P/Borehole			
Monitoring observation borehole	P/Borehole			
Flushing/cleaning of borehole (use of rotary air percussion drill rig)	P/Borehole			
Water Quality Testing (Inorganic & Bacteriological)	P/Sample			
Borehole Camera Inspection	P/Borehole			
Data interpretation & Report Writing (Management Recommendations)	P/Report			
Travelling	P/Km			
Sub-Total				

GROUNDWATER RESOURCE DEVELOPMENT				
Geophysical survey/ Sitting of drilling position	Sum			
Site Establishment (Drilling Rig)	Sum			
Drilling supervision	P/Borehole			
Drilling 219mm	P/metre			
Casing 165mm	P/metre			
Travelling	Per/Km			
Sub-Total				

Description	Unit	Qty.	Rate	Amount
PUMPING MAIN AND SUPPLY				
Site Clearance: Clear route of pipe trenches of vegetation and trees	P/metre	1		
Excavation: Excavate in all material for trenches for the following:				
i) 0,0 m - 1,5 m	P/metre	1		
ii) 1,5 m - 3,5 m	P/metre	1		
Backfill trenches excavated by machine using Labour Intensive Construction methods, compact and dispose of surplus/unsuitable material within a 1 km radius	P/m³	1		
Hard Rock Excavation: Hard rock excavation using blasting or mechanical means (Provisional)	P/m³	1		
Hard rock excavation using hand pneumatic hammers (Provisional)	P/m³	1		
Bedding Material: Provision of bedding from trench excavation within 0.5 Km Radius Selected granular material	P/m³	1		
Bedding Material: Provision of bedding from trench excavation within 0.5 Km Radius Selected fill material	P/m³	1		
Bedding Material: From commercial sources (Provisional) selected granular material	P/m³	1		
Bedding Material: From commercial sources (Provisional) selected fill material	P/m³	1		
Bedding Material: From borrow pits (Provisional) selected granular material	P/m³	1		
Bedding Material: From borrow pits (Provisional) selected fill material	P/m³	1		
Compaction testing	No	1		
Sub-Total				

EQUIPPING OF BOREHOLE, CIVIL AND PIPELINE WORKS (SUPPLY AND INSTALLATION)			
Description	Qty	Rate	Amount
HDPE PIPES (CLASS 10 - 12) (SABS Approved)			
15mm x 100m - HDPE Pipe (Class 12)	1		
20mm x 100m - HDPE Pipe (Class 12)	1		
25mm x 100m - HDPE Pipe (Class 12)	1		
32mm x 100m – HDPE Pipe (Class 12)	1		
40mm x 100m – HDPE Pipe (Class 10)	1		
50mm x 100m – HDPE Pipe (Class 10)	1		
Description	Qty	Rate	Amount
HOSE BIP TAPS (Must comply ISO 6509/SANS 226) (SABS Approved)			
15mm Bip Tap	1		
20mm Bip Tap	1		
GARDEN PLASTIC TAPS (SABS Approved)			

15mm Plastic Tap	1		
20mm Plastic Tap	1		
Description	Qty	Rate	Amount
PLASSON MALE ADAPTERS (Must Range From Class 12)			
15 x 20mm Male Adaptor	1		
20 x 20mm Male Adaptor	1		
25 x 20mm Male Adapter	1		
32 x 20mm Male Adaptor	1		
40 x 20mm Male Adaptor	1		
40 x 32mm Male Adaptor	1		
40 x 40mm Male Adaptor	1		
50 x 20mm Male Adaptor	1		
50 x 32mm Male Adaptor	1		
50 x 40mm Male Adaptor	1		
50 x 50mm Male Adapter	1		
63 x 50mm Male Adapter	1		
75 x 50mm Male Adapter	1		
80 x 50mm Male Adapter	1		
100 x 50mm Male Adapter	1		
Description	Qty	Rate	Amount
PLASSON STRAIGHT COUPLINGS (Must Range From Class 12)			
20mm Straight Coupling	1		
25mm Straight Coupling	1		
25 x 20mm Straight Coupling	1		
32mm Straight Coupling	1		
32 x 20mm Straight coupling	1		
32 x 25mm Straight coupling	1		
40mm Straight coupling	1		
40 x 20mm Straight coupling	1		
40 x 25mm Straight coupling	1		
40 x 32mm Straight coupling	1		
50mm Straight Coupling	1		
50 x 20mm Straight Coupling	1		
50 x 25mm Straight Coupling	1		
50 x 32mm Straight Coupling	1		
Description	Qty	Rate	Amount
UPVC PIPES (SABS) (CLASS 12) (SABS Approved)			
63mm x 6m UPVC Pipe	1		
75mm x 6m UPVC Pipe	1		
90mm x 6m UPVC Pipe	1		
110mm x 6m UPVC Pipe	1		
140mm x 6m UPVC Pipe	1		
160mm x 6m UPVC Pipe	1		
200mm x 6m UPVC Pipe	1		
250mm x 6m UPVC Pipe	1		
300mm x 6m UPVC Pipe	1		
350mm x 6m UPVC Pipe	1		
400mm x 6m UPVC Pipe	1		

420mm x 6m UPVC Pipe	1		
450mm x 6m UPVC Pipe	1		
Description	Qty	Rate	Amount
UPVC PIPES VINYL COLUMN (STANDARD) FOR SUBMERSIBLE PUMPS UPTO 150M DEPTH (SABS Approved)			
50mm x 3m PVC Pipe Vinyl	1		
65mm x 3m PVC Pipe Vinyl	1		
75mm x 3m PVC Pipe Vinyl	1		
80mm x 3m PVC Pipe Vinyl	1		
100mm x 3m PVC Pipe Vinyl	1		
Description	Qty	Rate	Amount
UPVC PIPES VINYL COLUMN (HEAVY) FOR SUBMERSIBLE PUMPS UPTO 250M DEPTH (SABS Approved)			
50mm x 3m PVC Pipe Vinyl	1		
65mm x 3m PVC Pipe Vinyl	1		
75mm x 3m PVC Pipe Vinyl	1		
80mm x 3m PVC Pipe Vinyl	1		
100mm x 3m PVC Pipe Vinyl	1		
Description	Qty	Rate	Amount
MILD STEEL TOP ADAPTER (SABS Approved)			
50mm Mild Steel Top Adapter	1		
65mm Mild Steel Top Adapter	1		
75mm Mild Steel Top Adapter	1		
80mm Mild Steel Top Adapter	1		
100mm Mild Steel Top Adapter	1		
Description	Qty	Rate	Amount
STAINLESS STEEL BOTTOM ADAPTER (SABS Approved)			
50mm Stainless Steel Bottom Adapter	1		
65mm Stainless Steel Bottom Adapter	1		
75mm Stainless Steel Bottom Adapter	1		
80mm Stainless Steel Bottom Adapter	1		
100mm Stainless Steel Bottom Adapter	1		
Description	Qty	Rate	Amount
GALVANISED PIPES (SABS) with threads on end both sides			
15mm x 6m Galvanized Pipe	1		
20mm x 6m Galvanised Pipe	1		
25mm x 6m Galvanised Pipe	1		
40mm x 3m Galvanized Pipe	1		
50mm x 3m Galvanized Pipe	1		
65mm x 3m Galvanized Pipe	1		
75mm x 3m Galvanized Pipe	1		
80mm x 3m Galvanized Pipe	1		
100mm x 3m Galvanized Pipe	1		
Description	Qty	Rate	Amount
MONOPIPES (SABS Approved) with threads on end both sides			
40mm x 3m Monopipe	1		
50mm x 3m Monopipe	1		

65mm x 3m Monopipe	1		
75mm x 3m Monopipe	1		
80mm x 3m Monopipe	1		
100mm x 3m Monopipe	1		
Description	Qty	Rate	Amount
CASCADE CLAMPS (SABS Approved)			
63mm Cascade Clamp	1		
75mm Cascade Clamp	1		
90mm Cascade Clamp	1		
110mm Cascade Clamp	1		
140mm Cascade Clamp	1		
160mm Cascade Clamp	1		
200mm Cascade Clamp	1		
250mm Cascade Clamp	1		
300mm Cascade Clamp	1		
350mm Cascade Clamp	1		
400mm Cascade Clamp	1		
415mm Cascade Clamp	1		
450mm Cascade Clamp	1		
Description	Qty	Rate	Amount
CASCADE SADDLE (SABS Approved)	1		
63mm x 50mm Cascade Saddle	1		
75mm x 50mm Cascade Saddle	1		
90mm x 50mm Cascade Saddle	1		
110mm x 50mm Cascade Saddle	1		
125mm x 50mm Cascade Saddle	1		
140mm x 50mm Cascade Saddle	1		
160mm x 50mm Cascade Saddle	1		
200mm x 50mm Cascade Saddle	1		
250mm x 50mm Cascade Saddle	1		
300mm x 50mm Cascade Saddle	1		
350mm x 50mm Cascade Saddle	1		
400mm x 50mm Cascade Saddle	1		
415mm x 50mm Cascade Saddle	1		
450mm x 50mm Cascade Saddle	1		
500mm x 50mm Cascade Saddle	1		
Description	Qty	Rate	Amount
VJ CLAMPS (SABS Approved)			
140mm VJ Clamps	1		
160mmVJ Clamps	1		
200mm VJ Clamps	1		
250mm VJ Clamps	1		
300mm VJ Clamps	1		
350mm VJ Clamps	1		
400mm VJ Clamps	1		
415mm VJ Clamps	1		
450mm VJ Clamps	1		
500mm VJ Clamps	1		

Description	Qty	Rate	Amount
SADDLES (RE-INFORCED) (SABS Approved)			
50 x 20mm Saddle	1		
63 x 50mm Saddle	1		
75 x 50mm Saddle	1		
90 x 50mm Saddle	1		
110 x 50mm Saddle	1		
125 x 50mmSaddle	1		
140 x 50mm Saddle	1		
160 x 50mm Saddle	1		
200 x 50mm Saddle	1		
250 x 50mm Saddle	1		
300 x 50mm Saddle	1		
315 x 50mm Saddle	1		
350 x 50mm Saddle	1		
400 x 50mm Saddle	1		
415 x 50mm Saddle	1		
450 x 50mm Saddle	1		
Description	Qty	Rate	Amount
PLASSON FEMALE ELBOWS (Must Range From Class 12) (SABS)			
20mm Female Elbow	1		
25mm Female Elbow	1		
32mm Female Elbow	1		
40mm Female Elbow	1		
50mm Female Elbow	1		
63mm Female Elbow	1		
75mm Female Elbow	1		
90mm Female Elbow	1		
110mm Female Elbow	1		
140mm Female Elbow	1		
160mm Female Elbow	1		
200mm Female Elbow	1		
250mm Female Elbow	1		
300mm Female Elbow	1		
350mm Female Elbow	1		
Description	Qty	Rate	Amount
GALVANISED ELBOWS (SABS Approved)			
15mm Galvanised Elbow	1		
20mm Galvanised Elbow	1		
25mm Galvanised Elbow	1		
32mm Galvanised Elbow	1		
40mm Galvanised Elbow	1		
50mm Galvanised Elbow	1		

65mm Galvanised Elbow	1		
75mm Galvanised Elbow	1		
80mm Galvanised Elbow	1		
100mm Galvanised Elbow	1		
Description	Qty	Rate	Amount
SOCKETS (GALVANISED) (SABS Approved)			
50mm Socket	1		
50 x 40mm Socket	1		
65mm Socket	1		
65 x 40mm Socket	1		
65 x 50mm Socket	1		
75mm Socket	1		
75 x 40mm Socket	1		
75 x 50mm Socket	1		
75 x 65mm Socket	1		
80mm Socket	1		
80 x 40mm Socket	1		
80 x 50mm Socket	1		
80 x 65mm Socket	1		
80 x 75mm Socket	1		
100mm Socket	1		
100 x 40mm Socket	1		
100 x 50mm Socket	1		
100 x 65mm Socket	1		
100 x 75mm Socket	1		
100 x 80mm Socket	1		
Description	Qty	Rate	Amount
GALVANISED NIPPLES (SABS Approved)			
15mm Galvanised Nipple	1		
20mm Galvanised Nipple	1		
25mm Galvanised Nipple	1		
32mm Galvanised Nipple	1		
40mm Galvanised Nipple	1		
50mm Galvanised Nipple	1		
65mm Galvanised Nipple	1		
75mm Galvanised Nipple	1		
80mm Galvanised Nipple	1		
100mm Galvanised Nipple	1		
GALVANISED TEE'S (SABS Approved)			
15mm Galvanised EQ Tee	1		

20mm Galvanised EQ Tee	1		
25mm Galvanised EQ Tee	1		
20 x 25mm Galvanised Tee	1		
32mm Galvanised EQ Tee	1		
32 x 20mm Galvanised Tee	1		
32 x 25mm Galvanised Tee	1		
40mm Galvanised EQ Tee	1		
40 x 20mm Galvanised Tee	1		
40 x 25mm Galvanised Tee	1		
40 x 32mm Galvanised Tee	1		
50mm Galvanised EQ Tee	1		
50 x 20mm Galvanised Tee	1		
50 x 25mm Galvanised Tee	1		
50 x 32mm Galvanised Tee	1		
50 x 40mm Galvanised Tee	1		
65mm Galvanised EQ Tee	1		
65 x 40mm Galvanised Tee	1		
65 x 50mm Galvanised Tee	1		
80mm Galvanised EQ Tee	1		
80 x 40mm Galvanised Tee	1		
80 x 50mm Galvanised Tee	1		
80 x 65mm Galvanised Tee	1		
100mm Galvanised EQ Tee	1		
100 x 50mm Galvanised Tee	1		
100 x 65mm Galvanised Tee	1		
100 x 80mm Galvanised Tee	1		
Description	Qty	Rate	Amount
UPVC TEE'S (Must Range From Class 12) (SABS Approved)			
63mm UPVC EQ Tee	1		
63 x 50mm UPVC Tee	1		
75mm UPVC EQ Tee	1		
75 x 50mm UPVC Tee	1		
75 x 63mm UPVC Tee	1		
90mm UPVC EQ Tee	1		
90 x 50mm UPVC Tee	1		
90 x 63mm UPVC Tee	1		
90 x 75mm UPVC Tee	1		
110mm UPVC EQ Tee	1		
100 x 63mm UPVC Tee	1		
110 x 90mm UPVC Tee	1		

140mm UPVC EQ Tee	1		
140 x 90mm UPVC Tee	1		
140 x 110mm UPVC Tee	1		
160mm UPVC EQ Tee	1		
160 x 110mm UPVC Tee	1		
160 x 140mm UPVC Tee	1		
200mm UPVC EQ Tee	1		
200 x 110mm UPVC Tee	1		
200 x 140mm UPVC Tee	1		
200 x 160mm UPVC Tee	1		
250mm UPVC EQ Tee	1		
250 x 140mm UPVC Tee	1		
250 x 160mm UPVC Tee	1		
250 x 200mm UPVC Tee	1		
300mm EQ UPVC Tee	1		
300 x 160mm UPVC Tee	1		
300 x 200mm UPVC Tee	1		
300 x 250mm UPVC Tee	1		
350mm UPVC EQ Tee	1		
350 x 160mm UPVC Tee	1		
350 x 200mm UPVC Tee	1		
350 x 300mm UPVC Tee	1		
400mm UPVC EQ Tee	1		
400 x 200mm UPVC Tee	1		
400 x 250mm UPVC Tee	1		
400 x 300mm UPVC Tee	1		
400 x 350mm UPVC Tee	1		
Description	Qty	Rate	Amount
CAST IRON TEE'S (SABS Approved)			
65mm Cast Iron EQ Tee	1		
75mm Cast Iron EQ Tee	1		
90mm Cast Iron EQ Tee	1		
110mm Cast Iron EQ Tee	1		
140mm Cast Iron EQ Tee	1		
160mm Cast Iron EQ Tee	1		
200mm Cast Iron EQ Tee	1		
250mm Cast Iron EQ Tee	1		
300mm Cast Iron EQ Tee	1		
350mm Cast Iron EQ Tee	1		
400mm Cast Iron EQ Tee	1		

450mm Cast Iron EQ Tee	1		
Description	Qty	Rate	Amount
BP MONO ELEMENTS (SUPER D - HIGH PRESSURE) Refer to additional Spec			
BP4 Mono Element HP (Column 40-50mm, Shaft 13-16mm & Power 3kw-7.5kw)	1		
BP6 Mono Element HP (Column 40-50mm, Shaft 13-16mm & Power 3kw-7.5kw)	1		
BP8 Mono Element HP (Column 50-65mm, Shaft 16-19mm & Power 7.5kw-15kw)	1		
BP10 Mono Element HP (Column 50-65mm, Shaft 16-19mm & Power 7.5kw-15kw)	1		
BP12 Mono Element HP (Column 50-65mm, Shaft 16-19mm & Power 7.5kw-15kw)	1		
BP16 Mono Element HP (Column 65mm, Shaft 19mm & Power 7.5kw-15kw)	1		
BP23 Mono Element HP (Column 65mm, Shaft 19mm & Power 7.5kw-15kw)	1		
BP30 Mono Element HP (Column 80mm, Shaft 22mm & Power 30kw)	1		
BP40 Mono Element HP (Column 80mm, Shaft 22mm & Power 11kw-30kw)	1		
BP50 Mono Element HP (Column 100mm, Shaft 22-25mm & Power 37-45kw)	1		
BP65 Mono Element HP (Column 100mm, Shaft 22-25mm & Power 15-45kw)	1		
BP90 Mono Element HP (Column 100mm, Shaft 22-25mm & Power 37-45kw)	1		
Description	Qty	Rate	Amount
SUBMISSIBLE PUMPS & MOTORS (Refer to additional Spec)	1		
0.55kw Submersible Pump & Motor (Single Phase 220v – 240v)	1		
0.55kw Submersible Pump & Motor (3 Phase 380v – 420v)	1		
0.75kw Submersible Pump & Motor (Single Phase 220v – 240v)	1		
0.75kw Submersible Pump & Motor (3 Phase 380v - 420v)	1		
1.1kw Submersible Pump & Motor (Single Phase 220v – 240v)	1		
1.1kw Submersible Pump & Motor (3 Phase 380v – 415v)	1		
1.5kw Submersible Pump & Motor (Single Phase 220v – 240v)	1		
1.5kw Submersible Pump & Motor (3 Phase 380v – 420v)	1		
2.2kw Submersible Pump & Motor (Single Phase 220v – 240v)	1		
2.2kw Submersible Pump & Motor (3 Phase 380v – 420v)	1		
3.7kw Submersible Pump & Motor (3 Phase 380v – 420v)	1		
5.5kw Submersible Pump & Motor (3 Phase 380v – 420v)	1		
7.5kw Submersible Pump & Motor (3 Phase 380v – 420v)	1		
11kw Submersible Pump & Motor (3 Phase 380v – 420v)	1		
15kw Submersible Pump & Motor (3 Phase 380v – 420v)	1		

18kw Submersible Pump & Motor (3 Phase 380v – 420v)	1		
22kw Submersible Pump & Motor (3 Phase 380v – 420v)	1		
30kw Submersible Pump & Motor (3 Phase 380v – 420v)	1		
35kw Submersible Pump & Motor (3 Phase 380v – 420v)	1		
45kw submersible Pump & Motor (3 Phase 380v – 420v)	1		
60kw submersible Pump & Motor (3 Phase 380v – 420v)	1		
Description	Qty	Rate	Amount
CONTROL BOXES (Refer to additional Spec)			
0.55kw Control Box (Single Phase 220v – 240v)	1		
0.55kw Control Box (3 Phase 380v – 420v)	1		
0.75kw Control Box (Single Phase 220v – 240v)	1		
0.75kw Control Box (3 Phase 380v - 420v)	1		
1.1kw Control Box (Single Phase 220v – 240v)	1		
1.1kw Control Box (3 Phase 380v – 415v)	1		
1.5kw Control Box (Single Phase 220v – 240v)	1		
1.5kw Control Box (3 Phase 380v – 420v)	1		
2.2kw Control Box (Single Phase 220v – 240v)	1		
2.2kw Control Box (3 Phase 380v – 420v)	1		
3.7kw Control Box (3 Phase 380v – 420v)	1		
5.5kw Control Box (3 Phase 380v – 420v)	1		
7.5kw Control Box (3 Phase 380v – 420v)	1		
11kw Control Box (3 Phase 380v – 420v)	1		
15kw Control Box (3 Phase 380v – 420v)	1		
18kw Control Box (3 Phase 380v – 420v)	1		
22kw Control Box (3 Phase 380v – 420v)	1		
30kw Control Box (3 Phase 380v – 420v)	1		
37kw Control Box (3 Phase 380v – 420v)	1		
45kw Control Box (3 Phase 380v – 420v)	1		
60kw Control Box (3 Phase 380v – 420v)	1		
Description	Qty	Rate	Amount
ELECTRIC INDUCTOR MOTOR			
2.2kw Motor with Complete Pulley and Base Plate (Single Phase 220v – 240v)	1		
2.2kw Motor with Complete Pulley and Base Plate (3 Phase 380v – 420v)	1		
3.7kw Motor with Complete Pulley and Base Plate (3 Phase 380v – 420v)	1		
4kw Motor with Complete Pulley and Base Plate (Single Phase 220v – 240v)	1		
4kw Motor with Complete Pulley and Base Plate (3 Phase 380v – 420v)	1		

5.5kw Motor with Complete Pulley and Base Plate (3 Phase 380v – 420v)	1		
7.5kw Motor with Complete Pulley and Base Plate (3 Phase 380v – 420v)	1		
11kw Motor with Complete Pulley and Base Plate (3 Phase 380v – 420v)	1		
15kw Motor with Complete Pulley and Base Plate (3 Phase 380v – 420v)	1		
18kw Motor with Complete Pulley and Base Plate (3 Phase 380v – 420v)	1		
22kw Motor with Complete Pulley and Base Plate (3 Phase 380v – 420v)	1		
30kw Motor with Complete Pulley and Base Plate (3 Phase 380v – 420v)	1		
37kw Motor with Complete Pulley and Base Plate (3 Phase 380v – 420v)	1		
45kw Motor with Complete Pulley and Base Plate (3 Phase 380v – 420v)	1		
60kw Motor with Complete Pulley and Base Plate (3 Phase 380v – 420v)	1		
Description	Qty	Rate	Amount
DIESEL STANDBY GENERATOR (SABS Approved)			
5kVA Diesel Generator (Three Phase)	1		
10kVA Diesel Generator (Three Phase)	1		
20kVA Diesel Generator (Three Phase)	1		
25kVA Diesel Generator (Three Phase)	1		
40kVA Diesel Generator (Three Phase)	1		
50kVA Diesel Generator (Three Phase)	1		
60kVA Diesel Generator (Three Phase)	1		
100kVA Diesel Generator (Three Phase)	1		
PETROL GENERATOR (SABS Approved)			
5kVA Petrol Generator (Three Phase)	1		
10kVA Petrol Generator (Three Phase)	1		
20kVA Petrol Generator (Three Phase)	1		
25kVA Petrol Generator (Three Phase)	1		
40kVA Petrol Generator (Three Phase)	1		
Description	Qty	Rate	Amount
SUBMERSIBLE 4 CORE CABLE (SABS Approved)			
1.5mm 4 Core Submersible Cable (Per Roll 500m)	1		
2.5mm 4 Core Submersible Cable (Per Roll 500m)	1		
6mm 4 Core Submersible Cable (Per Roll 500m)	1		
10mm 4 Core Submersible Cable (Per Roll 500m)	1		
ARMOURED 4 CORE CABLE			

4mm 4 Core Armoured Cable (Per Meter)	P/metre		
16mm 4 Core Armoured Cable (Per Meter)	P/metre		
85mm 4 Core Armoured Cable (Per Meter)	P/metre		
Description	Qty	Rate	Amount
LISTER V-BELTS (SABS Approved)			
17 x 1100 V-Belt	1		
17 x 1110 V-Belt	1		
17 x 1160 V-Belt	1		
17 x 1210 V-Belt	1		
17 x 1260 V-Belt	1		
17 x 1400 V-Belt	1		
17 x 1430 V-Belt	1		
17 x 1470 V-Belt	1		
17 x 1775 V-Belt	1		
17 x 1820 V-Belt	1		
17 x 3150 V-Belt	1		
17 x 3658 V-Belt	1		
17 x 3700 V-Belt	1		
17 x 3950 V-Belt	1		
17 X 4000 V-Belt	1		
17 x 4060 V-Belt	1		
17 x 4200 V-Belt	1		
Description	Qty	Rate	Amount
TR DIESEL ENGINES (Refer to additional Spec)			
TR 1 Diesel Engine with Pulley and Slinger	1		
TR 2 Diesel Engine with Pulley and Slinger	1		
TR 3 Diesel Engine with Pulley and Slinger	1		
Description	Qty	Rate	Amount
TAF DIESEL ENGINES (Refer to additional Spec)			
TAF 1 Diesel Engine with Pulley and Slinger	1		
TAF 2 Diesel Engine with Pulley and Slinger	1		
TAF 3 Diesel Engine with Pulley and Slinger	1		
Description	Qty	Rate	Amount
RODS/MONOSHAFTS (SABS Approved)			
12mm Mono-shaft	1		
16mm Mono-shaft	1		
19mm Mono-shaft	1		
22mm Mono-shaft	1		
25mm Mono-shaft	1		

BOBBIN BEARINGS (SABS Approved)			
12mm Bobbin Bearing	1		
16mm Bobbin Bearing	1		
19mm Bobbin Bearing	1		
22mm Bobbin Bearing	1		
25mm Bobbin Bearing	1		
MONO ADAPTER (SABS Approved)			
12mm x 16mm Mono Adapter	1		
16mm x 19mm Mono Adapter	1		
19mm x 22mm Mono Adapter	1		
MONOHEAD PULLEYS (SABS Approved)			
50mm Mono-head Pulley (200mm Head)	1		
50mm Mono-head Pulley (250mm Head)	1		
65mm Mono-head Pulley (200mm Head)	1		
65mm Mono-head Pulley (250mm Head)	1		
65mm Mono-head Pulley 300mmHead)	1		
80mm Mono-head Pulley 300mmHead)	1		
100mm Mono-head Pulley 300mmHead)	1		
MONO STABILISERS (SABS Approved)			
50mm Mono Stabilizer	1		
65mm Mono Stabilizer	1		
75mm Mono Stabilizer	1		
80mm Mono Stabilizer	1		
100mm Mono Stabilizer	1		
NON-RETURN VALVES (SABS Approved)			
40mm Non-Return Valve	1		
50mm Non-Return Valve	1		
65mm Non-Return Valve	1		
75mm Non-Return Valve	1		
80mm Non-Return Valve	1		
100mm Non-Return Valve	1		
CHECK RITE NON-RETURN VALVE (SABS Approved)			
40mm Check Rite Non-Return Valve	1		
50mm Check Rite Non-Return Valve	1		
65mm Check Rite Non-Return Valve	1		

75mm Check Rite Non-Return Valve	1		
80mm Check Rite Non-Return Valve	1		
100mm Check Rite Non-Return Valve	1		
AIR RELIEVE VALVES (SABS Approved)			
25mm Air Valve	1		
50mm Air Valve	1		
65mm Flange + Gasket	1		
75mm Flange + Gasket	1		
80mm Flange + Gasket	1		
100mm Flange + Gasket	1		
200mm Flange + Gasket			
315mm Flange + Gasket			
400mm Flange + Gasket			
GATE VALVES GALVANISED (SABS Approved)			
20mm Gate Valve	1		
50mm Gate Valve	1		
65mm Gate Valve	1		
80mm Gate Valve	1		
100mm Gate Valve	1		
200mm Gate Valve			
315mm Gate Valve			
400mm Gate Valve			
BALL VALVES GALVANISED (SABS Approved)			
20mm Ball Valve	1		
50mm Ball Valve	1		
65mm Ball Valve	1		
80mm Ball Valve	1		
100mm Ball Valve	1		
LINE VALVES FOR UPVC PIPE WITH RUBBERS			
63mm Line Valve	1		
75mm Line Valve	1		
90mm Line Valve	1		
110mm Line Valve	1		
140mm Line Valve	1		
160mm Line Valve	1		
200mm Line Valve	1		
250mm Line Valve	1		
300mm Line Valve	1		

350mm Line Valve	1		
400mm Line Valve	1		
450mm Line Valve	1		
PRESSURE GAUGE (10-70 PSI)			
15mm Pressure Gauge	1		
20mm Pressure Gauge	1		
50mm Pressure Gauge			
STORAGE TANKS (SABS Approved)			
5KL – Storage Tank	1		
10KL – Storage Tank	1		
20KL – Storage Tank	1		
STORAGE STEEL STAND (SABS Approved as per specification)			
5KL – Storage Stand	1		
10KL – Storage Stand	1		
20KL- Storage Stand	1		
BULK METERS WITH RUBBER (CALIBRATED CERTIFICATE) (SABS Approved) AUTOMATED METER READER (AMR) COMPLIANT			
50mm Bulk Meter	1		
80mm Bulk Meter			
100mm Bulk Meter	1		
150mm Bulk Meter	1		
200mm Bulk Meter	1		
250mm Bulk Meter	1		
300mm Bulk Meter	1		
350mm Bulk Meter	1		
400mm Bulk Meter	1		
450mm Bulk Meter	1		
BULK METERS FOR MONOPIPES WITH FLANGES AND GASKETS (CALIBRATED CERTIFICATE) (SABS Approved) AUTOMATED METER READER (AMR) COMPLIANT			
50mm Bulk Meter	1		
80mm Bulk Meter			
100mm Bulk Meter	1		
150mm Bulk Meter	1		
200mm Bulk Meter	1		
250mm Bulk Meter	1		
300mm Bulk Meter	1		

350mm Bulk Meter	1		
400mm Bulk Meter	1		
450mm Bulk Meter	1		
CRUSHER STONES & SAND			
6m^3 Crusher Stone (26.5mm)	1		
6m^3 River Sand	1		
6m^3 Plaster Sand	1		
CENTRIFUGAL HIGH-PRESSURE PUMP			
50mm Centrifugal High-Pressure Pump	1		
100mm Centrifugal High-Pressure Pump	1		
ROCKLER RINGS & LIDS			
500mm Rockler Lids	1		
750 x 500mm Rockler Cover Slab	1		
750 x 250mm Rockler Ring	1		
750 x 500mm Rockler Ring	1		
Pipeline Bench-marker	1		
UPVC Y-JUNCTION (SABS)			
63 mm Y-Junction	1		
63 mm x 75mm Y-Junction	1		
75 mm Y-Junction	1		
90mm Y-Junction	1		
90mm x 63mm Y-Junction	1		
90mm x 75mm Y Junction	1		
110mm x 63mm Y-Junction	1		
110mm x 75mm Y-Junction	1		
110mm x 90mm Y-Junction	1		
140mm Y-Junction	1		
140mm x 90mm Y-Junction	1		
140mm x 110mm Y-Junction	1		
160mm Y-Junction	1		
160mm x 110mm Y-Junction	1		
160mm x 140mm Y-Junction	1		
200mm Y-Junction	1		
200mm x 140mm Y-Junction	1		
200mm x 160mm Y-Junction	1		
250mm Y-Junction	1		

250mm x 160mm Y-Junction	1		
250mm x 200mm Y-Junction	1		
300mm Y-Junction	1		
300mm x 200mm Y-Junction	1		
300mm x 250mm Y-Junction	1		
350mm Y-Junction	1		
350mm x 200mm Y-Junction	1		
350mm x 250mm Y-Junction	1		
350mm x 300mm Y-Junction	1		
400mm Y-Junction	1		
400mm x 200mm Y-Junction	1		
400mm x 250mm Y-Junction	1		
400mm x 300mm Y-Junction	1		
400mm x 350mm Y-Junction	1		
450mm Y-Junction	1		
450mm x 200mm Y-Junction	1		
450mm x 250mm Y-Junction	1		
450mm x 300mm Y-Junction	1		
450mm x 350mm Y-Junction	1		
450mm x 400mm Y-Junction	1		
600mm x 400mm Y-Junction	1		
	1		
UPVC BENDS (SABS Approved)	1		
63mm UPVC Bend 45º	1		
63mm UPVC Bend 90º	1		
75mm UPVC Bend 45º	1		
75mm UPVC Bend 90º	1		
90mm UPVC Bend 45º	1		
90mm UPVC Bend 90º	1		
110mm UPVC Bend 45º	1		
110mm UPVC Bend 90º	1		
140mm UPVC Bend 45º	1		
140mm UPVC Bend 90º	1		
160mm UPVC Bend 45º	1		
160mm UPVC Bend 90º	1		
200mm UPVC Bend 45º	1		
200mm UPVC Bend 90º	1		
250mm UPVC Bend 45º	1		
250mm UPVC Bend 90º	1		
300mm UPVC Bend 45º	1		

300mm UPVC Bend 90º	1		
350mm UPVC Bend 90º	1		
350mm UPVC Bend 90º	1		
400mm UPVC Bend 90º	1		
400mm UPVC Bend 90º	1		
450mm UPVC Bend 90º	1		
450mm UPVC Bend 90º	1		
600mm UPVC Bend 90º	1		
600mm UPVC Bend 90º	1		
ELECTRICAL PARTS/COMPONENTS (SABS Approved)			
240V AC (Three Phase) Conductor	1		
380V – 415V AC (Three Phase) Conductor	1		
10A (Single Phase) Electric Circuit Breaker (CBI) QASA G3	1		
15A (Single Phase) Electric Circuit Breaker (CBI) QASA G3	1		
20A (Single Phase) Electric Circuit Breaker (CBI) QASA G3	1		
25A (Single Phase) Electric Circuit Breaker (CBI) QASA G3	1		
30A (Single Phase) Electric Circuit Breaker (CBI) QASA G3	1		
40A (Single Phase) Electric Circuit Breaker (CBI) QASA G3	1		
45A (Single Phase) Electric Circuit Breaker (CBI) QASA G3	1		
60A Double Pole Electric Circuit Breaker (CBI) QASA G3	1		
63A (Three Phase) Electric Circuit Breaker (CBI) QASA G3	1		
80A (Three Phase) Electric Circuit Breaker (CBI) QASA G3	1		
0.9A Over loader	1		
13A Over loader	1		
36A Over loader	1		
90A Over loader	1		
125A (Three Phase) Circuit Breaker	1		
Neutral Bar (5 Points)	1		
25mm Steel Gland	1		
40mm Steel Gland	1		
Earth Bar (5 Points)	1		
5mm Fisher Plugs	1		
6mm Fisher Plugs	1		
8mm Fisher Plugs	1		
5mm Lux & Washers	1		
6mm Lux & Washers	1		
8mm Lux & Washers	1		
10mm Lux & Washers	1		
4mm Ferrules	1		

6mm Ferrules	1		
10mm Ferrules	1		
12mm Ferrules	1		
20mm Ferrules	1		
25mm Plastic Trunking	1		
25mm Steel Trunking	1		
20mm Whole Saw	1		
40mm Whole Saw	1		
230V Star Delta Timer Switch	1		
400V Star Delta Timer Switch	1		
Timer Switch 400V (Supply Monitor)	1		
230V Electro Multirage Timer Switch	1		
230V Electro Unequal Repeating Timer Switch	1		
240V – 400V Phase Failure	1		
240V – 400V Relay Switch	1		
22KW Vorable Speed Driver (VSD) Motor Monitor	1		
37 KW Vorable Speed Driver (VSD) Motor Monitor	1		
45KW Vorable Speed Driver (VSD) Motor Monitor	1		
55KW Vorable Speed Driver (VSD) Motor Monitor	1		

Repair of leaking Tank and Installation of Storage Tank				
Installation of 06m high stand for 5kl Storage Tank	No			
Installation of 06m high stand for 10kl Storage Tank	No			
Installation of 09m high stand for 5kl Storage Tank	No			
Installation of 09m high stand for 10kl Storage Tank	No			
Repairs of a leaking steel tank (using rubber gasket per compartment)	No			
Repairs of a leaking corroded steel tank caused by rust (replacing the steel compartment)	No			
Repairs of a leaking Concrete Reservoir per m^2 (installing a plastic lining and 30mm)	No			
Repairs of damaged reservoir/manhole lockable steel lids (welding or replacing the lid)	No			
Repairs of leaking/damaged plastic storage tank	No			
Installation of 50 Kl Storage Steel Tank with a lockable steel lid and a complete 6m high steel stand strong enough to carry the load	No			
Installation of 100 Kl Storage Steel Tank with a lockable steel lid and a complete 6m high steel stand strong enough to carry the load	No			
Installation of 150 Kl Storage Steel Tank with a lockable steel lid and a complete 6m high steel stand strong enough to carry the load	No			
Installation of 200 Kl Storage Steel Tank with a lockable steel lid and a complete 6m high steel stand strong enough to carry the load	No			
Installation of 250 Kl Storage Steel Tank with a lockable steel lid and a complete 6m high steel stand strong enough to carry the load	No			
Installation of 300 Kl Storage Steel Tank with a lockable steel lid and a complete 6m high steel stand strong enough to carry the load	No			
Installation of 350 Kl Storage Steel Tank with a lockable steel lid and a complete 6m high steel stand strong enough to carry the load	No			
Installation of 450 Kl Storage Steel Tank with a lockable steel lid and a complete 6m high steel stand strong enough to carry the load	No			
Installation of 550 Kl Storage Steel Tank with a lockable steel lid and a complete 6m high steel stand strong enough to carry the load	No			
Installation of 850 Kl Storage Steel Tank with a lockable steel lid and a complete 6m high steel stand strong enough to carry the load	No			
Installation of 100 Kl Storage Steel Tank with a lockable steel lid and a complete 9m high steel stand strong enough to carry the load	No			
Installation of 150 Kl Storage Steel Tank with a lockable steel lid and a complete 9m high steel stand strong enough to carry the load	No			

Installation of 200 Kl Storage Steel Tank with a lockable steel lid and a complete 9m high steel stand strong enough to carry the load	No			
Installation of 250 Kl Storage Steel Tank with a lockable steel lid and a complete 9m high steel stand strong enough to carry the load	No			
Installation of 300 Kl Storage Steel Tank with a lockable steel lid and a complete 9m high steel stand strong enough to carry the load	No			
Installation of 350 Kl Storage Steel Tank with a lockable steel lid and a complete 9m high steel stand strong enough to carry the load	No			
Installation of 450 Kl Storage Steel Tank with a lockable steel lid and a complete 9m high steel stand strong enough to carry the load	No			
Installation of 550 Kl Storage Steel Tank with a lockable steel lid and a complete 6m high steel stand strong enough to carry the load	No			
Installation of 850 Kl Storage Steel Tank with a lockable steel lid and a complete 9m high steel stand strong enough to carry the load	No			
Installation of 1 Mega Litre ML Storage Steel Tank with a lockable steel lid and a complete 6m high steel stand strong enough to carry the load	No			
Installation of 2 Mega Litre ML Storage Steel Tank with a lockable steel lid and a complete 6m high steel stand strong enough to carry the load	No			
Labour	p/hour			
Sub-Total				

Construction of Pump house and Repairs of Existing Pump house				
Construction of New Concrete pump house (Bick cement material)	P/Borehole	1		
Construction of New Concrete pump house (pre-cast concrete)	P/Borehole	1		
Repair of Pump house side walls and floor on cracks	P/Borehole	1		
Repair of Pump house roof floor on cracks	P/Borehole	1		
Repair of burglar door	P/Borehole	1		
Travelling	P/Km	1		
Sub-Total				

Construction of Palisade fencing				
Installation of Concrete Palisade (With Razor wire around top of fence)	P/metre	1		
Installation of Steel Palisade (With Razor wire around top of fence)	P/metre	1		
Installation of Concrete Palisade (With Electric wire around top of fence)	P/metre	1		
Installation of Steel Palisade (With Electric wire around top of fence)	P/metre	1		
Travelling	Km	1		
Sub-Total				
Contingency 10%				
Total				
Vat 15%				
Grand-Total				

STANDARD SPECIFICATION

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

GENERAL WARRANTY

- At least twelve (12) month warranty is required against service/repairs done on all engines and generators at no cost to NMMDM;
- The contractor must provide security on the infrastructure that is not yet handed over and commissioned.

ADDITIONAL SPECIFICATIONS

SPECIFICATIONS FOR SUBMERSIBLE PUMPS & MOTORS

1. Hermetically sealed stator, anti track, self healing stator resin prevents motor burn out
2. 37 and 45 kW Motors up to 50 °C ambient temperature
3. Removable "Water Bloc" lead connector
4. Cable material according to drinking water regulations (VDE / ACS / KTW approved)
5. Sand fighter® Motor with SiC-Mechanical Seal
6. High efficiency electrical design for low operation cost
7. All motors prefilled and 100% tested
8. Max. storage temperature -15 °C - + 60 °C
9. Non contaminating FES91 –filled design
10. 45 kN High Thrust Versions

TECHNICAL SPECIFICATION FOR SUBMERSIBLE PUMPS & MOTORS

1. 4 - 45 kW
2. 6" NEMA flange
3. Protection: IP 68
4. Starts per hour: max. 20
5. Installation: vertical/horizontal
6. Standard Voltage: 380-415 V/50 Hz, 460 V/60 Hz
7. Voltage tolerance 50 Hz: -10% / +6% UN [380-415 V = (380-10%) – (415+6%)]
8. Voltage tolerance 60 Hz: ±10% UN
9. Motor protection: Select thermal overloads according to DIN 61947-4-1
10. Insulation: Class F
11. Rated ambient temperature: 4- 30 kW up to 30 °C; 37 & 45 kW up to 50 °C
12. Cooling flow: min. 0,16 m/s
13. Motor lead in 4m length (VDE / ACS / KTW approved)

OPTIONS

1. Other voltages
2. YΔ - start (pos. of cables 90°)
3. 45 kN High Thrust Version (Standard in 37 / 45 kW Motors)
4. Motors complete in 304 SS and in complete 316 SS
5. PT 100 temperature sensor (sold separately)
6. Special Lead lengths up to 50 m
7. Built-in PTC temperature sensor
8. Built-in Sub Monitor Transmitter (standard for 37 & 45 kW)

6-INCH MOTOR DESIGN 4 - 30 KW

P_N [kW]	CI-304SS L [mm]	304SS L [mm]	316SS L [mm]	Motor Package size [mm]	Shipping Weight [kg]	
					DOL	YΔ
4	581,2	570,7	570,7	155 x 212 x 800	41,3	40,3
5,5	614,4	604,0	604,0	155 x 212 x 800	44,9	43,9
7,5	646,2	635,8	635,8	155 x 212 x 800	49,0	48,0
9,3	678,7	668,3	668,3	155 x 212 x 1070	51,3	50,3
11	711,2	700,8	700,8	155 x 212 x 1070	54,7	53,7
15	776,2	765,8	765,8	155 x 212 x 1070	60,5	59,5
18,5	841,5	831,1	831,1	155 x 212 x 1070	67,1	66,1
22	906,5	896,1	896,1	155 x 212 x 1070	73,1	72,1
30	1036,6	1026,2	1026,2	155 x 212 x 1200	87,7	87,7

6-INCH ENCAPSULATED 4 - 30 KW MOTOR LENGTHS AND WEIGHTS / PACKING SIZES

Part	CI-304SS	304SS	316 SS
Shell	1.4301	1.4301	1.4571
Upper end bell	Cast iron powder coated	1.4301	1.4408
Lower end bell	Cast iron	Cast iron	1.4401
Thrust housing	Cast iron powder coated	Cast Iron / 1.4301 (Shell)	1.4408
Mechanical seal	SiC / SiC	SiC / SiC	SiC / SiC
Seal cover	1.4301	1.4301	1.4401
Slinger	NBR	NBR	NBR
Shaft end	1.4305	1.4305	1.4462
Diaphragm	NBR	NBR	NBR
Lead	EPR	EPR	EPR
Other seals	BUNA N	BUNA N	BUNA N

MATERIAL DIN / AISI 4,0 - 30,0 KW

6-INCH MOTOR DESIGN 4 - 30 KW

6-INCH ENCAPSULATED 37 - 45 KW MOTOR LENGTHS AND WEIGHTS / PACKING SIZES

P_N [kW]	304 L [mm]	316 L [mm]	Motor Package size [mm]	Shipping Weight [kg]
37	1476.7	1476.7	223 x 267 x 1823	136
45	1629.2	1629.2	223 x 267 x 1823	154

Part	304	316 SS
Shell	1.4301	1.4571
Upper end bell	Cast iron powder coated	1.4408
Lower end bell	Cast iron	1.4401
Thrust housing	Cast iron powder coated	1.4408
Mechanical seal	SiC / SiC	SiC / SiC
Seal cover	1.4301	1.4401
Slinger	Viton	Viton
Shaft end	1.4305	1.4542
Diaphragm	Viton	Viton
Lead	EPR	EPR
Jam Nut (Lead)	Brass	1.4401
Lead bushing	Rubber	Rubber

MATERIAL DIN / AISI
CABLE DESIGN VDE/ACS/KTW APPROVED
6-INCH ENCAPSULATED 37 - 45 KW MOTOR LENGTHS AND WEIGHTS / PACKING SIZES

Ø [mm²]	Motor			B [± 0,3 mm]	B1 [± 0,3 mm]	H [± 0,3 mm]
	220 V	380 - 415 V	500 V			
4G4 (L=4m)	4 - 11 kW, DOL 4 - 22 kW, YΔ	4 - 22 kW, DOL 4-30 kW, YΔ	4-30 kW, DOL	19,0 mm	-	7,0 mm
3X8, 4+1G8, 4 (L=4 m)	15 - 22 kW, DOL 30 - 37 kW, YΔ	30 - 45 kW, DOL 37 - 45 kW, YΔ	-	29,5 mm	19,5 mm	8,9 mm

Specification for Control Box Panels

Performance

- Single and three phase control panels should be designed and optimized to operate the same pump as per size
- They should include: Wire supply, NC On/Off Reset button, MC, Overload Relay and Capacitor

SPECIFICATION for ready made steel stand for 10kl storage tank

Ready-made steel stands that will fit the base of a 10kl storage Tank as per under mentioned specifications are needed:-

1. Square of 2.6m x 100mm x 6mm angle iron;
2. 2.6m x 100mm x 6mm lip channels (carrier beams) be welded closely next to each other on the square;
3. 80mm x 6mm angle iron be welded across the lip channels underneath the carrier beams;
4. 80mm x 6mm angle iron be welded at four corners of the square as stays which will carry the load; and
5. 75mm x 6mm square tubes be welded 45 degrees opposite all four corners with a 500mm length as anchors to support the stays (in case of 1m high stands).
6. 80mm x 6mm angle iron be welded against all four stays supporting the stand with three compartments from the carrier beams to make the stand well balanced (in case of a 6m high stand)
7. 20mm round bars be welded across each other on all four sides from top to bottom.
8. 500mm (w) x 5m (L) steel steps mounted on the stand
9. All the stands be primed and painted with maroon coloured oil paint.

SPECIFICATION for TR Diesel Water Engine

TR1 ENGINE

Power ranges: 5.5 - 9.5 kW; 7.4 - 12.7 bhp
Variable or fixed speed; full load speed range: 1500 - 2500 r/min
Reliable, durable, heavy duty, air cooled diesel engines

Special Attributes

1. Variable and fixed-speed builds available
2. Designed for continuous operation in ambient temperatures up to 52°C (122°F)
3. Oil cooling by means of air flow over deep crankcase finning

Basic Engine Characteristics

1. Diesel fueled
2. Direct injection
3. 1 cylinder
4. air cooled
5. naturally aspirated
6. handstart (electric optional)
7. Exhaust installation on each engine and standby generator

Design Features and Equipment

1. air cleaner
2. inlet and exhaust manifolds
3. self vent fuel system with individual fuel injection pumps
4. fuel filter
5. self regulating plunger type lubricating oil pump
6. spin-on lubricating oil filter
7. decompressor levers
8. flywheel
9. flywheel housing with SAE4 flange
10. 250 hour service intervals
11. mechanical governing
12. variable speed 900-2500 r/min
13. fixed speed 1500 and 1800 r/min
14. operators' handbook

Emissions

1. Models under 19kW comply with EU Stage 3A exhaust emissions regulations

Optional Items

1. 12V electric start
2. gear case power take-off (see over)

TR2 ENGINE

Power ranges: 11.0kW - 19.0 kW; 14.8 - 25.5 bhp
Variable or fixed speed; full load speed range: 1500 - 2500 r/min
Reliable, durable heavy duty air cooled diesel engines

Special Attributes
1. variable and fixed-speed builds available
2. designed for continuous operation in ambient temperatures up to 52°C (122°F)
3. oil cooling by means of air flow over deep crankcase finning

Basic Engine Characteristics
1. diesel fuelled
2. direct injection
3. 2 cylinders
4. air cooled
5. naturally aspirated
6. handstart (electric optional)

Design Features and Equipment
1. air cleaner
2. inlet and exhaust manifolds
3. self vent fuel system with individual fuel injection pumps
4. fuel filter
5. self regulating plunger type lubricating oil pump
6. spin-on lubricating oil filter
7. decompressor levers
8. flywheel
9. flywheel housing with SAE4 flange
10. 250 hour service intervals
11. mechanical governing:
12. variable speed 900-2500 r/min
13. fixed speed 1500 and 1800 r/min
14. operators' handbook

Emissions
1. models under 19kW comply with EU Stage 3A exhaust emissions regulations

Optional Items
1. 12V electric start
2. gear case power take-off (see over)

TR3 ENGINE
Power ranges: 16.8kW - 28.5 kW; 22.5 - 38.2 bhp
Variable or fixed speed; full load speed range: 1500 - 2500 r/min
Reliable, durable heavy duty air cooled diesel engines

Special Attributes
1. variable and fixed-speed builds available
2. designed for continuous operation in ambient temperatures up to 52°C (122°F)
3. oil cooling by means of air flow over deep crankcase finning

Basic Engine Characteristics
1. diesel fuelled
2. direct injection

3. 3 cylinders
4. air cooled
5. naturally aspirated
6. handstart (electric optional)

Design Features and Equipment

1. air cleaner
2. inlet and exhaust manifolds
3. self vent fuel system with individual fuel injection pumps
4. fuel filter
5. self regulating plunger type lubricating oil pump
6. spin-on lubricating oil filter
7. decompressor levers
8. flywheel
9. flywheel housing with SAE4 flange
10. 250 hour service intervals
11. mechanical governing:
    - variable speed 900-2500 r/min
    - fixed speed 1500 and 1800 r/min
12. operators' handbook

Emissions

1. models under 19kW comply with EU Stage 3A exhaust emissions regulations

Optional Items

1. 12V electric start
2. gear case power take-off (see over)

TR ENGINES TECHNICAL DATA SHEET

POWER OUTPUTS TO ISO 3046						
Variable Speed		**r/min**	**1500***	**1800***	**2000**	**2500**
TR1	Continuous Power	kW	5.5	6.7	7.3	8.6
		Bhp	7.4	9.0	9.8	11.5
	Fuel Stop	kW	6.1	7.4	8.0	9.5
		Bhp	8.2	9.9	10.7	12.7
TR2	Continuous Power	kW	11.0	13.1	14.5	17.3
		Bhp	14.8	17.6	19.4	23.2
	Fuel Stop	kW	12.1	14.4	16.0	19.0
		Bhp	16.2	19.3	21.5	25.5
TR3	Continuous Power	kW	16.8	20.2	22.2	25.9
		Bhp	22.5	27.1	29.8	34.7
	Fuel Stop	kW	18.5	22.2	24.4	28.5
		Bhp	24.8	29.8	32.7	38.2

TORQUE TO ISO 3046*O 3046*						
Variable Speed		**r/min**	**1500**	**1800**	**2000**	**2500**
TR1	Fuel Stop	Nm	38.8	39.2	38.2	36.3
		lbf ft	28.6	28.9	28.2	26.8
TR2		Nm	77.0	76.4	76.4	72.6
		lbf ft	56.8	56.3	56.3	53.5
TR3		Nm	117.8	117.8	116.5	108.9
		lbf ft	86.9	86.9	85.9	80.3

SPECIFICATION for TAF Diesel Water Engine

TAF1 ENGINE

ENGINE TYPE – Vertical, single cylinder, air-cooled, four-stroke cycle, compression ignition diesel engine

TECHNICAL SPECIFICATION		
No. of Cylinders		1
Bore x Stroke	(mm)	87.5 X 110
Cubic Capacity	(Ltr)	0.662
Compression Ratio		17.5 : 1
Rated Output as per IS: 11170	kW(hp)	4.41(6)
Rated Speed	rpm	1500
Torque at full load (Crankshaft drive)	kN-m(kg-m)	0.029 (2.865)
Torque at full load (Camshaft drive)	kN-m(kg-m)	0.057 (5.730)
Crankshaft Center Height	(mm)	203
Specific Fuel Consumption (SFC)	(gm/hp-hr)	195 +5%
Lub Oil Consumption		0.8 % of SFC
Lub Oil Sump Capacity	(Ltr)	3.7 at higher level mark on dipstick
Fuel Tank Capacity	(Ltr)	6.5
Overall Dimensions of the standard engine (Length X Width X Height)	(mm)	531 X 546 X 856
Engine Weight (dry) with all fittings excluding packaging	(kg)	163
Rotation while looking at the flywheel		Clockwise / Anti clockwise
Power Take-off		Gear end
Starting		Hand Start
Governing		Class"A2/B1"
Type of fuel injection		Direct Injection
Overloading capacity of engine		10% of the rated output

TAF2 ENGINE

ENGINE TYPE – Vertical, double cylinder, air-cooled, four-stroke cycle, compression ignition diesel engine

TECHNICAL SPECIFICATION		
No. of Cylinders		2
Bore x Stroke	(mm)	87.5 X 110

Cubic Capacity	(Ltr)	1.324
Compression Ratio		17.5 : 1
Rated Output as per IS: 11170	kW(hp)	8.83(12)
Rated Speed	rpm	1500
Torque at full load (Crankshaft drive)	kN-m(kg-m)	0.057 (5.730)
Torque at full load (Camshaft drive)	kN-m(kg-m)	0.115 (11.459)
Crankshaft Center Height	(mm)	203
Specific Fuel Consumption (SFC)	(gm/hp-hr)	195 +5%
Lub Oil Consumption		0.8 % of SFC
Lub Oil Sump Capacity	(Ltr)	7.2 at higher level mark on dipstick
Fuel Tank Capacity	(Ltr)	11.5
Overall Dimensions of the standard engine (Length X Width X Height)	(mm)	700 X 546 X 878
Engine Weight (dry) with all fittings excluding packaging	(kg)	276
Rotation while looking at the flywheel		Clockwise
Power Take-off		Gear end
Starting		Hand Start
Governing		Class"A2/B1"
Type of fuel injection		Direct Injection
Overloading capacity of engine		10% of the rated output

TAF3 ENGINE

ENGINE TYPE – Vertical, triple cylinder, air-cooled, four-stroke cycle, compression ignition diesel engine

TECHNICAL SPECIFICATION		
No. of Cylinders		3
Bore x Stroke	(mm)	87.5 X 110
Cubic Capacity	(Ltr)	1.324
Compression Ratio		17.5 : 1
Rated Output as per IS: 11170	kW(hp)	8.83(12)
Rated Speed	rpm	1500
Torque at full load (Crankshaft drive)	kN-m(kg-m)	0.057 (5.730)
Torque at full load (Camshaft drive)	kN-m(kg-m)	0.115 (11.459)
Crankshaft Center Height	(mm)	203
Specific Fuel Consumption (SFC)	(gm/hp-hr)	195 +5%
Lub Oil Consumption		0.8 % of SFC
Lub Oil Sump Capacity	(Ltr)	7.2 at higher level mark on dipstick
Fuel Tank Capacity	(Ltr)	11.5

Overall Dimensions of the standard engine (Length X Width X Height)	(mm)	700 X 546 X 878
Engine Weight (dry) with all fittings excluding packaging	(kg)	276
Rotation while looking at the flywheel		Clockwise
Power Take-off		Gear end
Starting		Hand Start
Governing		Class"A2/B1"
Type of fuel injection		Direct Injection
Overloading capacity of engine		10% of the rated output

SPECIFICATION for ready-made steel stands for 5kl, 10kl & 20 KL Storage tank

Ready-made steel stands that will fit the base of a 10kl storage Tank as per under mentioned specifications are needed:-

1. Square of 2.6m x 100mm x 6mm angle iron;
2. 2.6m x 100mm x 6mm lip channels (carrier beams) be welded closely next to each other on the square;
3. 80mm x 6mm angle iron be welded across the lip channels underneath the carrier beams;
4. 80mm x 6mm angle iron be welded at four corners of the square as stays which will carry the load; and
5. 75mm x 6mm square tubes be welded 45 degrees opposite all four corners with a 500mm length as anchors to support the stays (in case of 1m high stands).
6. 80mm x 6mm angle iron be welded against all four stays supporting the stand with three compartments from the carrier beams to make the stand well balanced (in case of a 6m high stand)
7. 20mm round bars be welded across each other on all four sides from top to bottom.
8. 500mm (w) x 5m (L) steel steps mounted on the stand
9. All the stands must primed and painted with maroon colored oil paint.

GENERAL SPECIFICATIONS

Fab Tank water storage solutions are made to order according to customers' requirements. However, there are general specifications that apply to all tanks:

- Tank panel size: 1220 x 1220 mm for all panels
- Panels are hydraulically pressed to form a combined flange of 45° and 90° to fit the face of the plate on four sides
- The steel bolt holes are punched with absolute precision to ensure perfect accuracy of the tank dimensions
- Interior of the tanks are reinforced with internal bracing to oppose outward water pressure inside the tank and internal bracing is manufactured from carbon steel and coated using the hot-dipped galvanisation process
- High tensile graded strength of all bolts, nuts and washers (Grade 8.8)

- Roof sheeting is custom fitted according to required tank size and covers the full span of the tank to improve saleability; lockable access manholes are a standard feature
- Optimal sealing of tanks is achieved by placing a pre-punched rubber gasket between panels together with non-toxic sealants
- All its components are coated using hot-dipped galvanisation for optimum protection against corrosion. This includes the bolts, nuts and washers

SPECIFICATIONS OF STEEL TANK COMPONENTS

TANK PLATES

Fab Tank plates undergo a reasonable amount of stress due to water pressure exerted from within the tank. The thickness of the zinc coating on the design panel and not the thickness of the steel is the key to withstanding the water pressure and this all depends on the depth of the tank.

Fab Tanks uses the recommended thickness of zinc coating according to the South African National Standard (SANS) to protect the lifespan of hot-dipped galvanised tanks.

- Maximum depth of the standard tank: 5 panels (6.1 m)

TANK PLATE SPECIFICATIONS

Dimensions: almost any size tank can be constructed using our standard panel size and range of thickness

- **Standard panel size:** 1220 x 1220 mm
- **Thickness:** 3 mm, 4.5 mm and 6 mm

TANK PLATE GUIDELINES

The following guidelines apply for using the appropriate panel thickness to withstand maximum water pressure.

Maximum water pressure	(m head)	1.22	2.44	3.66	4.88
Panel thickness	(mm)	3.0	3.0	4.5	4.5

DOME ROOFING

Individual roof sheets span 1, 2 and 3 panels depending on the width of the tank. When tanks are wider than 3 panels, roofing sheets are overlapped and bent up to ensure optimal sealing.
Roof sheets are available in the following dimensions:

- **Thickness:** 5 mm or 1 mm
- **Width:** 610 mm or 305 mm

The most cost-effective of the above dimensions is: 1 mm/305 mm

INTERNAL BRACING

Depending on the dimension of the water tank, internal bracing consisting of angle iron is welded to base plates. These are then bolted to the tank panels.

CUSTOMISED TANK SPECIFICATIONS

Fab Tanks can design smaller customised tanks such as L-shaped or partitioned tanks that require only half panels. External bracing is also an option for custom designs.

ELEVATED TANKS

Standard elevated water storage tanks that require support tower steelwork include our standard components. Should the customer request walkways around the base of the tank or access ladders rest platforms, the general specifications can be adapted accordingly.

SPECIFICATIONS FOR MAINTENANCE AND SAFETY

Safe access all around pressed steel tanks is required for the purpose of tightening bolts.

The recommended minimum space around the four sides and above the roof is 600 mm and 450 mm beneath the tank.

Except for standard components and specifications for Fab Tanks water storage solutions, most of our designs can be custom made. This means general specifications can be adapted according to the designs and requirements of the customer.

SPECIAL CONDITIONS

A. Unless under emergencies circumstances no work will be done or performed without a written and approved Site instruction or order.

B. Transport tariffs must be given as a rate per kilometre (According to AA and or Depart of Transport) and claimable hours as a Rate per hour

C. The tenderer must have a Workshop within NMMDM jurisdiction where the equipment will be attended, and that will be from where transport tariffs shall be calculated for every item.

D. The Tenderer must at all times after completing the assigned work as per issuing of a site instruction, attach a completion certificate on his/her claims and due to the nature of this contract, he/she may be instructed to attend to emergencies prior to issuing of a written site instruction (order). All claims will be verified before approval of payment.

E. The increment equivalent to the **Consumer Price Index (CPI) plus 1% but not exceeding 7.5%** of Rates offered will be subject to approval after 1 year of contract.

F. The contract is on As and When required basis.

G. Warrantee on items should be **at least 12 Months** after replacement, excluding the electrical components.

Terms of Payment

The invoices for services rendered including taxes if applicable, shall be submitted on or before the 20th day of every month or in accordance with deliverables agreed upon.

Payments shall be made within thirty **(30)** days of receiving a valid invoice with relevant supporting documentation.

If one or more of the invoiced items is disputed, the invoice shall be corrected excluding the disputed item(s) and the corrected invoice shall be payable in line with clauses above.

Assignment of Personnel

The Tenderer agrees to retain qualified and accredited staff for as long as it takes to complete all the specified work within the Contract period or as extended due to delays in the construction contracts to which the services relate.

The Tenderer will not be entitled to assign and charge for additional personnel, nor charge person-months in excess of those proposed for any position, without the prior approval of the client.

Settlement Of Disputes

Should any dispute, disagreement or claim arise between the parties concerning this agreement, the Parties shall try to resolve the dispute by negotiation. This entails that the one Party invites the other writing to a meeting and attempt to resolve the dispute within seven **(7)** days from the date of the written invitation. Should the dispute not be resolve through the negotiations then the Parties shall submit the dispute to Arbitration Foundation of South Africa (AFSA) administered mediation, upon the terms set by the AFSA Secretariat. Failing such a resolution, the dispute, shall be referred to arbitration by either party.

Contract Duration

This contract shall be effective for period of three (3) calendar years from the date of acceptance of the adjudication report by the municipal manager**.**

Allocation of work shall be limited to Contractor shortlisted and appointed to the NMMDM Panel of Contractors. The Stage 2 allocation process shall be undertaken on a rotational basis. A Contractor who has been allocated and appointed to undertake a project or assignment shall not be considered for the next allocation opportunity until the other eligible Contractor have been afforded an opportunity to receive an assignment.

The appointment of a contractor to the panel shall remain valid for a period of three (3) calendar years from the commencement date of the contract, unless terminated earlier in accordance with the contract or extended by the Employer in writing.

The expiry of the panel contract shall terminate the contractor's eligibility for the allocation of new project assignments. However, the expiry of the panel contract shall not invalidate or terminate any project assignment that was validly allocated prior to such expiry which has not reached the close out stage.

Each project assignment shall be allocated by the Employer through an Appointment Letter and shall be governed by a project-specific Service Level Agreement entered between the Employer and the Consultant in accordance with this Contract.

The duration of a project assignment shall commence on the date specified in the Appointment Letter or the Service Level Agreement, as applicable, and shall continue until the assigned project has reached practical completion, final completion, or close-out, unless terminated earlier in accordance with the provisions of the Appointment Letter, the Service Level Agreement, or this Contract.

The NMMDM is not obliged to continue with a project that was allocated to Contractor through this tender, and a no recourse shall be instituted should the Client terminate the services without completion of the project.

Termination of Contract

The Contract may be Suspended or Terminated by either the Client or the Consultant upon adhering to the following procedures:

Termination by Client

The Client may suspend or terminate the Agreement by notice to the Contractor:

(i) Giving at least thirty (30) days' notice to the Consulting Engineer who shall immediately make arrangements to stop the services and minimize expenditure.

(ii) If the Client considers that the Contractor is without good reasons not discharge his duties with due diligence.

(iii) If satisfactory reply is not received within fifteen (15) days after the receiving of Clients letter, the Client can by a further notice terminate the Agreement provided that such further notice is given within the days of the Clients initial notice.

(iv) Is not executing the works in accordance with the Contract, or is neglecting to carry out his obligations under the contractor.

(v) Has assigned the Contract OR any part thereof without the Client consent in writing, or.

(vi) The Contractor furnished inaccurate information in the Schedules forming part of this Contract.

Termination by Consulting Engineers

(i) The Consulting Engineer may by notice of at least thirty (30) days terminate the agreement, or at his discretion and without any prejudice to the right to terminate the Contract.

(ii) If the Client is in material breach of a term of the agreement and fails to rectify the breach within fourteen (14) days of the written notice requiring him to so.

PERFORMANCE

Ngaka Modiri Molema District Municipality will evaluate performance of the successful bidder on a quarterly basis in a form of a scorecard covering the efficient and effective execution of the project's aspects.

Other aspects will include labour intensive designs and construction methods, provision for accredited training for both labourers and subcontractors, training towards professional registration for students within the municipality employment.

ANNEXURE A

GENERAL CONDITIONS OF CONTRACT