**DEPARTMENT OF WATER AND SANITATION**
**REBPUBLIC OF SOUTH AFRICA**

**REQUEST FOR BID**

**BID NUMBER: WP11526**

**APPOINTMENT OF PROFESSIONAL SERVICE PROVIDER FOR THE MOKOLO AUGMENTATION CONTINGENCY STUDY (MACS) FOR A PERIOD OF TWENTY-FOUR MONTHS (24).**

**ISSUE DATE:**

**27 JUNE 2025**

**CLOSING DATE:**

**31 JULY 2025 AT 11:00am**

**NB: Briefing session**
**N/A**

**SUBMIT TENDER DOCUMENT**

**ALL BID REPONSES MUST BE SUBMITTED ONLINE THROUGH E-TENDER'S E-SUBMISSION PORTAL**

**PLEASE NOTE THAT NO BID DOCUMENTS WILL BE ACCEPTED VIA EMAIL OR DEPARTMENTAL TENDER BOX.**

| **TENDERER: (Company address and stamp)** |
| --- |
| |

**SCAM ALERT: BIDDERS ARE ALERTED TO SCAM SYNDICATES OPERATING AS DEPARTMENT OFFICIALS. BIDDERS ARE THEREFORE ADVICED TO REPORT ANY SUSPICIOUS INFORMATION TO THE DEPARTMENT. DEPARTMENT OFFICIALS WILL NOT CONTACT BIDDERS FOR BRIBES IN EXCHANGE OF BID AWARDS**

water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

## DIRECTIVE TO BIDDERS ON COMPLETION OF SBD FORMS AND PACKAGING OF BID PROPOSAL

**The purpose of this document is to guide bidders on the completion of SBD forms and packaging of a Bid**

**Proposals with each document being placed under the correct Annexure. The last column of the table below (this column must be ticked as an indication that each document and its requirements have been complied with by the bidder)**

**The dates on this all-SBD forms must be a date which is within the bid advert period.**

**TABLE OF CONTENTS FOR BID PROPSALS**

| DOCUMENT | ANNEXURE | DIRECTIVE | COMPLIED/NOT COMPLIED |
|---|---|---|---|
| SDB 1 | A | Bidders are required to complete this document in full and be signed off. The date on this form must be a date which is within the bid advert period | |
| **SBD 3.1/3.3** | B | Bidders are required to complete the applicable form in full and ensure that the amounts in the document are properly calculated. The total amount (inclusive of VAT) as reflected herein will be regarded as the Total Bid Price. **Bidders who are not VAT Vendors are not allowed to charge VAT**<br>Bidders are required to constantly verify their TAX Status on CSD to ensure that their task matters are in order | |
| **SBD 4** | C | This document must be completed in full. **Bidders attention is drawn particularly to paragraph 2.3 which requires the bidder to disclose if the company or any of its directors have interest in other companies whether they have bidded or not. Bidders are required to provide all information. Should a bidder have more companies to declare, such information can be provided on a separate sheet in the format prescribed in the form and be attached to the SBD 4. Information captured must be inline with what is captured in the CSD report** | |
| **SBD 6.1** | D | This document must be completed in full. Bidders are advised to ensure that information captured in this form is aligned to information contained in the CSD Reports. | |
| **BBBEE Certificate/Sworn affidavit** | E | Bidders are required to submit a valid BBBEE Certificate or sworn affidavit. | |
| **CSD Report** | F | Bidders are requested to provide copies of reg CSD Report. | |
| **Resolution of board of Directors for company /close corporation/ partnership** | G | The template resolution provided must be completed in full | |
| **Resolution of Board of Directors to enter into consortia or joint ventures** | H | The template resolution provided must be completed in full | |
| **Copy of company CIPC certificate** | I | Bidders are required to attach a copy of CICP certificates | |
| **Bid Proposal** | J | A detailed bid proposal inline with the Specifications must be attached | |

# PART A
# INVITATION TO BID

| YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE (*NAME OF DEPARTMENT/ PUBLIC ENTITY*) | | | | | |
|---|---|---|---|---|---|
| BID NUMBER: | **WP11526** | CLOSING DATE: | **31 JULY 2025** | CLOSING TIME: | **11:00AM** |
| DESCRIPTION | **APPOINTMENT OF PROFESSIONAL SERVICE PROVIDER FOR THE MOKOLO AUGMENTATION CONTINGENCY STUDY (MACS) FOR A PERIOD OF TWENTY-FOUR MONTHS (24).** | | | | |

**BID RESPONSE DOCUMENTS**

**ALL BID REPONSES MUST BE SUBMITTED ONLINE THROUGH E-TENDER'S E-SUBMISSION PORTAL**

**PLEASE NOTE THAT NO BID DOCUMENTS WILL BE ACCEPTED VIA EMAIL OR DEPARTMENTAL TENDER BOX.**

| BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO | | TECHNICAL ENQUIRIES MAY BE DIRECTED TO: | |
|---|---|---|---|
| CONTACT PERSON | **Winnie Dolamo** | CONTACT PERSON | **Mr Prashen Jugdawooh** |
| TELEPHONE NUMBER | **012 336 8974** | TELEPHONE NUMBER | **012 336 8188** |
| FACSIMILE NUMBER | **N/A** | FACSIMILE NUMBER | **N/A** |
| E-MAIL ADDRESS | **dolamow@dws.gov.za** | E-MAIL ADDRESS | **Jugdawoohp@dws.gov.za** |

**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 | | | | | |
| SUPPLIER COMPLIANCE STATUS | TAX COMPLIANCE SYSTEM PIN: | | **OR** | CENTRAL SUPPLIER DATABASE No: | MAAA |
| B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE | TICK APPLICABLE BOX]<br>☐ Yes ☐ No | | B-BBEE STATUS LEVEL SWORN AFFIDAVIT | [TICK APPLICABLE BOX]<br>☐ Yes ☐ No | |

***[A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE/ SWORN AFFIDAVIT (FOR EMES & QSEs) MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE]***

| | | | |
|---|---|---|---|
| ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED? | ☐Yes ☐No<br>[IF YES ENCLOSE PROOF] | ARE YOU A FOREIGN BASED SUPPLIER FOR **THE GOODS /SERVICES /WORKS OFFERED?** | ☐Yes ☐No<br>[IF YES, ANSWER PART B:3 ] |

**QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS**

| | |
|---|---|
| IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)? | ☐ YES ☐ NO |
| DOES THE ENTITY HAVE A BRANCH IN THE RSA? | ☐ YES ☐ NO |
| DOES THE ENTITY HAVE PERMANENT ESTABLISHMENT IN THE RSA? | ☐ YES ☐ NO |
| DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA? | ☐ YES ☐ NO |
| 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 BELOW.**

**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 IN THE MANNER PRESCRIBED IN THE BID DOCUMENT.** |
| 1.3. | THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT, 2000 AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT. |
| 1.4. | **THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (SBD7).** |
| **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 VERIFY THE TAXPAYER'S PROFILE AND TAX STATUS. |
| 2.3 | APPLICATION FOR TAX COMPLIANCE STATUS (TCS) PIN MAY BE MADE VIA E-FILING THROUGH THE SARS WEBSITE WWW.SARS.GOV.ZA. |
| 2.4 | BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID. |
| 2.5 | IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED, EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER. |
| 2.6 | WHERE NO TCS IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED. |
| 2.7 | NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE, COMPANIES WITH DIRECTORS WHO ARE PERSONS IN THE SERVICE OF THE STATE, OR CLOSE CORPORATIONS WITH MEMBERS PERSONS IN THE SERVICE OF THE STATE." |

**NB: FAILURE TO PROVIDE / OR COMPLY WITH ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID.**

SIGNATURE OF BIDDER: .....

CAPACITY UNDER WHICH THIS BID IS SIGNED: .....
(Proof of authority must be submitted e.g. company resolution)

DATE: .....

**PRICING SCHEDULE**
**(Professional Services)**

**APPOINTMENT OF PROFESSIONAL SERVICE PROVIDER FOR THE MOKOLO AUGMENTATION CONTINGENCY STUDY (MACS) FOR A PERIOD OF TWENTY-FOUR MONTHS (24).**

NAME OF BIDDER: .....PROJECT NO: **WP11526**

CLOSING TIME: **11:00 AM** CLOSING DATE: **31 JULY 2025**

OFFER TO BE VALID FOR **180 DAYS** FROM THE CLOSING DATE OF BID.

ITEM DESCRIPTION BID PRICE IN RSA CURRENCY (ALL APPLICABLE TAXES INCLUDED)

1. The accompanying information must be used for the formulation of proposals.

2. Bidders are required to indicate a ceiling price based on the total Estimated time for completion of all phases and including all Expenses inclusive of all applicable taxes for the project.

   R.....

3. PHASE ACCORDING TO WHICH THE PROJECT WILL BE COMPLETED, COST PER PHASE AND MAN-DAYS TO BE SPENT

   ..... R..... . ..... Days

   ..... R..... ..... Days

   ..... R..... ..... Days

3.1. Travel expense (specify, for example rate/km and total km, class Of air travel, etc.). Only actual costs are recoverable. Proof of the Expenses incurred must accompany certified invoices.

| DESCRIPTION OF EXPENSE TO BE INCCURED | RATE | QUANITY AMOUNT |
|---|---|---|
| ..... | R..... | R..... |
| ..... | R..... | R..... |
| ..... | R..... | R..... |

TOTAL: R.....

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

3.2. Other expenses, for examples accommodation (specify, e.g. Three Star hotel, bed and breakfast, telephone cost, reproduction cost, etc.).

On basis of these particulars, certified invoices will be checked for correctness. Proof of the expenses must accompany invoices.

| DESCRIPTION OF EXPENSE TO BE INCURED | RATE | QUANTITY |
|---|---|---|
| ..... | R..... | ..... |
| ..... | R..... | ..... |
| ..... | R..... | ..... |

TOTAL: R.....

4. Period required for commencement with project after Acceptance of bid

.....

5. Estimated man-days for completion of project

.....

6. Are the rates quoted firm for the full period of contract?

*YES/NO

7. If not firm price period, provide details of the basis on which Adjustments will be applied for, for example consumer price index.

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Any enquiries regarding bidding procedures may be directed to the

Department: Department of Water and Sanitation

Contact Person: Winnie Dolamo

Tel: 012 336 8974

E-mail address: dolamow@dws.gov.za

ANY ENQUIRIES REGARDING TECHNICAL INFORMATION MAY BE DIRECTED TO:

**Mr Prashen Jugdawooh**

Tel: 012 336 8188

E-mail address: Jugdawoohp@dws.gov.za

# BIDDER'S DISCLOSURE

## 1. PURPOSE OF THE FORM

Any person (natural or juristic) may make an offer or offers in terms of his invitation to bid. In line with the principles of transparency, accountability, impartiality, and ethics as enshrined in the Constitution of the Republic of South Africa and further expressed in various pieces of legislation, it is required for the bidder to make this declaration in respect of the details required hereunder.

Where a person/s are listed in the Register for Tender Defaulters and / or the List of Restricted Suppliers, that person will automatically be disqualified from the bid process.

## 2. Bidder's declaration

2.1 Is the bidder, or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest1 in the enterprise, employed by the state? **YES/NO**

2.1.1 If so, furnish particulars of the names, individual identity numbers, and, if applicable, state employee numbers of sole proprietor/ directors / trustees / shareholders / members/ partners or any person having a controlling interest in the enterprise, in table below.

| Full Name | Identity Number | Name of State institution |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

2.2 Do you, or any person connected with the bidder, have a relationship with any person who is employed by the procuring institution? **YES/NO**

2.2.1 If so, furnish particulars:

.....
.....

2.3 Does the bidder or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest in the enterprise have any interest in any other related enterprise whether or not they are bidding for this contract? **YES/NO**

2.3.1 If so, furnish particulars:

---

1 the power, by one person or a group of persons holding the majority of the equity of an enterprise, alternatively, the person/s having the deciding vote or power to influence or to direct the course and decisions of the enterprise.

| Name of company related to | CSD Registration number of the company related to |
|---|---|
| | |
| | |
| | |
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| | |
| | |

## 3 DECLARATION

I, the undersigned, (name)..... in submitting the accompanying bid, do hereby make the following statements that I certify to be true and complete in every respect:

3.1 I have read and I understand the contents of this disclosure;

3.2 I understand that the accompanying bid will be disqualified if this disclosure is found not to be true and complete in every respect;

3.3 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 consortium2 will not be construed as collusive bidding.

3.4 In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications, prices, including methods, factors or formulas used to calculate prices, market allocation, the intention or decision to submit or not to submit the bid, bidding with the intention not to win the bid and conditions or delivery particulars of the products or services to which this bid invitation relates.

3.4 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.

3.5 There have been no consultations, communications, agreements or arrangements made by the bidder with any official of the procuring institution in relation to this procurement process prior to and during the bidding process except to provide clarification on the bid submitted where so required by the institution; and the bidder was not involved in the drafting of the specifications or terms of reference for this bid.

3.6 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

2 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.

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.

I CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 1, 2 and 3 ABOVE IS CORRECT.
I ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME IN TERMS

OF PARAGRAPH 6 OF PFMA SCM INSTRUCTION 03 OF 2021/22 ON PREVENTING

AND COMBATING ABUSE IN THE SUPPLY CHAIN MANAGEMENT SYSTEM SHOULD

THIS DECLARATION PROVE TO BE FALSE.

| | |
|---|---|
| ..... | ..... |
| Signature | Date |
| ..... | ..... |
| Position | Name of bidder |

SBD 6.1

# 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**

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## 1. GENERAL CONDITIONS

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

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

**1.2 To be completed by the organ of state**

The applicable preference point system for this tender is the 80/20 preference point system.

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** | 80 |
| **SPECIFIC GOALS** | 20 |
| **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 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

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

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

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

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**

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

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 either the 80/20 or 90/10 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 either the 80/20 or 90/10 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 both the 90/10 and 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 (80/20 system) (To be completed by the organ of state) | Number of points claimed (80/20 system) (To be completed by the tenderer) |
|---|---|---|
| Women | 5 | |
| People with disability | 5 | |
| Youth (35 and below) | 5 | |
| Location of enterprise (Province) | 2 | |
| B-BBEE status level contributors from level 1 to 2 which are QSE or EME | 3 | |
| | | |
| Total points for SPECIFIC GOALS | 20 | |

**DECLARATION WITH REGARD TO COMPANY/FIRM**

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

4.4. Company registration number: .....

4.5. TYPE OF COMPANY/ FIRM

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

[TICK APPLICABLE BOX]

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

i) The information furnished is true and correct;

ii) The preference points claimed are in accordance with the General Conditions as

indicated in paragraph 1 of this form;

iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;

iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –

(a) disqualify the person from the tendering process;

(b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;

(c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation.

(d) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and

(e) forward the matter for criminal prosecution, if deemed necessary.

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

**SURNAME AND NAME:** .....
**DATE:** .....

**ADDRESS:** .....
.....
.....
.....

Annexure A

## STANDARD EVALUATION CRITERIA IN TERMS OF THE PREFERENTIAL PROCUTEMENT REGULATIONS 2022

### THE 80/20 POINTS AWARDED FOR PRICE AND SPECIFIC GOALS

**The 80/20 Preferential Procurement System will be used in evaluating these bids:**

| Evaluation element | Weighting (Points) |
|---|---|
| SPECIFIC GOALS | 20 |
| PRICE | 80 |
| **Total** | **100** |

**Price**

**A maximum of 80 points are allocated for price on the following basis:**

$$Ps = 80\left(1 - \frac{Pt - P\ \min}{P\ \min}\right)$$

Where:
Ps = Points scored for comparative price of bid under consideration
Pt = Comparative price of bid under consideration
Pmin = Comparative price of lowest acceptable bid

**Preference point system**

| SPECIFIC GOALS | NUMBER OF POINTS TO BE ALLOCATED |
|---|---|
| **Women** | **5** |
| **People with disability** | **5** |
| **Youth (35 and below)** | **5** |
| **Location of enterprise (Province)** | **2** |
| **B-BBEE status level contributors from level 1 to 2 which are QSE or EME** | **3** |
| | |
| **Total points for SPECIFIC GOALS** | **20** |

Documents Requirement for verification of Points allocation: -

| Procurement Requirement | Required Proof Documents |
|---|---|
| Women | Full CSD Report |
| Disability | Full CSD Report |
| Youth | Full CSD Report |
| Location | Full CSD Report |
| B-BBEE status level contributors from level 1 to 2 which are QSE or EME | Valid BBBEE certificate/sworn affidavit<br>Consolidated BEE certificate in cases of Joint Venture<br>Full CSD Report |

**The definition and measurement of the goals above is as follows:**

**Women, disability, and youth:**

This will be measured by calculating the pro-rata percentage of ownership of the bidding company which meets this criterion. E.g., Company A has five shareholders each of whom own 20% of the company. Three of the five shareholders meet the criterion, i.e. they are women/disability/youth. Therefore, this bidder will obtain 60% of the points allowable for this goal.

**Location of enterprise**

Local equals province. Where a project cuts across more than one province, the bidder may be located in any of the relevant provinces to obtain the points.

**B-BBEE status level contributors from level 1 to 2 which are QSE or EME**

Measured in terms of normal BBBEE requirements.

**Note: Formula for calculating points for specific goals**

Preference points for entities are calculated on their percentage shareholding in a business, provided that they are actively involved in and exercise control over the enterprise. The following formula is prescribed:

$$PC = Mpa \times \frac{P\text{-}own}{100}$$

Where

**PC**= Points awarded for specific goal

**Mpa**= The maximum number of points awarded for ownership in that specific category

**P-own** = The percentage of equity ownership by the enterprise or business

# RESOLUTION OF BOARD OF DIRECTORS FOR COMPANY /CLOSE CORPORATION/ PARTNERSHIP

**RESOLUTION** of a meeting of the Board of *Directors / Members / Partners of:

_____

*(legally correct full name and registration number, if applicable, of the Enterprise)*

Held at_____*(place)*

on_____*(date)*

**RESOLVED that:**

1. The Enterprise submits a Bid / Tender to the Department of Water and Sanitation in respect of the following project:

   _____

   *(project description as per Bid / Tender Document)*

   Bid / Tender Number:_____*(Bid / Tender Number as per Bid / Tender Document)*

2. *Mr/Mrs/Ms: _____

   in *his/her Capacity as:_____ *(Position in the Enterprise)*

   and who will sign as follows: _____

   be, and is hereby, authorized to sign the Bid / Tender, and any and all other documents and/or correspondence in connection with and relating to the Bid / Tender, as well as to sign any Contract, and any and all documentation, resulting from the award of the Bid / Tender to the Enterprise mentioned above.

| | Name | Capacity | Signature |
|---|---|---|---|
| 1 | | | |
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Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

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*The bidding enterprise hereby absolves the Department of Water and Sanitation from any liability whatsoever that may arise as a result of this document being signed.*

***Note:***

1. ** Delete which is not applicable.*
2. ***NB:** This resolution must, where possible, be signed by all the Directors / Members / Partners of the Bidding Enterprise.*
3. *In the event that paragraph 2 cannot be complied with, the resolution must be signed by Directors / Members / Partners holding a majority of the shares / ownership of the Bidding Enterprise (attach proof of shareholding / ownership hereto).*
4. *Directors / Members / Partners of the Bidding Enterprise may alternatively delegate a person to sign this document on behalf of the Bidding Enterprise, which person must be so authorized by way of a duly completed Delegation of Authority letter, signed by the Directors / Members / Partners holding a majority of the shares / ownership of the Bidding Enterprise (proof of shareholding / ownership and Delegation of Authority letter are to be attached hereto).*
5. *Should the number of Directors / Members / Partners exceed the space available above, additional names and signatures must be supplied on a separate page.*

**ENTERPRISE STAMP**

# RESOLUTION OF BOARD OF DIRECTORS TO ENTER INTO CONSORTIA OR JOINT VENTURES

**RESOLUTION** of a meeting of the Board of *Directors / Members / Partners of:

_____

_____

*(Legally correct full name and registration number, if applicable, of the Enterprise)*

Held at _____ *(place)*

on _____ *(date)*

**RESOLVED that:**

1. The Enterprise submits a Bid /Tender, in consortium/Joint Venture with the following Enterprises:

   _____

   _____

   *(List all the legally correct full names and registration numbers, if applicable, of the Enterprises forming the Consortium/Joint Venture)*

   to the Department of Water and Sanitation in respect of the following project:

   _____

   _____

   *(Project description as per Bid /Tender Document)*

   Bid / Tender Number: _____ *(Bid / Tender Number as per Bid / Tender Document)*

2. *Mr/Mrs/Ms: _____

   in *his/her Capacity as: _____ *(Position in the Enterprise)*

   and who will sign as follows: _____

   be, and is hereby, authorised to sign a consortium/joint venture agreement with the parties listed under item 1 above, and any and all other documents and/or correspondence in connection with and relating to the consortium/joint venture, in respect of the project described under item 1 above.

3. The Enterprise accepts joint and several liability with the parties listed under item 1 above for the due fulfilment of the obligations of the joint venture deriving from, and in any way connected with, the Contract to be entered into with the Department in respect of the project described under item 1 above.

4. The Enterprise chooses as its *domicilium citandi et executandi* for all purposes arising from this joint venture agreement and the Contract with the Department in respect of the project under item 1 above:

   Physical address: _____

   _____

   _____

   _____ (code)

# Resolution of Board of Directors to enter into Consortia or Joint Ventures

Postal Address: _____

_____

_____

_____ (code)

Telephone number: _____

Fax number: _____

| | Name | Capacity | Signature |
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*The bidding enterprise hereby absolves the Department of Water and Sanitation from any liability whatsoever that may arise as a result of this document being signed*

***Note:***

1. ** Delete which is not applicable.*
2. ***NB:** This resolution must, where possible, be signed by all the Directors / Members / Partners of the Bidding Enterprise.*
3. *In the event that paragraph 2 cannot be complied with, the resolution must be signed by Directors / Members / Partners holding a majority of the shares / ownership of the Bidding Enterprise (attach proof of shareholding / ownership hereto).*
4. *Directors / Members / Partners of the Bidding Enterprise may alternatively delegate a person to sign this document on behalf of the Bidding Enterprise, which person must be so authorized by way of a duly completed Delegation of Authority letter, signed by the Directors / Members / Partners holding a majority of the shares / ownership of the Bidding Enterprise (proof of shareholding / ownership and Delegation of Authority letter are to be attached hereto).*
5. *Should the number of Directors / Members / Partners exceed the space available above, additional names and signatures must be supplied on a separate page.*

**ENTERPRISE STAMP**

# SPECIAL RESOLUTION OF CONSORTIA OR JOINTVENTURES

**RESOLUTION** of a meeting of the duly authorized representatives of the following legal entities who have entered into a consortium/joint venture to jointly bid for the project mentioned below: (*legally correct full names and registration numbers, if applicable, of the Enterprises forming a Consortium/Joint Venture)*

1. _____

_____

2. _____

_____

3. _____

_____

4. _____

_____

5. _____

_____

6. _____

_____

7. _____

_____

8. _____

Held at_____

_____(*pla*

*ce)*on

_____(*dat*

*e)*

**RESOLVED that:**

A. The above-mentioned Enterprises submit a Bid in Consortium/Joint Venture to the Department of Water and Sanitation in respect of the following project:

_____

_____

(*Project description as per Bid /Tender Document)*

Bid / Tender Number:_____(*Bid / Tender Number as per Bid /Tender Document)*

B. *Mr/Mrs/Ms:_____in *his/her

Capacity as:_____(*Position in the*

*Enterprise)*and who will sign as follows: _____

be, and is hereby, authorized to sign the Bid, and any and all other documents and/or correspondence in connection with and relating to the Bid, as well as to sign any Contract, and any and all documentation, resulting from the award of the Bid to the Enterprises in Consortium/Joint Venture mentioned above.

C. The Enterprises constituting the Consortium/Joint Venture, notwithstanding its composition, shall conduct all business under the name and style of:

_____

D. The Enterprises to the Consortium/Joint Venture accept joint and several liability for the due fulfilment ofthe obligations of the Consortium/Joint Venture deriving from, and in any way connected with, the Contract entered into with the Department in respect of the project described under item A above.

E. Any of the Enterprises to the Consortium/Joint Venture intending to terminate the consortium/joint venture agreement, for whatever reason, shall give the Department 30 days written notice of such intention. Notwithstanding such decision to terminate, the Enterprises shall remain jointly and severally liable to the Department for the due fulfilment of the obligations of the Consortium/Joint

Venture as mentioned under item D above.

F. No Enterprise to the Consortium/Joint Venture shall, without the prior written consent of the other Enterprises to the Consortium/Joint Venture and of the Department, cede any of its rights or assign any of its obligations under the consortium/joint venture agreement in relation to the Contract with the Department referred to herein.

G. The Enterprises choose as the *domicilium citandi et executandi* of the Consortium/Joint Venture for all purposes arising from the consortium/joint venture agreement and the Contract with the Department in respect of the project under item A above:

Physical address:_____

_____

_____

_____

(code)Postal Address:_____

_____

_____

_____ (code)

Telephone number: _____

Fax number: _____

| | Name | Capacity | Signature |
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*The bidding enterprise hereby absolves the Department of Water and Sanitation from any liability whatsoever that may arise as a result of this document being signed.*

***Note:***

1. ** Delete which is not applicable.*
2. ***NB:** This resolution must be signed by all the Duly Authorized Representatives of the Legal Entities to the consortium/joint venture submitting this tender, as named in item 2 of **RESOLUTION OF BOARD OF DIRECTORS TO ENTER INTO CONSORTIA OR JOINT VENTURES***
3. *Should the number of the Duly Authorized Representatives of the Legal Entities joining forces in this tender exceed the space available above, additional names, capacity and signatures must be supplied on a separate page.*
4. ***RESOLUTION OF BOARD OF DIRECTORS TO ENTER INTO CONSORTIA OR JOINT VENTURES**, duly completed and signed, from the separate Enterprises who participate in this consortium/joint venture,must be attached to this **SPECIAL RESOLUTION OF CONSORTIA OR JOINT VENTURES***

## LETTER OF AUTHORITY FOR SOLE PROPRIETOR OR SOLE TRADER

I, ..... .....hereby confirm that I am the sole owner of the business trading as .....

Signature: Sole owner..... .....

Date.....

**Witnesses**:

1. _____ _____
Date :

2. _____ _____

| ENTERPRISE STAMP |
| --- |
| |
| |

**Annexure A**

# GOVERNMENT PROCUREMENT

# GENERAL CONDITIONS OF CONTRACT
## July 2010

## NOTES

The purpose of this document is to:

(i) Draw special attention to certain general conditions applicable to government bids, contracts and orders; and

(ii) To ensure that clients be familiar with regard to the rights and obligations of all parties involved in doing business with government.

In this document words in the singular also mean in the plural and vice versa and words in the masculine also mean in the feminine and neuter.

- The General Conditions of Contract will form part of all bid documents and may not be amended.

- Special Conditions of Contract (SCC) relevant to a specific bid, should be compiled separately for every bid (if (applicable) and will supplement the General Conditions of Contract. Whenever there is a conflict, the provisions in the SCC shall prevail.

# TABLE OF CLAUSES


1. Definitions
2. Application
3. General
4. Standards
5. Use of contract documents and information; inspection
6. Patent rights
7. Performance security
8. Inspections, tests and analysis
9. Packing
10. Delivery and documents
11. Insurance
12. Transportation
13. Incidental services
14. Spare parts
15. Warranty
16. Payment
17. Prices
18. Contract amendments
19. Assignment
20. Subcontracts
21. Delays in the supplier's performance
22. Penalties
23. Termination for default
24. Dumping and countervailing duties
25. Force Majeure
26. Termination for insolvency
27. Settlement of disputes
28. Limitation of liability
29. Governing language
30. Applicable law
31. Notices
32. Taxes and duties
33. National Industrial Participation Programme (NIPP)
34. Prohibition of restrictive practices

## General Conditions of Contract

**1. Definitions**

1. The following terms shall be interpreted as indicated:

1.1 "Closing time" means the date and hour specified in the bidding documents for the receipt of bids.

1.2 "Contract" means the written agreement entered into between the purchaser and the supplier, as recorded in the contract form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.

1.3 "Contract price" means the price payable to the supplier under the contract for the full and proper performance of his contractual obligations.

1.4 "Corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value to influence the action of a public official in the procurement process or in contract execution.

1.5 "Countervailing duties" are imposed in cases where an enterprise abroad is subsidized by its government and encouraged to market its products internationally.

1.6 "Country of origin" means the place where the goods were mined, grown or produced or from which the services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembly of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.

1.7 "Day" means calendar day.

1.8 "Delivery" means delivery in compliance of the conditions of the contract or order.

1.9 "Delivery ex stock" means immediate delivery directly from stock actually on hand.

1.10 "Delivery into consignees store or to his site" means delivered and unloaded in the specified store or depot or on the specified site in compliance with the conditions of the contract or order, the supplier bearing all risks and charges involved until the supplies are so delivered and a valid receipt is obtained.

1.11 "Dumping" occurs when a private enterprise abroad market its goods on own initiative in the RSA at lower prices than that of the country of origin and which have the potential to harm the local industries in the RSA.

1.12 "Force majeure" means an event beyond the control of the supplier and not involving the supplier's fault or negligence and not foreseeable. Such events may include, but is not restricted to, acts of the purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.

1.13 "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of any bidder, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the bidder of the benefits of free and open competition.

1.14 "GCC" means the General Conditions of Contract.

1.15 "Goods" means all of the equipment, machinery, and/or other materials that the supplier is required to supply to the purchaser under the contract.

1.16 "Imported content" means that portion of the bidding price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or his subcontractors) and which costs are inclusive of the costs abroad, plus freight and other direct importation costs such as landing costs, dock dues, import duty, sales duty or other similar tax or duty at the South African place of entry as well as transportation and handling charges to the factory in the Republic where the supplies covered by the bid will be manufactured.

1.17 "Local content" means that portion of the bidding price which is not included in the imported content provided that local manufacture does take place.

1.18 "Manufacture" means the production of products in a factory using labour, materials, components and machinery and includes other related value-adding activities.

1.19 "Order" means an official written order issued for the supply of goods or works or the rendering of a service.

1.20 "Project site," where applicable, means the place indicated in bidding documents.

1.21 "Purchaser" means the organization purchasing the goods.

1.22 "Republic" means the Republic of South Africa.

1.23 "SCC" means the Special Conditions of Contract.

1.24 "Services" means those functional services ancillary to the supply of the goods, such as transportation and any other incidental services, such as installation, commissioning, provision of technical assistance, training, catering, gardening, security, maintenance and other such obligations of the supplier covered under the contract.

1.25 "Written" or "in writing" means handwritten in ink or any form of electronic or mechanical writing.

**2. Application**

2.1 These general conditions are applicable to all bids, contracts and orders including bids for functional and professional services, sales, hiring, letting and the granting or acquiring of rights, but excluding immovable property, unless otherwise indicated in the bidding documents.

2.2 Where applicable, special conditions of contract are also laid down to cover specific supplies, services or works.

2.3 Where such special conditions of contract are in conflict with these general conditions, the special conditions shall apply.

**3. General**

3.1 Unless otherwise indicated in the bidding documents, the purchaser shall not be liable for any expense incurred in the preparation and submission of a bid. Where applicable a non-refundable fee for documents may be charged.

3.2 With certain exceptions, invitations to bid are only published in the Government Tender Bulletin. The Government Tender Bulletin may be obtained directly from the Government Printer, Private Bag X85, Pretoria 0001, or accessed electronically from www.treasury.gov.za

**4. Standards**

4.1 The goods supplied shall conform to the standards mentioned in the bidding documents and specifications.

**5. Use of contract documents and information; inspection.**

5.1 The supplier shall not, without the purchaser's prior written consent, disclose the contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the purchaser in connection therewith, to any person other than a person employed by the supplier in the performance of the contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.

5.2 The supplier shall not, without the purchaser's prior written consent, make use of any document or information mentioned in GCC clause 5.1 except for purposes of performing the contract.

5.3 Any document, other than the contract itself mentioned in GCC clause 5.1 shall remain the property of the purchaser and shall be returned (all copies) to the purchaser on completion of the supplier's performance under the contract if so required by the purchaser.

5.4 The supplier shall permit the purchaser to inspect the supplier's records relating to the performance of the supplier and to have them audited by auditors appointed by the purchaser, if so required by the purchaser.

**6. Patent rights**

6.1 The supplier shall indemnify the purchaser against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the goods or any part thereof by the purchaser.

**7. Performance**

7.1 Within thirty (30) days of receipt of the notification of contract award,

**security**

the successful bidder shall furnish to the purchaser the performance security of the amount specified in SCC.

7.2 The proceeds of the performance security shall be payable to the purchaser as compensation for any loss resulting from the supplier's failure to complete his obligations under the contract.

7.3 The performance security shall be denominated in the currency of the contract, or in a freely convertible currency acceptable to the purchaser and shall be in one of the following forms:

(a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the purchaser's country or abroad, acceptable to the purchaser, in the form provided in the bidding documents or another form acceptable to the purchaser; or
(b) a cashier's or certified cheque

7.4 The performance security will be discharged by the purchaser and returned to the supplier not later than thirty (30) days following the date of completion of the supplier's performance obligations under the contract, including any warranty obligations, unless otherwise specified in SCC.

**8. Inspections, tests and analyses**

8.1 All pre-bidding testing will be for the account of the bidder.

8.2 If it is a bid condition that supplies to be produced or services to be rendered should at any stage during production or execution or on completion be subject to inspection, the premises of the bidder or contractor shall be open, at all reasonable hours, for inspection by a representative of the Department or an organization acting on behalf of the Department.

8.3 If there are no inspection requirements indicated in the bidding documents and no mention is made in the contract, but during the contract period it is decided that inspections shall be carried out, the purchaser shall itself make the necessary arrangements, including payment arrangements with the testing authority concerned.

8.4 If the inspections, tests and analyses referred to in clauses 8.2 and 8.3 show the supplies to be in accordance with the contract requirements, the cost of the inspections, tests and analyses shall be defrayed by the purchaser.

8.5 Where the supplies or services referred to in clauses 8.2 and 8.3 do not comply with the contract requirements, irrespective of whether such supplies or services are accepted or not, the cost in connection with these inspections, tests or analyses shall be defrayed by the supplier.

8.6 Supplies and services which are referred to in clauses 8.2 and 8.3 and which do not comply with the contract requirements may be rejected.

8.7 Any contract supplies may on or after delivery be inspected, tested or analyzed and may be rejected if found not to comply with the requirements of the contract. Such rejected supplies shall be held at the

cost and risk of the supplier who shall, when called upon, remove them immediately at his own cost and forthwith substitute them with supplies which do comply with the requirements of the contract. Failing such removal the rejected supplies shall be returned at the suppliers cost and risk. Should the supplier fail to provide the substitute supplies forthwith, the purchaser may, without giving the supplier further opportunity to substitute the rejected supplies, purchase such supplies as may be necessary at the expense of the supplier.

8.8 The provisions of clauses 8.4 to 8.7 shall not prejudice the right of the purchaser to cancel the contract on account of a breach of the conditions thereof, or to act in terms of Clause 23 of GCC.

**9. Packing**

9.1 The supplier shall provide such packing of the goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing, case size and weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.

9.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the contract, including additional requirements, if any, specified in SCC, and in any subsequent instructions ordered by the purchaser.

**10. Delivery and documents**

10.1 Delivery of the goods shall be made by the supplier in accordance with the terms specified in the contract. The details of shipping and/or other documents to be furnished by the supplier are specified in SCC.

10.2 Documents to be submitted by the supplier are specified in SCC.

**11. Insurance**

11.1 The goods supplied under the contract shall be fully insured in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified in the SCC.

**12. Transportation**

12.1 Should a price other than an all-inclusive delivered price be required, this shall be specified in the SCC.

**13. Incidental services**

13.1 The supplier may be required to provide any or all of the following services, including additional services, if any, specified in SCC:

(a) performance or supervision of on-site assembly and/or commissioning of the supplied goods;
(b) furnishing of tools required for assembly and/or maintenance of the supplied goods;
(c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied goods;
(d) performance or supervision or maintenance and/or repair of the supplied goods, for a period of time agreed by the parties,

provided that this service shall not relieve the supplier of any warranty obligations under this contract; and

(e) training of the purchaser's personnel, at the supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied goods.

13.2 Prices charged by the supplier for incidental services, if not included in the contract price for the goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the supplier for similar services.

**14. Spare parts**

14.1 As specified in SCC, the supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the supplier:

(a) such spare parts as the purchaser may elect to purchase from the supplier, provided that this election shall not relieve the supplier of any warranty obligations under the contract; and

(b) in the event of termination of production of the spare parts:

(i) Advance notification to the purchaser of the pending termination, in sufficient time to permit the purchaser to procure needed requirements; and

(ii) following such termination, furnishing at no cost to the purchaser, the blueprints, drawings, and specifications of the spare parts, if requested.

**15. Warranty**

15.1 The supplier warrants that the goods supplied under the contract are new, unused, of the most recent or current models, and that they incorporate all recent improvements in design and materials unless provided otherwise in the contract. The supplier further warrants that all goods supplied under this contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the purchaser's specifications) or from any act or omission of the supplier, that may develop under normal use of the supplied goods in the conditions prevailing in the country of final destination.

15.2 This warranty shall remain valid for twelve (12) months after the goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the contract, or for eighteen (18) months after the date of shipment from the port or place of loading in the source country, whichever period concludes earlier, unless specified otherwise in SCC.

15.3 The purchaser shall promptly notify the supplier in writing of any claims arising under this warranty.

15.4 Upon receipt of such notice, the supplier shall, within the period specified in SCC and with all reasonable speed, repair or replace the defective goods or parts thereof, without costs to the purchaser.

15.5 If the supplier, having been notified, fails to remedy the defect(s) within the period specified in SCC, the purchaser may proceed to take such remedial action as may be necessary, at the supplier's risk and expense and without prejudice to any other rights which the purchaser

may have against the supplier under the contract.

**16. Payment**

16.1 The method and conditions of payment to be made to the supplier under this contract shall be specified in SCC.

16.2 The supplier shall furnish the purchaser with an invoice accompanied by a copy of the delivery note and upon fulfillment of other obligations stipulated in the contract.

16.3 Payments shall be made promptly by the purchaser, but in no case later than thirty (30) days after submission of an invoice or claim by the supplier.

16.4 Payment will be made in Rand unless otherwise stipulated in SCC.

**17. Prices**

17.1 Prices charged by the supplier for goods delivered and services performed under the contract shall not vary from the prices quoted by the supplier in his bid, with the exception of any price adjustments authorized in SCC or in the purchaser's request for bid validity extension, as the case may be.

**18. Contract amendments**

18.1 No variation in or modification of the terms of the contract shall be made except by written amendment signed by the parties concerned.

**19. Assignment**

19.1 The supplier shall not assign, in whole or in part, its obligations to perform under the contract, except with the purchaser's prior written consent.

**20. Subcontracts**

20.1 The supplier shall notify the purchaser in writing of all subcontracts awarded under this contracts if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the supplier from any liability or obligation under the contract.

**21. Delays in the supplier's performance**

21.1 Delivery of the goods and performance of services shall be made by the supplier in accordance with the time schedule prescribed by the purchaser in the contract.

21.2 If at any time during performance of the contract, the supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the goods and performance of services, the supplier shall promptly notify the purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the supplier's notice, the purchaser shall evaluate the situation and may at his discretion extend the supplier's time for performance, with or without the imposition of penalties, in which case the extension shall be ratified by the parties by amendment of contract.

21.3 No provision in a contract shall be deemed to prohibit the obtaining of supplies or services from a national department, provincial department, or a local authority.

21.4 The right is reserved to procure outside of the contract small quantities or to have minor essential services executed if an emergency arises, the supplier's point of supply is not situated at or near the place where the supplies are required, or the supplier's services are not readily

available.

21.5 Except as provided under GCC Clause 25, a delay by the supplier in the performance of its delivery obligations shall render the supplier liable to the imposition of penalties, pursuant to GCC Clause 22, unless an extension of time is agreed upon pursuant to GCC Clause 21.2 without the application of penalties.

21.6 Upon any delay beyond the delivery period in the case of a supplies contract, the purchaser shall, without canceling the contract, be entitled to purchase supplies of a similar quality and up to the same quantity in substitution of the goods not supplied in conformity with the contract and to return any goods delivered later at the supplier's expense and risk, or to cancel the contract and buy such goods as may be required to complete the contract and without prejudice to his other rights, be entitled to claim damages from the supplier.

**22. Penalties**

22.1 Subject to GCC Clause 25, if the supplier fails to deliver any or all of the goods or to perform the services within the period(s) specified in the contract, the purchaser shall, without prejudice to its other remedies under the contract, deduct from the contract price, as a penalty, a sum calculated on the delivered price of the delayed goods or unperformed services using the current prime interest rate calculated for each day of the delay until actual delivery or performance. The purchaser may also consider termination of the contract pursuant to GCC Clause 23.

**23. Termination for default**

23.1 The purchaser, without prejudice to any other remedy for breach of contract, by written notice of default sent to the supplier, may terminate this contract in whole or in part:

(a) if the supplier fails to deliver any or all of the goods within the period(s) specified in the contract, or within any extension thereof granted by the purchaser pursuant to GCC Clause 21.2;

(b) if the Supplier fails to perform any other obligation(s) under the contract; or

(c) if the supplier, in the judgment of the purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the contract.

23.2 In the event the purchaser terminates the contract in whole or in part, the purchaser may procure, upon such terms and in such manner as it deems appropriate, goods, works or services similar to those undelivered, and the supplier shall be liable to the purchaser for any excess costs for such similar goods, works or services. However, the supplier shall continue performance of the contract to the extent not terminated.

23.3 Where the purchaser terminates the contract in whole or in part, the purchaser may decide to impose a restriction penalty on the supplier by prohibiting such supplier from doing business with the public sector for a period not exceeding 10 years.

23.4 If a purchaser intends imposing a restriction on a supplier or any person associated with the supplier, the supplier will be allowed a time period of not more than fourteen (14) days to provide reasons why the

envisaged restriction should not be imposed. Should the supplier fail to respond within the stipulated fourteen (14) days the purchaser may regard the intended penalty as not objected against and may impose it on the supplier.

23.5 Any restriction imposed on any person by the Accounting Officer / Authority will, at the discretion of the Accounting Officer / Authority, also be applicable to any other enterprise or any partner, manager, director or other person who wholly or partly exercises or exercised or may exercise control over the enterprise of the first-mentioned person, and with which enterprise or person the first-mentioned person, is or was in the opinion of the Accounting Officer / Authority actively associated.

23.6 If a restriction is imposed, the purchaser must, within five (5) working days of such imposition, furnish the National Treasury, with the following information:

(i) the name and address of the supplier and / or person restricted by the purchaser;
(ii) the date of commencement of the restriction
(iii) the period of restriction; and
(iv) the reasons for the restriction.

These details will be loaded in the National Treasury's central database of suppliers or persons prohibited from doing business with the public sector.

23.7 If a court of law convicts a person of an offence as contemplated in sections 12 or 13 of the Prevention and Combating of Corrupt Activities Act, No. 12 of 2004, the court may also rule that such person's name be endorsed on the Register for Tender Defaulters. When a person's name has been endorsed on the Register, the person will be prohibited from doing business with the public sector for a period not less than five years and not more than 10 years. The National Treasury is empowered to determine the period of restriction and each case will be dealt with on its own merits. According to section 32 of the Act the Register must be open to the public. The Register can be perused on the National Treasury website.

**24. Anti-dumping and countervailing duties and rights**

24.1 When, after the date of bid, provisional payments are required, or anti-dumping or countervailing duties are imposed, or the amount of a provisional payment or anti-dumping or countervailing right is increased in respect of any dumped or subsidized import, the State is not liable for any amount so required or imposed, or for the amount of any such increase. When, after the said date, such a provisional payment is no longer required or any such anti-dumping or countervailing right is abolished, or where the amount of such provisional payment or any such right is reduced, any such favourable difference shall on demand be paid forthwith by the contractor to the State or the State may deduct such amounts from moneys (if any) which may otherwise be due to the contractor in regard to supplies or services which he delivered or rendered, or is to deliver or render in terms of the contract or any other contract or any other amount which may be due to him

**25. Force Majeure**

25.1 Notwithstanding the provisions of GCC Clauses 22 and 23, the supplier shall not be liable for forfeiture of its performance security, damages, or termination for default if and to the extent that his delay in performance or other failure to perform his obligations under the contract is the result of an event of force majeure.

25.2 If a force majeure situation arises, the supplier shall promptly notify the purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the purchaser in writing, the supplier shall continue to perform its obligations under the contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the force majeure event.

**26. Termination for insolvency**

26.1 The purchaser may at any time terminate the contract by giving written notice to the supplier if the supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the purchaser.

**27. Settlement of Disputes**

27.1 If any dispute or difference of any kind whatsoever arises between the purchaser and the supplier in connection with or arising out of the contract, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation.

27.2 If, after thirty (30) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the purchaser or the supplier may give notice to the other party of his intention to commence with mediation. No mediation in respect of this matter may be commenced unless such notice is given to the other party.

27.3 Should it not be possible to settle a dispute by means of mediation, it may be settled in a South African court of law.

27.4 Mediation proceedings shall be conducted in accordance with the rules of procedure specified in the SCC.

27.5 Notwithstanding any reference to mediation and/or court proceedings herein,

(a) the parties shall continue to perform their respective obligations under the contract unless they otherwise agree; and
(b) the purchaser shall pay the supplier any monies due the supplier.

**28. Limitation of liability**

28.1 Except in cases of criminal negligence or willful misconduct, and in the case of infringement pursuant to Clause 6;

(a) the supplier shall not be liable to the purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the supplier to pay penalties and/or damages to the purchaser; and

(b) the aggregate liability of the supplier to the purchaser, whether under the contract, in tort or otherwise, shall not exceed the total contract price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment.

**29. Governing language**

29.1 The contract shall be written in English. All correspondence and other documents pertaining to the contract that is exchanged by the parties shall also be written in English.

**30. Applicable law**

30.1 The contract shall be interpreted in accordance with South African laws, unless otherwise specified in SCC.

**31. Notices**

31.1 Every written acceptance of a bid shall be posted to the supplier concerned by registered or certified mail and any other notice to him shall be posted by ordinary mail to the address furnished in his bid or to the address notified later by him in writing and such posting shall be deemed to be proper service of such notice

31.2 The time mentioned in the contract documents for performing any act after such aforesaid notice has been given, shall be reckoned from the date of posting of such notice.

**32. Taxes and duties**

32.1 A foreign supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the purchaser's country.

32.2 A local supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted goods to the purchaser.

32.3 No contract shall be concluded with any bidder whose tax matters are not in order. Prior to the award of a bid the Department must be in possession of a tax clearance certificate, submitted by the bidder. This certificate must be an original issued by the South African Revenue Services.

**33. National Industrial Participation (NIP) Programme**

33.1 The NIP Programme administered by the Department of Trade and Industry shall be applicable to all contracts that are subject to the NIP obligation.

**34. Prohibition of Restrictive practices**

34.1 In terms of section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, an agreement between, or concerted practice by, firms, or a decision by an association of firms, is prohibited if it is between parties in a horizontal relationship and if a bidder (s) is / are or a contractor(s) was / were involved in collusive bidding (or bid rigging).

34.2 If a bidder(s) or contractor(s), based on reasonable grounds or evidence obtained by the purchaser, has / have engaged in the restrictive practice referred to above, the purchaser may refer the matter to the Competition Commission for investigation and possible imposition of administrative penalties as contemplated in the Competition Act No. 89 of 1998.

34.3 If a bidder(s) or contractor(s), has / have been found guilty by the Competition Commission of the restrictive practice referred to above, the purchaser may, in addition and without prejudice to any other remedy provided for, invalidate the bid(s) for such item(s) offered, and / or terminate the contract in whole or part, and / or restrict the bidder(s) or contractor(s) from conducting business with the public sector for a period not exceeding ten (10) years and / or claim damages from the bidder(s) or contractor(s) concerned.

water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

**DIRECTORATE: WATER RESOURCES DEVELOPMENT PLANNING**

# TERMS OF REFERENCE

# FOR THE

# MOKOLO AUGMENTATION CONTINGENCY STUDY (MACS) FOR A PERIOD OF 24 MONTHS

## JANUARY 2025

# TABLE OF CONTENTS

TABLE OF CONTENTS ..... i
LIST OF ANNEXURES ..... iv
LIST OF ACRONYMS AND ABBREVIATIONS ..... iv
LIST OF UNITS OF MEASUREMENT ..... vi
1. INTRODUCTION ..... 1
2. STUDY OBJECTIVES ..... 3
3. BACKGROUND ..... 7
3.1 MOKOLO DAM ..... 7
3.1.1 GENERAL DESCRIPTION OF MOKOLO DAM ..... 7
3.1.2 WATER ALLOCATIONS FROM MOKOLO DAM ..... 7
3.1.3 LONG-TERM YIELDS FOR MOKOLO DAM ..... 8
3.1.4 MOKOLO RIVER SYSTEM ANNUAL OPERATING ANALYSES SCENARIO PLANNING FOR 2024/25 ..... 8
3.2 MOKOLO CROCODILE (WEST) RIVER WATER AUGMENTATION PROJECT ..... 10
3.2.1 MOKOLO CROCODILE (WEST) RIVER WATER AUGMENTATION PROJECT PHASE 1 ..... 10
3.2.2 PROPOSED MOKOLO CROCODILE (WEST) RIVER WATER AUGMENTATION PROJECT PHASE 2A ..... 10
3.3 POTENTIAL WATER RESOURCES FOR ADDITIONAL WATER SUPPLY TO MEDUPI POWER STATION / LEPALALE LOCAL MUNICIPALITY BEFORE TO WATER DELIVERY BY THE MCWAP-2A ..... 12
3.3.1 RETURN FLOWS ..... 12
3.3.2 GROUNDWATER ..... 13
3.3.3 ADDITIONAL ABSTRACTION OF MOKOLO DAM ..... 13
3.3.4 STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS ASSOCIATED WITH THE POTENTIAL WATER RESOURCES FOR ADDITIONAL WATER SUPPLY TO MEDUPI POWER STATION / LEPHALALE LOCAL MUNICIPALITY ..... 14
3.4 PAST PLANNING STUDIES, OTHER INFORMATION, AND CURRENT RELATED PLANNING STUDIES ..... 15
3.4.1 PAST PLANNING STUDIES ..... 15
3.4.2 CURRENT RELATED PLANNING STUDIES ..... 16
3.5 DISCUSSION OF THE PAST PLANNING STUDIES AND STUDY REPORTS ..... 16
3.5.1 MOKOLO AND CROCODILE RIVER (WEST) WATER AUGMENTATION PROJECT FEASIBILITY STUDY ..... 16
3.5.2 POST FEASIBILITY BRIDGING STUDY FOR THE MOKOLO AND CROCODILE RIVER (WEST) WATER AUGMENTATION PROJECT PHASE 2A ..... 17
3.5.3 MOKOLO RIVER SYSTEM ANNUAL OPERATING ANALYSES SCENARIO PLANNING FOR 2024/25 ..... 18
3.5.4 LIMPOPO WATER MANAGEMENT AREA NORTH RECONCILIATION STRATEGY OF 2017 ..... 18
3.5.5 HYDROGEOLOGICAL ASSESSMENT AND AQUIFER RECHARGE POTENTIAL WITHIN THE LEPHALALE (ELLISRAS) LOCAL MUNICIPALITY AREA PHASE 3: ARTIFICIAL RECHARGE AND GEOCHEMISTRY ..... 21
4. ENVIRONMENTAL IMPACT ASSESSMENT STUDY ..... 23
5. SCOPE OF SERVICES REQUIRED ..... 24

5.1 INCEPTION REPORT ..... 25
5.2 ENVIRONMENTAL SCREENING ..... 26
5.3 PROJECT MANAGEMENT AND CO-ORDINATION ..... 26
5.3.1 Study Management and Project Steering Committee Meetings ..... 28
5.3.2 Liaison with Role Players and Stakeholders ..... 28
5.3.3 Coordination and Management of the Study Team ..... 28
5.3.4 Quality Control of Study Reports ..... 29
5.3.5 External Specialist Reviewers ..... 29
5.3.6 Financial Management ..... 29
5.3.7 Collaboration with the Environmental Assessment Practitioner for the Environmental Impact Assessment ..... 30
5.4 ASSESSMENT OF POTENTIAL WATER RESOURCES FOR ADDITIONAL WATER SUPPLY TO THE MEDUPI POWER STATION AND OTHER POTENTIAL WATER USERS ..... 30
5.4.1 Return Flows ..... 30
5.4.2 Identified Groundwater Resources ..... 31
5.4.3 Additional Abstraction of Mokolo Dam ..... 32
5.4.4 Existing and Future Water Requirements from the Return Flows and Identified Existing Groundwater Resources ..... 32
5.4.5 User Priority Classification Table of the Existing and Future Water Requirements from the Return Flows and Identified Existing Groundwater Resources ..... 33
5.5 IDENTIFICATION AND REVIEW OF CONTINGENCY MEASURES FOR ADDITIONAL WATER SUPPLY TO MEDUPI POWER STATION AND OTHER POTENTIAL WATER USERS ..... 34
5.6 AUGMENTATION OF WATER SUPPLY TO IDENTIFIED INADEQUATELY SERVED SURROUNDING COMMUNITIES ..... 35
5.7 PRE-FEASIBILITY AND FEASIBILITY INVESTIGATIONS OF THE PROPOSED CONTINGENCY MEASURES FOR ADDITIONAL WATER SUPPLY TO THE MEDUPI POWER STATION / LEPHALALE LOCAL MUNICIPALITY ..... 36
5.7.1 Pre-feasibility Investigations of the Recommended Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality ..... 38
5.7.2 Material Investigations ..... 40
5.7.3 Geotechnical Investigations ..... 42
5.7.4 Topographical Surveys ..... 44
5.7.5 Land and Servitude Requirements ..... 46
5.7.6 Optimisation of Water Supply Options ..... 47
5.7.7 Feasibility Investigations of the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality ..... 48
5.7.8 Cost Estimates for the Recommended and the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality ..... 50
5.8 CLIMATOLOGICAL DATA ..... 51
5.9 TRAFFIC IMPACT ASSESSMENT ..... 52
5.10 IMPLEMENTATION ACTIONS ..... 53
5.10.1 Implementation Programmes ..... 53
5.10.2 Project Summary ..... 53
5.10.3 Record of Implementation Decisions ..... 54

5.11 LEGAL, INSTITUTIONAL, FINANCIAL AND OPERATIONAL ASPECTS ..... 55
5.11.1 Legal Aspects ..... 55
5.11.2 Institutional and Operational Aspects ..... 55
5.11.3 Financial Aspects ..... 55
5.12 ECONOMIC AND SOCIO-ECONOMIC ANALYSIS ..... 56
5.13 MAIN REPORT ..... 56
5.14 SUMMARY REPORT ..... 56
5.15 CLOSE-OUT REPORT ..... 57
5.16 CAPACITY BUILDING AND TRAINING ..... 57
6. TENTATIVE PROJECT PROGRAMME ..... 59
7. DELIVERABLES ..... 60
8. PROJECT PROPOSAL ..... 63
8.1 TECHNICAL PROPOSAL ..... 63
8.1.1 Introduction ..... 63
8.1.2 Past Experience ..... 63
8.1.3 Estimated Total Hours ..... 64
8.2 FINANCIAL PROPOSAL ..... 64
8.2.1 Cost of Deliverables ..... 65
8.3 EVALUATION SYSTEM ..... 66
8.3.1 Phase 1: Mandatory Compliance ..... 67
8.3.2 Phase 2: Functionality (Technical) Evaluation ..... 67
8.3.3 Phase 3: The 80/20 Principle based on Price and Specific Goals ..... 73
9. GENERAL INFORMATION ..... 76
9.1 CLIENT AND STUDY TITLE ..... 76
9.2 INTELLECTUAL PROPERTY OWNERSHIP ..... 76
9.3 INVOICES ..... 76
10. HEALTH, SAFETY, AND ENVIRONMENTAL CONTROL ASPECTS OF THIS STUDY .. 77
11. CONTACT PERSONS ..... 78

## LIST OF ANNEXURES

ANNEXURE A: Strengths, Weaknesses, Opportunities and Threats Analysis of the Potential Water Resources for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality

ANNEXURE B - Required Detailed Cost Summary Sheet for the Finacial Proposal

ANNEXURE C - Required Cost Summary Sheet for the Finacial Proposal

ANNEXURE D - Required Summary of Hours for the Financial Proposal

## LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| AOA | Annual Operating Analyses |
| BoQ | Bill of Quantities |
| CPD | Continued Professional Development |
| CTL | Coal to Liquid |
| DEA | Department of Environmental Affairs (now DFFE) |
| DFFE | Department of Forestry, Fisheries, and Environment, |
| DM | District Municipality |
| DMR | Department of Mineral Resources (now DMRE) |
| DMRE | Department of Mineral Resources and Energy |
| DoE | Department of Energy (now DMRE) |
| DWA | Department of Water Affairs (now DWS) |
| DWAF | Department of Water Affairs and Forestry (now DWS) |
| DWS | Department of Water and Sanitation |
| EAP | Environmental Assessment Practitioner |
| EIA | Environmental Impact Assessment |
| EMP | Environmental Management Plan |
| EWR | Ecological Water Requirements |
| FGD | Flue Gas Desulfurization |
| GPS | Global Positioning System |
| GRAII | Groundwater Resource Assessment Phase 2 |
| GRIP | Groundwater Resource Information Program |
| LLM | Lephalale Local Municipality |

| | |
|---|---|
| LM | Local Municipality |
| LLS | Lowest Level Storage (also referred to as dead storage) |
| MAR | Mean Annual Runoff |
| MCWAP | Mokolo Crocodile (West) River Water Augmentation Project |
| MCWAP-1 | Mokolo Crocodile (West) River Water Augmentation Project Phase 1 |
| MCWAP-2A | Mokolo Crocodile (West) River Water Augmentation Project Phase 2A |
| NGA | National Groundwater Archive |
| O&M | Operation and Maintenance |
| ORWRDP | Olifants River Water Resource Development Project |
| PSC | Project Steering Committee |
| PSP | Professional Services Provider |
| RDM | Resource Directed Measures |
| RID | Record of Implementation Decisions |
| SANAS | South African National Accreditation System |
| SMC | Study Management Committee |
| ToR | Terms of Reference |
| URV | Unit Reference Value |
| VAPS | Vaal Augmentation Planning Study |
| WC/WDM | Water Conservation and Demand Management |
| WMA | Water Management Area |
| WSA | Water Services Authority |
| WSDP | Water Services Development Plan |
| WSS | Water Supply System |
| WTW | Water Treatment Works |
| WUL | Water Use License |
| WwTW | Wastewater Treatment Works |

# LIST OF UNITS OF MEASUREMENT

| | |
|---|---|
| GW | Gigawatt |
| GWh | Gigawatt hour |
| ha | hectare |
| km | kilometre |
| $km^2$ | square kilometre |
| m | meter |
| $m^2$ | square meter |
| masl | meter above sea level |
| $m^3$ | cubic meter |
| million $m^3$ | million cubic meters |
| million $m^3/a$ | million cubic meters per annum |
| Mℓ | Mega litre |
| Mℓ/d | Mega litres per day |
| mm/a | millimetres per annum |
| $m^3/s$ | cubic meters per second |
| MW | Megawatt |
| MWh | Megawatt hour |

# 1. INTRODUCTION

The Lephalale Local Municipality (LLM) is located within the Limpopo River Catchment. The Mokolo River and the Lephalale River traverse the LLM Area to the north, with the Matlabas River running along the South Eastern Boundary and the Mogalakwena River along the Eastern Boundary. All four (4) of these afore-mentioned rivers feed into the Limpopo River, which forms the North Western Border between South Africa with Botswana.

The Mokolo Dam near Lephalale was completed in July 1980 for water supply to the Matimba Power Station, Grootegeluk Mine, and the Lephalale Local (formerly Ellisras) Municipality, as well as for Irrigation downstream of Mokolo Dam. Based on the existing water storage (the Mokolo Dam) and Bulk Water Conveyance Infrastructure, the water availability and requirements only allowed for limited existing spare yield from the Mokolo Dam for future allocations associated with the anticipated surge in economic development in the Lephalale Area.

The Waterberg Coalfields are located on large areas within the Mokolo River Catchment where, according to preliminary estimates, almost half of South Africa's in-situ coal reserves occur. As such, the Waterberg has long been considered the country's major coal resource for the future, especially once the current mining areas in the Witbank-Highveld Coalfields of the Mpumalanga Province have been depleted. Therefore, major developments were, and are, planned for the Lephalale Area like the New Medupi Power Station amongst others. As a direct result of these planned, and current, developments the water requirements in the Lephalale Area significantly increased and will continue to do so.

Due to the limited water availability in the Lephalale Area, the former Department of Water Affairs (DWA), now the Department of Water and Sanitation (DWS) commissioned and concluded the Planning Investigations for the Mokolo Crocodile (West) River Water Augmentation Project (MCWAP), which investigated Options to meet the Future Water Requirements of the Lephalale Area. Subsequently, the Mokolo Crocodile (West) River Water Augmentation Project Phase 1 (MCWAP-1) was implemented to Augment Water Supply from the Mokolo Dam to the Lephalale Area.

The Proposed Mokolo Crocodile (West) River Water Augmentation Project Phase 2A (MCWAP-2A) will transfer water from the Crocodile River (West) to the Lephalale Area. It was envisaged that the MCWAP-2A would be completed by 2021, which was delayed until October 2028 at the earliest. The Detailed Design of the MCWAP-2A, however, commenced in April 2019. At the time of writing this Terms of Reference (ToR), the Environmental Impact Assessment (EIA) Process was nearly completed. Furthermore, the Minister of Environment, Forestry, and Fisheries dismissed all the appeals that were lodged against the EIA for the MCWAP-2A in October 2020.

Amongst other conditions of the World Bank Loan to Eskom for the construction of the Medupi Power Station is that Flue Gas Desulfurization (FGD) must be implemented at the Medupi Power Station to remove the Sculpture Dioxide from the emissions. The Medupi Power Station will have a total of six (6) FGD Units and the water requirement for each one of these FGD Units is about 1.5 million $m^3/a$, which is about 9 million $m^3/a$ in total. The MCWAP-1 will supply 4.5 million $m^3/a$ to three (3) of the FGD Units, and the MCWAP-2A will supply 4.5 million $m^3/a$ to the other three (3) FGD Units.

## 2. STUDY OBJECTIVES

Although the MACS is planned to be implemented around the same time as MCWAP-2A, this Study is required in case the completion of the MCWAP-2A is further delayed beyond October 2028. In this case, Eskom will be unable to comply timeously with the World Bank Loan Condition to implement FGD at the Medupi Power Station (refer to **Section 1** above). The case for this study is further strengthened by the release of the Mokolo River System Annual Operating Analyses Scenario Planning for 2024/25 (refer to **Section 3.1.4** below) which indicated that water restrictions are expected from 2026 due to deficits on the capped water requirements even with the implementation of MCWAP-2A by October 2028. The MACS will result in a solution for alternative water supply and will cater to the risk of communities not having enough water during the period of MCWAP-2A being implemented and beyond. A **Three-phased Approach** is required for this Study, which will entail the following three (3) phases:

- **Phase 1**: Assessment of the Potential Water Resources, as well as the Review and Assessment of Potential Options for Additional Water Supply to the Medupi Power Station and other Water Users (Lephalale Local Municipality) at Desktop Level of Detail, which are, but not limited to, Return Flows, Groundwater, and the additional abstraction of the Mokolo Dam.
- **Phase 2**: Pre-feasibility Investigations during which Comparative Analyses are to be undertaken of Recommended Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality before Water Delivery by the MCWAP-2A.
- **Phase 3**: Feasibility Investigations for the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality for Implementation.

Furthermore, the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station for Implementation must not only benefit the Medupi Power Station in the short-term, but these measures should also be beneficial to other Water Users, especially poor households, in the long-term if applicable. The Study Area for the Contingency Study will therefore cover the:

- Area surrounding the Medupi Power Station (10km from the outskirts of Lephalale town),
- All WwTW identified which includes Nelsonkop WwTW, Paarl WwTW, Marapong WwTW and Medupi WwTW are located within a radius of 13 km from the Medupi Power Station,
- Mokolo Dam (45 km south-east of Lephalale) and
- the Lephalale Area, which will be the receiving area.

The Technical Feasibility Investigations must be at an appropriate level of detail and must be comprehensive enough, to meet the requirements for Funding Approval and Environmental Authorisation. The Main Objectives and Requirements for the Technical Feasibility Investigations are, but are not limited to, the following:

- Develop Clear Project Objectives with the Participation of Key Stakeholders;
- Environmental Screening of the Proposed Contingency Measures (Options);
- Produce the Appropriate Level of Detail, which must be comprehensive enough, to meet the Requirements for Funding Approval and Environmental Authorisation if required;
- Undertake a Multi-option Analysis to Demonstrate the Most Beneficial Use of Public Funds, as well as
- Produce Institutional and Financing Arrangements.

As part of this Study, it must also be ensured that the Roles and Responsibilities of all the Role Players are articulated clearly in a Memorandum of Agreement, which is an Institutional Arrangement that is crucial to the success of the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality in case the MCWAP-2A is further delayed.

Consultations are required with the National Treasury, the Department of Fisheries Forestry, and Environment (DFFE), the Department of Mineral Resources and Energy (DMRE), and other Authorities at every Critical Stage of this Study to solicit their respective concurrence. Early consultations enhance the prospects for Funding Approval

and Environmental Authorization at the end of this Study. These consultations are meant to inform the structuring of the Feasibility Investigations to fully meet the Specific Requirements of the Authorities.

The Appointed Professional Services Provider (PSP) for this Study, referred to as the PSP hereafter is required to Undertake and Complete this Study, which will propose the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality in accordance with Technical Best Practices, Financial Viability, which is Socio-economical Acceptable and Environmentally Acceptable, without any Fatal Flaws to meet the expected shortfall of 4.5 million $m^3/a$ until the MCWAP-2A becomes operational.

The PSP must provide the diverse skills and expertise required to undertake and complete this Study within the timeframe as well as other constraints and risks. Furthermore, the PSP will be required to liaise closely with the following stakeholders:

- The Lephalale Local Municipality (LM);
- The Waterberg District Municipality (DM);
- Irrigation Boards in the Study Area;
- Water Boards in the Study Area;
- Eskom;
- Mines (e.g., Exxaro);
- Other PSPs;
- The Appointed Environmental Assessment Practitioner (EAP) for the Environmental Impact Assessment (EIA), if an EIA is required;
- Interested and Affected Parties (I&APs);
- Other National and Provincial Government Departments as well as
- Any other Institutions.

The DWS hereby calls for Proposals from PSPs to undertake this Study. The PSP must provide the diverse skills and expertise required to undertake and complete this Study within the timeframe as well as other constraints and risks . The PSP will be required to

liaise closely with Municipalities and Traditional Authorities in the Study Area as well as with the Relevant National and Provincial Government Departments, other PSPs as well as other Role Players identified. The PSP's Study Team must have a Study Leader (Professional Engineer), experienced in coordinating and managing a study of this nature. The Study Leader will be the main link between the DWS and the PSP's Study Team.

The DWS will appoint the PSP to undertake and complete all the necessary work as described in the **Scope of Services Required** (refer to **Section 5** below) to facilitate the successful conclusion of this Study. The Scope of Services Required for this Study will be the minimum requirements that the DWS will accept. The estimated duration of this Study is **twenty-four (24) months**, which will include all the tasks as outlined for the Scope of Services Required (refer to **Section 5** below).

Upon completion of each **Study Phase**, the Client shall be entitled to decide at its sole discretion to either proceed with further Phases, terminate the study at this stage or decide on which sub tasks of the succeeding Phase to be implemented.

**Two** percent **(2%)** of the total contract amount will be retained and will be paid after the delivery and approval of all reports in the specified format.

"**Amount**" as referred to in this document is the quantity of monetary value in South African Rands (ZAR).

# 3. BACKGROUND

## 3.1 MOKOLO DAM

### 3.1.1 General Description of Mokolo Dam

The Mokolo Dam is located on the Mokolo River, previously known as the Mogol River, approximately 45 km south-east of Lephalale, formerly known as Ellisras, in the Limpopo Province. The Mokolo Dam was commissioned in 1980 for water supply to the nearby large Industrial Users, Urban Areas, and an Irrigation Scheme. The Primary Details for Mokolo Dam are listed in **Table 3.1** below:

**Table 3.1: Primary Details for Mokolo Dam**

| Description | Description |
|---|---|
| Dam Type | Composite Rock-fill Dam with a Concrete Spillway |
| Classification | Category III Dam |
| Full Supply Level (FSL) | 912 masl |
| Gross Storage Capacity | 146 million $m^3$ |
| Catchment Area | 4 320 $km^2$ |
| Natural Mean Annual Runoff (MAR) | 209 million $m^3/a$ |
| Yield at 98% Assurance of Supply | 50.7 million $m^3/a$ |

### 3.1.2 Water Allocations from Mokolo Dam

The total current water allocation from the Mokolo Dam is 46.90 million $m^3/a$. The Current Water Allocations from the Mokolo Dam are listed in **Table 3.2** below:

**Table 3.2: Current Water Allocations from the Mokolo Dam**

| Water Use Sector | Allocation (million $m^3/a$) |
|---|---|
| Mining | 7.60 |
| Power Generation | 17.60 |
| Lephalale LM for Domestic Water Supply | 7.20 |
| Incidental | 0.10 |
| Irrigation | 10.40 |
| Reserve | 4.00 |
| **TOTAL** | **46.90** |

### 3.1.3 Long-term Yields for Mokolo Dam

The Long-term Historical and Stochastic Yields for the Mokolo Dam with and without the Ecological Water Requirements (EWR) are summarised in **Table 3.3** below.

**Table 3.3: Summary of the Long-term Historical and Stochastic Yields for the Mokolo Dam**

| Scenario | Historical Firm Yield (million $m^3/a$) | Stochastic Yields (million $m^3/a$) | | | |
|---|---|---|---|---|---|
| | | Assurance of Supply | | | |
| | | 99.5% | 99% | 98% | 95% |
| Without the EWR | 38.70 | 39.10 | 44.60 | 50.70 | 66.80 |
| With the Full EWR | 12.80 | 11.10 | 16.30 | 22.00 | 35.40 |

### 3.1.4 Mokolo River System Annual Operating Analyses Scenario Planning for 2024/25

At the time of preparing this ToR the most recent Mokolo River System Annual Operating Analyses (AOA) Scenario Planning for 2024/25 was the AOA that was undertaken in 2024, which concluded that:

- No water restrictions were required for the 2024/25 Operating Year.
- Deficits exist on all water requirements projection scenarios from 2025 onward:

- From this 2024/2025 analyses, water restrictions are expected from 2026 on the capped water requirements projection scenario with MCWAP 2A implementation date of October 2028.
- With the capped water requirement projections in 2024 and with the MCWAP-2A being operational:
    - The first deficit in the water supply is expected by 2025.
    - Severe restrictions could still be required from 2025 to 2027 although less than the un-capped demand projection scenario above.
    - With the MCWAP-2A being operational from October 2028 onwards no deficits in the water supply are expected at the required assurance levels of supply.
- When utilising the Lowest Level Storage (LLS), also referred to as the Dead Storage Level, in the Mokolo Dam, which is an additional 9 million $m^3$, in combination the with capped water requirement projections:
    - The first deficits in the water supply are only expected by 2025.
    - The severity of restrictions from 2025 to 2028 could be significantly reduced although still unacceptably high.
    - With the MCWAP-2A being operational from October 2028 onwards no deficits in the water supply are expected at the required assurance levels of supply.
    - Although utilising the Mokolo Dam LLS significantly improves the water supply to all the users, the LLS is still not sufficient to overcome the expected severe deficits from 2025 to 2027 until the MCWAP-2A is operational.
    - Further analyses and inputs from the DWS Resource Directed Measures (RDM) Office are required to determine the impact of the Reserve on the water supply from the Mokolo Dam as well as the implementation of the Reserve.

## 3.2 MOKOLO CROCODILE (WEST) RIVER WATER AUGMENTATION PROJECT

### 3.2.1 Mokolo Crocodile (West) River Water Augmentation Project Phase 1

The MCWAP-1, which was completed in 2015, has a capacity of about 30 million $m^3/a$, and consists of the following infrastructure:

- A 4.5 MW Pump Station, as well as
- A 46 km long Bulk Raw Water Pipeline from the Mokolo Dam to supply the Medupi and Matimba Power Stations, as well as to Exxaro's Grootegeluk Mine and the Lephalale LM, which consists of the following pipeline sections:
    - A Rising Main from the Mokolo Dam to the Wolvenfontein Balancing Dams;
    - A Gravity Line from the Wolvenfontein to the Matimba Power Station, and
    - A Gravity Line from the Matimba Power Station to Steenbokpan.

The MCWAP-1 Infrastructure runs parallel to, and ties in with, the existing infrastructure supplying Exxaro's Grootegeluk Mine, Eskom's Matimba and Medupi Power Stations, as well as the Lephalale LM. Furthermore, the MCWAP-1 also includes the refurbishment of the old DWS Steel Pipeline from the Mokolo Dam to the Matimba Supply Point.

### 3.2.2 Proposed Mokolo Crocodile (West) River Water Augmentation Project Phase 2A

The Proposed MCWAP-2A will be a Water Transfer Scheme with a Transfer Capacity of 75 million $m^3/a$, which will Augment Water Supply in the Waterberg Coal Fields in the Limpopo Province for Power Generation, Mining, Industry, Domestic Water Supply (the Lephalale LM), and Social Water Requirements amongst others. Furthermore, the Proposed MCWAP-2A will only utilize the Surplus Return Flows (treated effluent) from the Northern Areas of Gauteng Province, which are discharged into the Crocodile (West) River Catchment. Any Existing Lawful Water Use in the Crocodile (West) River Catchment will, however, not be affected.

The Proposed MCWAP-2A will consist of the following infrastructure:

- An Abstraction Works and Weir (the Proposed Vleëpoort Weir) on the Crocodile (West) River at Vleëpoort near Thabazimbi;
- A Break Pressure Tank;
- A Sediment Abstraction Works;
- A Low Lift Pump Station and Pipeline to Convey Raw Water to the Balancing Dams and Sediment Abstraction Works;
- A High Lift Pump Station and 29 km long Rising Main Pipeline;
- A 128 km long Gravity Main Pipeline from the Break Pressure Tank to Terminal Points close to the Medupi Power Station and Steenbokpan, as well as
- A River Management System to Manage Abstractions from, and the River Flows in, the Crocodile (West) River Catchment upstream of the Proposed Vleëpoort Weir.

The Trans-Caledon Tunnel Authority (TCTA) is the Implementing Agent for the Proposed MCWAP-2A on behalf of the DWS. All the Planning Investigations for the Proposed MCWAP-2A have been completed. There were several appeals against the EIA for the MCWAP-2A, but the Minister of Environment, Forestry, and Fisheries, however, dismissed all the appeals against the EIA for the MCWAP-2A on 11 October 2020. The TCTA commenced with the Detailed Design and other Pre-implementation Work for the MCWAP-2A in April 2019. The anticipated dates for the Start of Construction and Water Delivery at the time of preparing this ToR are June 2024 and October 2028, respectively. Should the MCWAP-2A, however, be further delayed beyond the date when water for three (3) of the FGD Units at the Medupi Power Station is required, then there should be a Preferred Option for implementation for Additional Water Supply to the Medupi Power Station, which is the purpose of this Study.

Mokolo River System AOA Scenario Planning for 2022/23 (refer to **3.1.4** above), however, concluded that with the capped water requirement projections in 2022, the first failure in the assurance of supply from Mokolo Dam could be expected by 2024 with severe restrictions required from 2025 until 2028, or when the MCWAP-2A becomes operational. Although the Medupi Power Station's Water Use License (WUL) includes

FGD for the first three (3) FGD Units from the Mokolo Dam, the severe shortage of water in the Mokolo System might, however, require additional water earlier than expected.

## 3.3 POTENTIAL WATER RESOURCES FOR ADDITIONAL WATER SUPPLY TO MEDUPI POWER STATION / *LEPALALE LOCAL MUNICIPALITY* BEFORE TO WATER DELIVERY BY THE MCWAP-2A

The Identified Potential Water Resources for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality should the MCWAP-2A be further delayed are, but are not limited to, Return Flows, Groundwater, and the additional abstraction of Mokolo Dam. When operational the MCWAP-2A will supply three (3) of the six (6) FGD Units at the Medupi Power Station and the water requirement for each FGD Unit is about 1.5 million $m^3/a$ (4.5 million $m^3/a$ in total). Depending on Eskom's Implementation Programme of the FGD Units at the Medupi Power Station the total water requirement for three (3) of the FGD Units could potentially be required before water delivery by the MCWAP-2A. The Potential Water Resources for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality before water delivery by the MCWAP-2A are further discussed in **3.3.1**, **3.3.2**, and **3.3.3** below. Combinations of these Potential Water Resources should also be considered e.g., the Conjunctive Use of Groundwater and Return Flows.

### 3.3.1 Return Flows

The following four (4) Wastewater Treatment Works (WwTWs) are situated near Lephalale and the Medupi Power Station, namely:

- Nelsonkop WwTW is just South of Marapong, which is located about 6.5 km from the Medupi Power Station;
- Paarl WwTW near the Ellisras Airport, which is located about 13 km from the Medupi Power Station;
- Zongesien/Marapong WwTW, which is located just North-East of Marapong about 9.5 km from the Medupi Power Station, and
- Medupi WwTW at the Medupi Power Station.

The Primary Details of these four (4) WwTWs in the Vicinity of Lephalale and the Medupi Power Station are given in **Table 3.5** below:

**Table 3.5: Primary Details of the four Wastewater Treatment Works in the Vicinity of Lephalale and the Medupi Power Station**

| Description | | Wastewater Treatment Works | | | |
|---|---|---|---|---|---|
| | | **Nelsonkop** | **Paarl** | **Zongesien/ Marapong** | **Medupi** |
| Design Capacity (Mℓ/d) | | 2.74 | 10.00 | 0.65 | 1.70 |
| Operating Capacity (Mℓ/d) | | 1.10 | 5.00 | 2.50 | 1.00 |
| Authorized Discharge | | License | License | - | License |
| Maximum Discharge Volume | Mℓ/d | 0.00 | 3.00 | 3.1[0] | 0.56 |
| | million $m^3/a$ | 0.00 | 1.10 | 1.13 | 0.20 |
| Discharge Water Source | | No discharge | Discharge to Open Land | Sandloop River | - |
| Possible Future Upgrading | | - | - | Upgrading of the Existing WwTW to about 16 Mℓ/d( | - |

### 3.3.2 Groundwater

The information on groundwater in the vicinity of the Medupi Power Station is extremely limited. Therefore, those individuals who understand the water situation, including groundwater, in the Study Area need to be identified and consulted. There are currently only monitoring boreholes in the vicinity of the Medupi Power Station, which are used for Monthly and/or Quarterly Groundwater Sampling. The other surrounding boreholes belong to farmers in the area and data on these boreholes is difficult to obtain. It must also be confirmed whether the required volume can be abstracted without depleting the surrounding boreholes, e.g., those belonging to the surrounding farmers.

### 3.3.3 Additional Abstraction of Mokolo Dam

The potential abstraction of an additional 4.5 million $m^3/a$ from the Mokolo Dam, over and above the total allocation of 46.90 million $m^3/a$ (refer to **Table 3.2** above) will result

in a total abstraction of 51.40 million $m^3/a$ before water delivery by the MCWAP-2A. If 51.40 million $m^3/a$ is abstracted from the Mokolo Dam then the Assurance of Supply will be less than 98% (refer to **Table 3.3** above). The consequence of the additional abstraction of Mokolo Dam is that the Annual Operating Rules for Mokolo Dam might need to be applied earlier if an additional 4.5 million $m^3/a$ is abstracted from the Mokolo Dam. This means that the Irrigation Sector could lose one (1) or more seasons of production, which will affect the local economy negatively. Furthermore, the World Bank will not allow other Water User Sectors to be compromised (restricted) due to the delayed, and/or further delayed, implementation of the MCWAP-2A.

According to the most recent Mokolo River System AOA Scenario Planning for 2024/25, that was the AOA that was undertaken in 2024 (refer to **3.1.4** above), the first deficit in water supply could be expected by 2025, and severe water restrictions could be required from 2026 onwards without the MCWAP-2A for the un-capped water requirement projections in 2024. For the capped water requirement projections in 2024, the first deficit in water supply could be expected by 2025, and severe restrictions could still be required from 2026 to 2027, but less than for the un-capped demand projection scenario.

The Mokolo Dam's LLS is about 9 million $m^3$ and in combination the with capped water requirement projections the first deficits in water supply could only be expected by 2025. Furthermore, the severity of restrictions from 2026 to 2028 could be significantly reduced although still unacceptably high. If the MCWAP-2A is operational from October 2028 onwards then no deficits in the water supply are expected at the required assurance levels of supply. Although utilising the Mokolo Dam LLS could significantly improve the water supply to all the users, the LLS is, however, still not sufficient to overcome the expected severe deficits from 2025 to 2028 until the MCWAP-2A is operational.

### 3.3.4 Strengths, Weaknesses, Opportunities and Threats Associated with the Potential Water Resources for Additional Water Supply to Medupi Power Station / Lephalale Local Municipality

A Desktop Level of Detail Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis of the Potential Water Resources for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality before water delivery by the MCWAP-2A is presented in **ANNEXURE A**.

## 3.4 PAST PLANNING STUDIES, OTHER INFORMATION, AND CURRENT RELATED PLANNING STUDIES

### 3.4.1 Past Planning Studies

The DWS undertook various Past Planning Studies for the Mokolo River and to Augment Water Supply to the Lephalale Area. The Relevant DWS Past Study Reports are listed below and are briefly discussed in **Sub-section 3.5** below. It should be noted that this is not a Complete List of all the Available Relevant Past Study Reports and Information. Therefore, it will be expected from the PSP to undertake a thorough Literature Search to source other relevant information. Furthermore, the PSP should also source Lephalale LM's Latest Water Infrastructure Master Plan and Water Services Development Plan (WSDP). The Past DWS Studies include, but are not limited to, the following:

(1) Mokolo and Crocodile River (West) Water Augmentation Project Feasibility Study, Report Number P RSA A000/00/8109, Department of Water Affairs, September 2010.

(2) Post Feasibility Bridging Study, MCWAP-2A: Review Report, Report Number P RSA 000/A00/18413, Department of Water and Sanitation, 31 August 2015.

(3) Mokolo River System Annual Operating Analyses Scenario Planning for 2024/25.

(4) Limpopo Water Management Area North Reconciliation Strategy 2017, Report Number P WMA 01/000/00/02914/11B, Department of Water and Sanitation, February 2017.

(5) Hydrogeological Assessment and Aquifer Recharge Potential within the Lephalale (Ellisras) Local Municipality Area, Report Number PWMA 01/A42/00/02209_01, Department of Water Affairs, 20 January 2010.

(6) Hydrogeological Assessment and Aquifer Recharge Potential within the Lephalale (Ellisras) Local Municipality Area Phase 3: Artificial Recharge and Geochemistry, Report Number PWMA 01/A42/00/02209_02, Department of Water Affairs, 10 June 2010.

### 3.4.2 Current Related Planning Studies

The DWS is currently undertaking the following two (2) Related Planning Studies, amongst others:

(1) Development, Updating, and Review of the Strategies to Reconcile Water Availability, and Requirements in the North Planning Area (DWS Project WP11341). The DWS Directorate: National Water Resource Planning (D: NWRP) commissioned and appointed a PSP for this particular study.

(2) Development of Operating Rules for Water Supply and Drought Management of Stand-Alone Dams, Schemes, and Integrated Systems in the Northern Planning Area (DWS Project WP11251). The DWS Directorate: Water Resource Planning Systems (D: WRPS) commissioned and appointed a PSP for this particular study.

The PSP will be required to liaise with the appointed PSPs for these two (2) above-mentioned studies.

## 3.5 Discussion of the Past Planning Studies and Study Reports

The DWS Past Studies dealt with Strategies to Reconcile Water Requirements with water Supplies in the Mokolo River Catchment and with Potential Water Resources Development Options and Transfers, namely the various Sub-phases of the Mokolo Crocodile (West) Water Augmentation Project Phase 2. However, some of the recommendations of these DWS Past Studies have not yet been implemented. These and other recommendations may therefore still be relevant for Future Long-term Water Supply Options in the Lephalale Area. The DWS Past Studies are briefly discussed under **3.5.1** to **3.5.5** below:

### 3.5.1 Mokolo and Crocodile River (West) Water Augmentation Project Feasibility Study

Due to the limited availability of water in the Lephalale Area, the DWS, formerly known as the DWAF, commissioned the MCWAP Feasibility Study (refer to **3.5 (1)** above) to investigate options to meet the future water requirements of the Lephalale Area. The Infrastructure Options that were considered to augment the water supply to the Lephalale Area include the following:

- De-bottlenecking of an existing pipeline, owned by Exxaro;
- The MCWAP-1 to augment the supply from Mokolo Dam, and
- The MCWAP-2A is a Transfer Scheme from the Crocodile (West) River to the Lephalale Area.

All the MCWAP Feasibility Study Technical Reports are available on the DWS Website at the following link: https://www.dws.gov.za/iwrp/MCWAP/technicalD.aspx.

### 3.5.2 Post Feasibility Bridging Study for the Mokolo and Crocodile River (West) Water Augmentation Project Phase 2A

When the DWS concluded the MCWAP Feasibility Study (refer to **3.5.1** above) in September 2010, a Phased Implementation Approach for the Complete Project (the MCWAP) was defined to increase the supply as the future water requirements grow due to the envisaged developments of the Waterberg Coal Fields. The Feasibility Study was analyzed based on the following:

- Two (2) Additional Large Power Stations besides the Matimba and Medupi Power Stations;
- Provision for Independent Power Producers with a capacity equivalent to one (1) large power station;
- Coal Supply to these Coal Power Stations;
- Coal Production to supply other markets;
- Sasol's Mafutha 1 Coal to Liquid (CTL) Fuel Project, as well as
- The Urban Developments associated with all the above.

It was anticipated that all these aforementioned developments would be operational by 2030. However, due to the former Department of Energy's (DoE's), now the Department of Mineral Resources and Energy (DMRE), Integrated Resource Plan (IRP 2010), which was published in 2011 and subsequently updated in November 2013, redefined the Country's future energy mix. Furthermore, Sasol decided to cancel their plans for developing their Mafutha CTL Fuel Project. Because of the IRP and Sasol's decision, the envisaged future water requirements were significantly reduced and delayed

compared to the Water Requirement Scenarios considered during the MCWAP Feasibility Study. The indication at the time was that the Combined MCWAP's Average Annual Demand could potentially be reduced by 44% from 197 million $m^3/a$ to 110 million $m^3/a$. The DWS consequently requested the TCTA to review the water demands from the MCWAP.

The Post Feasibility Bridging Study for the MCWAP-2A (refer to **3.5 (2)** above) involved an Assessment of the Current and Future Water Requirements of the Key Rural, Urban, and Industrial Development Areas in the Lephalale Area as well as a Review of the Required Transfer Capacity of the MCWAP-2A. The Assessment was based on data gathered from all the known planned and anticipated developments associated with the rich coal reserves in the Waterberg Coal Fields, for which additional water will be required. Based on the Conclusions and Recommendations of the Post Feasibility Bridging Study for the MCWAP-2A, the MCWAP-2A is now being designed for a Transfer Capacity of 75 million $m^3/a$.

The Post Feasibility Bridging Study for the MCWAP-2A Study Report and its Appendixes are also available on the DWS Website at the following link: https://www.dws.gov.za/iwrp/MCWAP/technicalD.aspx.

### 3.5.3 Mokolo River System Annual Operating Analyses Scenario Planning for 2024/25

Please refer to 3.1.4 and 3.3.3 where the Mokolo River System Annual Operating Analyses Scenario Planning for 2024/25 is discussed.

### 3.5.4 Limpopo Water Management Area North Reconciliation Strategy of 2017

The Main Objective of the Reconciliation Strategy of 2017 for the Limpopo Water Management Area (WMA) North (refer to **3.5 (4)** above) was to Formulate a Water Resource Reconciliation Strategy for the Entire Limpopo Water Management Area (WMA) North until 2040. The Objectives of this Reconciliation Strategy for the Limpopo WMA North were to:

- Address the Growing Water Demands;
- Address the Water Quality Problems;

- Identify Water Resource Development Options, and
- Provide Reconciliation Interventions, including Structural, Regulatory, and Administrative Interventions.

To achieve the above-mentioned objectives, the Reconciliation Strategy Study entailed the following:

- Review of the Available Information on the Current and Future Water Requirements Projections as well as Reconciliation Options;
- Determination of the Current and Future Water Requirements as well as Return Flows and the Compilation of Projection Scenarios;
- Updating of the Hydrological Data also accounting for Groundwater and Surface Water Interaction;
- Configuration of all the System Models for the Study Area at a Quaternary Catchment Scale, or smaller, where required in a manner that is suitable for Allocable Water Quantification.
- Assessment of the Water Resources and Existing Infrastructure together with the Incorporation of the Potential for Water Conservation and Water Demand Management (WC/WDM) as well as Water Re-use as Reconciliation Options, as well as
- The Development of a Proposed 2017 Reconciliation Strategy, which was followed by a Final Version of the 2017 Reconciliation Strategy after Consultation with various stakeholders.

Furthermore, the Reconciliation Strategy of 2017 that was developed will continue to a Continuation and Implementation Phase, which will be regularly updated concerning Projected Water Requirements and Water Availability (refer to **3.4.2** above).

The Reconciliation Strategy of 2017 for the Limpopo WMA North recommended that the following should be included in the Implementation and Continuation Phase of the Reconciliation Strategy:

- Water Requirements, Water Availability, Water Balances, etc. of the Entire Study Area (the Limpopo WMA North) should be continuously updated;
- The Irrigation Sector in the Study Area should be monitored to identify any possible trends in the Irrigation Water Requirements e.g., a decrease due to farmers converting from irrigation to game farming or vice versa;
- Adequately Determine the Impact of the Ecological Water Requirements (EWR) on the Available Yields of the Major Dams in the Study Area;
- The Next Phase of the Reconciliation Strategy should include an EWR Scenario for the Lowest EWR Class that will Sustain the Environment and its Users in terms of the Available Yields of the Large Dams in the Study Area;
- The Growth in the Return Flows as a result of the Growth in Water Requirements should be Determined and Monitored, especially those in areas where significantly increased water use is expected;
- The Implementation of Re-use of Treated Effluent should be promoted in the Study Area as it can potentially reduce the water requirements from new water resource developments such as the Olifants River Water Resources Development Project (ORWRDP) and the Nandoni Dam Transfers;
- The Water Savings that can be achieved by eliminating Unlawful Water Users in the Irrigation Sector, as well as other sectors, should be determined;
- The Feasibility of Raising the Glen Alpine Dam, Mushedzi Dam, and Nzhelele from both the Water Resources and Engineering Perspectives;
- Further Water Quality Assessments should be undertaken at the Required Level of Detail for the Implementation of the Reconciliation Strategy;
- Groundwater Development Options should be investigated as part of the Continuation Phase and/or as Standalone Regional Studies;
- The Utilisation of the Old Tin Mine near Modimolle as an Underground Water Storage Facility;
- Artificial Recharge of the Large Natural Aquifer within the Gneiss in the area around Mahodi near Dendron;
- Artificial Recharge of the Dolomite Aquifer at Weenen and Planknek, as well as

- The Continuous Updating List of Uncertainties, as well as the Associated Drivers of the Uncertainties e.g., the Impacts of Commodity Price on the Mining Sector.

The Bidding PSPs may request Electronic Copies (PDF Copies) of the Final Reconciliation Strategy of 2017's Study Reports from the DWS, refer to **Section 10** below for the relevant DWS Contacts.

### 3.5.5 Hydrogeological Assessment and Aquifer Recharge Potential within the Lephalale (Ellisras) Local Municipality Area Phase 3: Artificial Recharge and Geochemistry

The Main Objectives of this Past Study (refer to **3.5 (5)** above) were to:

- Review the Regional Hydrogeological Conditions at Lephalale, as well as
- Investigate the Linear Structures within the Vicinity of the Town, at various depths, to determine the possibility of supplying sufficient potable water from groundwater sources and the possibilities of artificial recharge of the groundwater at Lephalale.

Furthermore, this Past Study was divided into the following four (4) phases:

- Phase 1: Installation and Testing of Monitoring Wells;
- Phase 2: Detail Assessment of the Local Hydrogeology;
- Phase 3: Detail Assessment of Artificial Recharge Potential, as well as
- Phase 4: An Environmental Impact Assessment (EIA) Study.

This Past Study Report deals with Phase 3, and the objectives of Phase 3 were to:

- Assess the Various Artificial Recharge Systems Proposed in Phase 1 and Phase 2 of this Past Study at a Pre-feasibility Level of Detail;
- Sample, Analyse and Evaluate the Water Quality of the Various Water Sources;
- Undertake Limited Geochemical Modelling to Test Interactions with the Water Sources, as well as
- Limitations to the Different Proposed Artificial Recharge Systems.

Furthermore, this Past Study recommended that the Waterberg Fractured Rock Aquifer be developed as part of an Artificial Recharge Scheme since the geochemical changes due to the mixing of the aquifer and source water are expected to be minimal.

This Past Study concluded that Artificial Recharge would enhance water use efficiency in the Lephalale Area through the re-use of water, which will improve the groundwater quality in situ or minimise evaporation from the available water sources. Given that this Area is within a semi-arid region, and with Climate Change becoming more apparent, Re-use and Artificial Recharge are considered non-negotiable options for the Long-term Planning and Optimisation of Water Use. The Planning and Implementing of Artificial Recharge can be undertaken in advance for the Different Phases of Implementation, namely:

- Phase 1: Creating Storage within the Aquifer;
- Phase 2: Testing the Aquifer Storage Recovery Scenario, and
- Phase 3: Implementation of the Artificial Recharge Options.

All of the Artificial Recharge Options that are listed in this Past Study Report are considered to be useful. The Feasibility and/or Time of Implementation would depend on the Cost-benefit to the Area. Further work will, however, needs to be undertaken before the Implementation of Artificial Recharge.

This Past Study Report is available on the DWS Website at the following link: https://www.dws.gov.za/iwrp/MCWAP/GWdocs.aspx.

# 4. ENVIRONMENTAL IMPACT ASSESSMENT STUDY

If an Environmental Impact Assessment (EIA) Study is required then the EIA Study will follow at an appropriate time once the Feasibility Study has progressed to a stage where the Proposed Layout Configuration, Infrastructure, and Potential Environmental Impacts have been configured for the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality. The Main Objective of the EIA, if required, is to deliver a Legally Sound and Comprehensive EIA Process in accordance with the National Environmental Management Act, 1998 (Act 107 of 1998) and EIA Regulations, as amended on 4 December 2014 as well as any later amendments.

If an EIA Study is required, then the DWS will appoint an Independent Environmental Assessment Practitioner (EAP) at an appropriate time once the Feasibility Study has progressed significantly and the EAP will undertake the EIA Study under a Separate Contract. The Feasibility Study, however, includes an **Environmental Screening Task** (refer to **Sub-section 5.2** below) to Identify Fatal Flaws and Negative Impacts at an early stage to guide the Configuration of the Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality, and to pave way for the more Detailed EIA Process starting at a later stage, if required.

# 5. SCOPE OF SERVICES REQUIRED

The **Scope of Services Required** for this Study is, but not limited to, the following Main Tasks:

- Inception Report, which will consider this ToR to gain a common understanding of required deliverables and provide the Baseline for tracking Actual Progress against Planned Progress;
- Review of any other Previously Proposed Water Resource Development Options;
- Environmental Screening of the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality;
- Project Management and Coordination;
- Pre-feasibility Investigations of the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station and Lephalale area, based on the outcomes of the Screening Process;
- Recommend the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station and Lephalale area for Feasibility Investigations;
- Feasibility Investigations of the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station and Lephalale area, including the Feasibility Design and Costing;
- Assess the Legal, Institutional, Financial and Operational Aspects;
- Socio-economic Analysis, as well as
- Assess Land Matters.

Some of the above-mentioned components can be undertaken in parallel, but these will need to be identified and agreed upon between the DWS and the PSP during the Inception Stage of this Study. Once the DWS approved the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality, the Pre-feasibility and Feasibility Investigations can be prioritised, and a certain amount of overlap could most probably be possible. The details of the tasks that are required for this Study are outlined in **Sub-sections 5.1** to **5.16** below:

## 5.1 INCEPTION REPORT

The PSP will be required to do proper research of the relevant available information, as well as to liaise with all relevant organisations and role players in preparation for this Study. Furthermore, the PSP will also be required to do proper research on all the available groundwater information relevant to this Study.

After the signing of the **Contract** by both parties, the PSP can commence with their work. The PSP shall compile an **Inception Report** that will consist of a Proper Description of Tasks and Methodology, a Study Programme, a Human Resource Schedule, and a Budget. Furthermore, the PSP shall also propose a Report Structure for the various Study Reports, which will be agreed upon between the DWS and the PSP during the **Inception Stage** of this Study.

The purpose of the **Inception Report** is to capture all the important work that will be required for the successful completion of this Study, which might have been overlooked for some reason or another in the compilation of the Original Study Terms of Reference (ToR), or the Proposal submitted by the PSP. The omission of this additional work is usually only detected once work on a study has commenced and most of the team members have had time to familiarise themselves with the detailed requirements of the necessary tasks to ensure the successful completion of a study.

The **Inception Report** is a **Formal Document** that covers all the **Aspects of the Original Proposal**, the **Contract Amount,** and the **Contract Period**. The **Inception Report** lists all the Required Tasks, all the Team Members for each Task, the Team Members Times Allocations, Hourly Rates per Task, Anticipated Disbursements, a Revised Study Programme, etc. The DWS must approve the rates of all new team members before their engagement.

For this particular appointment, the **Inception Report** should be finalised and co-signed by the DWS and the PSP within three (3) months of the commencement of this Study.

## 5.2 ENVIRONMENTAL SCREENING

The PSP will be required to undertake a **Complete Environmental Screening of all the Main Infrastructure Components of the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality**. The Environmental Screening Work undertaken by the PSP will have to ensure that there is a smooth transition of relevant information to the Appointed EAP for the EIA if required. The Environmental Screening must also enable the PSP to assist the DWS Project Manager to confirm the **Scope of Services Required for the EIA Study**. The PSP will also be required to assist the DWS Project Manager with the review of the work that the Appointed EAP for the EIA Study undertook. Furthermore, the PSP will also be required to assist with the **Project Management** of the **EIA Study**.

The Appointed EAP for the EIA will use the results of the Environmental Screening for the EIA Process. The appointment of the EAP for the EIA, if required, will follow at an appropriate time once the Feasibility Study has progressed to a stage where the Layout and Configuration of the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality, and the Potential Environmental Impacts, have been configured.

An **Environmental Screening Report**, which must be of a High Standard, is required before the **Pre-feasibility Investigations**.

## 5.3 PROJECT MANAGEMENT AND CO-ORDINATION

The **Project Management and Coordination** of this Study will be the responsibility of the PSP under the supervision of the DWS Project Manager. This will involve various meetings and the PSP must make provisions for these meetings as specified in **Table 5.1** below.

The PSP will be responsible for the Subsistence and Travel Costs of the Study Team Members attending Meetings and Site Visits. The PSP will also be required to provide Secretarial Services at all the Meetings and Workshops.

**Table 5.1: Study Meetings that Bidders must Price for in the Financial Proposal**

| Meeting Type | Number of Meetings | Place/Venue | PSP Obligations |
|---|---|---|---|
| Study Management Committee (SMC), excluding Inception Meetings | Once every Three Months. (Total = 8) | Assume the venues are Pretoria for two (4) of these meetings and Lephalale for two (4) of these meetings. | • Arrangements for Meetings;<br>• Attendance;<br>• Power Point Presentations of Study Progress, as well as<br>• Minute Taking and Distribution. |
| Project Steering Committee (PSC) and/or Stakeholder Meetings | Once every Three Months. (Total = 8) | In the Study Area, assume the venue is in Lephalale for all these meetings | • Arrangements for Meetings;<br>• Attendance;<br>• Power Point Presentations of Study Progress, as well as<br>• Minute Taking and Distribution. |
| Presentation to DWS Management, TCTA, and Eskom. | Two (2) | Two (2) at DWS Head Office in Pretoria. | • High-Quality Power Point Presentations by One or Two Study Team Members. |
| Public Meetings with Stakeholders (arranged by the PSP) | Two (2) | Two (2) meetings in Lephalale. | • Arrangements for Meetings;<br>• Attendance;<br>• Power Point Presentations of Study Progress, as well as<br>• Minute Taking and Distribution. |
| Liaison with Role Players (Municipalities, other Government Departments, etc.) | As required. (Price for 6) | Assume the venue is in Lephalale. | • Arrangements for Meetings;<br>• Attendance;<br>• Power Point Presentations of Study Progress, as well as<br>• Minute Taking and Distribution. |

### 5.3.1 Study Management and Project Steering Committee Meetings

The DWS will provide the PSP with the names and contact details of the relevant DWS Officials, and other officials, that will be nominated to the Project Steering Committee (PSC) and Study Management Committee (SMC). The coordination, arrangement, and cost of Public Meetings, if any, will be the responsibility of the PSP.

### 5.3.2 Liaison with Role Players and Stakeholders

The PSP will be responsible to arrange Liaison Meetings with Role Players, which may, or may not be, attended by the DWS Project Manager and the DWS Limpopo Regional Office. Typical Role Players and Stakeholders would be, but are not limited to, the following:

- The Lephalale LM;
- The Waterberg DM;
- Irrigation Boards in the Study Area;
- Water Boards in the Study Area;
- Eskom;
- Mines (e.g., Exxaro);
- Other PSPs;
- The Appointed EAP for the EIA;
- I&APs;
- Other National and Provincial Government Departments as well as
- Any other Institutions.

### 5.3.3 Coordination and Management of the Study Team

It will be the Study Leader's responsibility to ensure that all the Study Team Members and Tasks are activated and completed at the right times. The PSP will be responsible to provide **Project Progress Reports** for both the **PSC and SMC Meetings**.

### 5.3.4 Quality Control of Study Reports

It will be Study Leader's responsibility to review all the Study Reports (Draft or Final) before submission thereof to the DWS. The Study Leader shall ensure that all the Study Reports are produced in the format required by the DWS and conform to the Report Template that will be provided at the onset of this Study. Quality Control of the Study Reports includes ensuring that language use and grammar are of a high standard, as well as that the Study Reports contain all information required to take the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality forward to the Implementation Stage. Any Study Reports that display a lack of review and scrutiny by the Study Leader will be returned to the PSP before the DWS Project Manager will review these Study Reports.

### 5.3.5 External Specialist Reviewers

The DWS reserves the right to appoint **External Specialist Reviewers**, as required, to review the technical content of selected Specialist Reports, and to confirm or improve the quality of these reports.

The Bidders shall price separately in the **Financial Proposal** for the **Professional Time** of the **Professional Team Members** who will be responsible for the **Appointment** of **External Specialist Reviewers** as well as the amount required for the services of the External Specialist Reviewer based on historic estimates from previous studies. The **Appointment and Payment** of the **External Specialist Reviewers** will be via the **PSP Contract.**

### 5.3.6 Financial Management

The Study Leader shall ensure that the DWS is invoiced as required and that invoices will be supported by all the necessary documentation, which is required by the DWS. It is the responsibility of the PSP to ascertain themselves of the DWS Requirements at the onset of this Study. Progress Reports must be submitted together with the invoices, which cover the Invoice Period. These Progress Reports are in addition to the Project Progress Reports that have to be prepared for the PSC Meetings that cover the period between two (2) successive PSC Meetings. It should be noted that the PSP's Study

Leader will be responsible for, and to be up to date with, financial related issues of this Study.

### 5.3.7 Collaboration with the Environmental Assessment Practitioner for the Environmental Impact Assessment

Close collaboration needs to be maintained between the **Technical Feasibility Study Team** and the **Appointed EAP** for the **EIA** (refer to **Section 4** above). The main objectives for this collaboration are, but are not limited to, the following:

- Make both teams aware of all the Environmental Impacts at an early stage;
- Support each other in establishing Suitable Mitigation Measures for the Environmental Impacts;
- Assess the Cost of the Proposed Environmental Mitigation Measures, and include it as part of the Overall Project Cost, as well as
- Avoid conflicting Project Reports produced by the two (2) different Study Teams.

## 5.4 Assessment of Potential Water Resources for Additional Water Supply to the Medupi Power Station and Other Potential Water Users

The Assessment of the Potential Water Resources in terms of Availability and the Additional Requirements of the Medupi Power Station as well as Other Potential Water Users, until the MCWAP-2A delivers water, is required (refer to **Sub-section 3.3** above).

A **Supporting Report** on the **Assessment of Potential Water Resources for Additional Water Supply to Medupi Power Station and Other Potential Water Users** is required, which must be of a High Standard.

The various **Sub-tasks** are outlined in **5.4.1** to **5.4.5** below:

### 5.4.1 Return Flows

The objective of this Sub-task is to Verify and Confirm the Available Return Flows as well as their current uses. Every effort shall be made to ensure that the most up-to-date

information is obtained and assessed in this regard. The following aspects are part of this Sub-task:

- A **Write-up on the Character of the Available Return Flows**;
- The Potential for Utilising the Return Flows for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality taking cognizance of any Possible Social, Economic and Environmental Constraints;
- An Evaluation of the Water Quality of the Return Flows, as well as
- A Comparison between the Current Utilisation of the Return Flows, and its Estimated Potential for Water Supply to other Users as well as Identified Inadequately Served Surrounding Communities after the MCWAP-2A is completed.

### 5.4.2 Identified Groundwater Resources

The objective of this Sub-task is to Verify and Confirm the Current Availability and Potential of the Identified Groundwater Resources, their Current Utilisation as well as the Potential Further Development of and Utilisation of the Identified Groundwater Resources. Every effort shall be made to ensure that the most up-to-date information is obtained and assessed in this regard.

The following aspects are part of this Sub-task:

- A **Write-up on the Character of the Identified Groundwater Resources**;
- The Potential for Utilising the Existing Identified Groundwater Resources for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality taking cognizance of any Possible Social, Economic and Environmental Constraints;
- An Evaluation of the Water Quality of the Identified Groundwater Resources;
- A Comparison between the Current Utilisation of the Existing Identified Groundwater Resources, and its Estimated Potential for Water Supply to other Users after the MCWAP-2A is completed, as well as

- The Potential for Further Development of the Identified Groundwater Resources for Water Supply to other Users and Identified Inadequately Served Surrounding Communities after the MCWAP-2A is completed.

An **Experienced Geohydrologist** is required as the Task Leader for this Sub-task.

Useful sources for Groundwater Data are the National Groundwater Archive (NGA) and the Groundwater Resource Information Program (GRIP) Database, which are both available from the DWS. Furthermore, another useful source of information, in particular, is the Related Groundwater Investigations for the MCWAP (refer to **3.5.5** above), which are available on the DWS Website at the following link: https://www.dws.gov.za/iwrp/MCWAP/GWdocs.aspx.

### 5.4.3 Additional Abstraction of Mokolo Dam

The additional abstraction of the Mokolo Dam until water delivery by the MCWAP-2A is not the desired Option as a Contingency Measure for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality. However, this Option also needs to be re-evaluated based on the latest available and updated information (refer to **3.1.4** and **3.3.3** above). The objective of this Sub-task is therefore to Re-evaluate this Option based on the latest available and updated information. It will also be a requirement to look at the anticipated antecedent climatic conditions during the time that precedes the commissioning of MCWAP-2A. This will assist in determining the capability of Mokolo Dam to provide additional abstraction, without serious impacts on current users, as well as for the system to normalise after additional abstraction takes place.

A **Write-up on the Additional Abstraction of Mokolo Dam** is required;

### 5.4.4 Existing and Future Water Requirements from the Return Flows and Identified Existing Groundwater Resources

The objectives of this Sub-task are to:

- Review all the Current and Projected Future Water Requirements for those Water Users within the Lephalale Area that are currently utilising the Return Flows, and the Identified Groundwater Resources, as well as

- Identify any Potential Future Water Sectors, including Identified Inadequately Served Surrounding Communities, within the Project Area that could potentially also utilise the Return Flows, and the Identified Groundwater Resources after the MCWAP-2A is completed, as well as
- **A Write-up on the Existing and Future Water Requirements from the Return Flows and Identified Existing Groundwater Resources.**

This information will be compared to the Water Availability from the Return Flows and Identified Groundwater Resources in the Lephalale Area to determine the Water Balance and Availability of Water from these two (2) resources. Typical User Sectors to consider shall include, but are not limited to, the following:

- Urban Domestic: Any Towns and Formal Settlements supplied from the Return Flows and the Identified Groundwater Resources. Current requirements, as well as at least a 20-year projection of these requirements, should be determined;
- Rural Domestic: Any Informal Settlements and Dwellings that rely on the Return Flows and the Identified Groundwater Resources for their water supply. Current requirements, as well as at least a 20-year projection of these requirements, should be determined;
- Irrigation: Any Current and Future Irrigation relying on the Return Flows and the Identified Groundwater Resources;
- Industrial: Any Current and Future Industrial Users relying on the Return Flows and the Identified Groundwater Resources, as well as;
- Ecological Reserve: The impact of the Return Flows on any Ecological Reserves, e.g., the contributions thereof to the Ecological Reserve.

### 5.4.5 User Priority Classification Table of the Existing and Future Water Requirements from the Return Flows and Identified Existing Groundwater Resources

The objective of this Sub-task is to **Compile a User Priority Classification Table for all the Existing and Future Water Users of the Return Flows and the Identified Groundwater Resources** through a Process of Stakeholder Consultations. The User Priority Classification Table shall reflect all the Water Uses categorised into different User Sectors. Where necessary, User Sectors will be sub-divided into Sub-categories.

Typical User Sectors are discussed above (refer to **5.4.4** above). Typical stakeholders to be involved in the process of compiling a User Priority Classification Table for this Study are, but are not limited to, the following:

- The Lephalale LM;
- The Waterberg DM;
- Irrigation Boards in the Project Area;
- Water Boards in the Project Area;
- I&APs;
- The DWS Limpopo Regional Office;
- Other Identified Industries in the Study Area;
- Chambers of Commerce in the Study Area;
- Department of Mineral Resources and Energy;
- Department of Environment, Fisheries, and Forestry;
- Department of Public Enterprises, as well as
- Other National and Provincial Government Departments and Institutions.

## 5.5 Identification and Review of Contingency Measures for Additional Water Supply to Medupi Power Station and Other Potential Water Users

Assessments of the Envisaged Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality are required at the Desktop Level of Detail for acceptability before being Investigated, Evaluated, and Compared at the Pre-feasibility Level of Detail. Criteria for Acceptability of the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality include, but are not limited to, whether:

- The Envisaged Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality were already Investigated and/or Evaluated;

- The Screening of those Envisaged Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality has not revealed any Fatal Flaws or Serious Negative Environmental and/or Social Impacts;
- The Water Availability is significant when compared to the extent of the Envisaged Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality;
- The Envisaged Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality are Practically Feasible and Effective based on Initial Investigations;
- Any Existing Infrastructure that can be Utilised and/or Modified for Additional Water Supply to Medupi Power Station / Lephalale Local Municipality, as well as
- The Contingency Measures for Additional Water Supply to the Medupi Power Station will have the Potential for Water Supply to other Users when the water (the Return Flows and Groundwater) is not required longer for the Medupi Power Station after the MCWAP-2A is completed and commissioned.

Furthermore, other criteria developed during this Study must also inform the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality.

A **Write-up** on the **Identification and Review of Contingency Measures for Additional Water Supply to the Medupi Power Station and Other Water Users** is required before the **Pre-feasibility Investigations**.

## 5.6 AUGMENTATION OF WATER SUPPLY TO IDENTIFIED INADEQUATELY SERVED SURROUNDING COMMUNITIES

The Envisaged Contingency Measures for Additional Water Supply to the Medupi Power Station could also provide Reliable Potable Water Supply in the future to Identified Inadequately Served Surrounding Communities, in the Project Area. The PSP must therefore Identify such Communities and Assess their Current as well as their Future Water Requirements over an Analysis Period of twenty (20) years. This could, however, be done as part of the **Existing and Future Water Requirements from the Return**

**Flows and Identified Existing Groundwater Resources Sub-task** (refer to **5.4.4** above).

An Assessment of the Current Supply Situation to these Inadequately Served Surrounding Communities in the Project Area is required, as well as the Review of Previously Proposed Potable Water Supply Options to these Communities. Furthermore, an Assessment of whether the Current Water Supplies to these Surrounding Communities can be Improved and/or Enhanced through the Implementation of the Contingency Measures for Additional Water Supply to the Medupi Power Station is required.

Bidders must take note that the extent of this Task is uncertain at this stage, and this can have Financial Implications. Bidders must therefore consider this in their **Financial Proposals**. At this stage, it is also uncertain whether this Task will be required, but Bidders must, however, budget for this Task in their **Financial Proposals**.

A **Write-up on the Augmentation of Water Supply to Current Inadequately Served Surrounding Communities by the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality** is required at an Acceptable Level of Detail, if applicable.

## 5.7 Pre-feasibility and Feasibility Investigations of the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality

The Review, Assessment, and Evaluation of the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality will culminate in the Recommended Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality that can be taken forward to Pre-feasibility Investigations. The Pre-feasibility Investigations of the Recommended Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality shall, however, not commence until the DWS has approved, in writing, for these Recommended Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality to be investigated further.

Bidders are required to submit **Technical** and **Financial Proposals** for the **Pre-feasibility Investigations** of the **Recommended Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality**, which were Reviewed, Assessed, and Investigated at the Desktop Level of Detail, during **Phase 1** of this Study. Bidders must make provision to undertake the **Pre-feasibility Investigations** at a suitable level of detail to provide adequate information to facilitate the **Preliminary Designs** as part of the **Feasibility Investigations** of the **Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality**.

The main aspects to be addressed during the Pre-feasibility Investigations of the Recommended Contingency Measures for Additional Water Supply to the Medupi Power / Lephalale Local Municipality Station are based on the Assumed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality. Bidders should therefore make provision to undertake these tasks, and all implied tasks, necessary to complete the Pre-feasibility and Feasibility Investigations. The actual Configurations of the Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality shall be determined during the Pre-feasibility Investigations of these Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality.

The Objective and Rational Assessment of the Practicality and Economic Viability of these Recommended Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality is the main objective of the Pre-feasibility and Feasibility Investigations. The outcome of the Investigations is to recommend the most cost-effective Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality, which will effectively meet the Short-term Additional Water Requirements from the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality before the MCWAP-2A is completed. This **Sub-section** describes the Required Investigations to achieve these objectives. The two (2) **Main Tasks** for **Phase 2** of this Study are the following:

- Investigation, Evaluation, and Comparison of the Recommended Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality, at a Pre-feasibility Level of detail, to meet the Short-term Additional Water Requirements from the Proposed Contingency Measures for

Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality before the MCWAP-2A delivers water, as well as

- Feasibility Investigations, including the Preliminary Designs, Costing, and Life Cycle Analysis of the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality.

The various Sub-tasks described in **5.7.1** to **5.7.8** below apply to both the Pre-feasibility Investigations of the Recommended Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality and the Feasibility Investigations of the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality. A higher level of detail will be required for the Feasibility Investigations of the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality, including Preliminary Designs and Costing.

### 5.7.1 Pre-feasibility Investigations of the Recommended Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality

Investigate the Recommended Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality identified as being acceptable options at a suitable Pre-feasibility Level of Detail for Comparison, Evaluation, and Ranking of the various Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality. During the Pre-feasibility Investigations any projects that are currently being undertaken, and other proposed developments, must also be taken into consideration.

The Pre-feasibility Investigations of the Recommended Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality, and the Feasibility Investigations of the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality will include, but are not limited to, the following tasks:

- Conceptual Layouts and Conceptual Designs of the Recommended Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality;

- Preliminary Geotechnical and Material Investigations for the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality, e.g., Pipeline Routes and other Associated Infrastructure;
- Topographical Surveys;
- Optimisation of the Layout and Sizing Components for the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality;
- Preliminary Designs of the Various Components for the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality;
- Cost Estimates and Economic Analyses;
- Affordability;
- Identification of all Environmental and Social Impacts;
- Water Quality Aspects;
- Land Acquisition and Servitude Requirements;
- Assessment of Access and Power Supply;
- Relocation of Existing Affected Infrastructure;
- Legal, Institutional, and Funding Arrangements, as well as
- Estimation of Time Frames for Implementation.

A High Standard **Pre-feasibility Investigation Report** is required.

After completion of the **Pre-feasibility Investigations** and **Recommendation** of the **Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality** to be taken forward to **Feasibility Investigations**, the PSP shall, however, not commence with the Feasibility Investigations of the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality until this Preferred Option has been approved by the DWS in writing.

### 5.7.2 Material Investigations

The focus of the Material Investigations is to Identify and Confirm Suitable Sources of Material for the Construction of Civil Works. The availability of sufficient suitable materials at, or near, the Potential Civil Works and Water Conveyance Infrastructure must be known during the Pre-feasibility Investigations. Inspections and Limited Material Investigations can usually determine this.

The Material Investigations for the Evaluation of the Recommended Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality during the **Pre-feasibility Investigations** will include, but are not limited to, the following:

- Borrow Areas for Construction Materials, and
- Quarries for Concrete Aggregate.

A Map is required that indicates the Material Sources, their Aerial Extent, and Haulage Distances to the Potential Civil Works as well as the Water Conveyance Infrastructure.

Adequate Sampling and Laboratory Testing must confirm the Quality and Quantity of Suitable Materials for the **Feasibility Investigations** of the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality. Materials of acceptable quality and quantity found as close as possible to the Potential Civil Works and Water Conveyance Infrastructure are regarded as the most suitable materials.

An **Experienced Team**, supervised by a **Geotechnical Engineer** with experience in a variety of large civil works, must undertake the Material Investigations.

An **Engineering Geologist** or a **Geotechnical Engineer**, with proven experience in the Construction of Large Civil Works, must identify and assess the Potential Borrow Areas and Quarry Sites.

A **Write-up on the Material Investigations** that covers the **Material Investigations for the Pre-feasibility Investigations** is required.

A **Material Investigation Supporting Report** that covers the **Material Investigations for the Feasibility Investigations** is required, which must be of a High Standard.

Provision has been made for the DWS to appoint **Specialist Geotechnical Sub-contractors**, to undertake the **Fieldwork** and **Laboratory Work** for the **Material Investigations**.

The **Amount** for the **Specialist Geotechnical Sub-contractors** based on an estimate from a historic study shall be **included** in the **Financial Proposal** by all the Bidders to cover these costs. Furthermore, Bidders **must make provision** in their **Financial Proposals** for **assisting the DWS with the Procurement (Specifications, Evaluation of Quotations and Recommendations) of the Services of Specialist Geotechnical Sub-contractors** as a **percentage (%)** of the **Amount** and for the **Management of Payments to the Specialist Geotechnical Sub-contractors** as a **percentage (%)** of the **Amount** through the appointed PSP's invoices.

Furthermore, Bidders **must price** their **Professional Time** of the **Professional Team Members** for the **Supervision of the Material Investigations** and for **Reporting on the Findings of the Material Investigations** in the **Financial Proposal**.

All the **Required Fieldwork** and **Laboratory Work** for the **Material Investigations** shall be **supervised directly on-site** by **Registered Professionals**. It must be ensured that any Plant, Machinery, Vehicles, Drones, and/or Equipment are used under the General Supervision of Trained Persons who understand the hazards associated with this Plant, Machinery, Vehicles, Drones, and/or Equipment, where and if applicable. Furthermore, these Trained Persons must have the authority to ensure that the Precautionary Measures taken by their Employer/s are implemented. All the Required Excavations and Drilling must be undertaken by Competent Persons under the Direct Supervision of Registered Professionals on site. The **Specialist Sub-contractor** for the **Material Investigations** will also be required to:

(1) Compile a Risk Assessment before any Fieldwork.

(2) Prepare a Safety File and keep it up to date.

(3) Ensure Safe Working Procedures.

(4) Ensure that all his/her employees are provided with, and are wearing/using, the necessary PPE, which applies to employees on Site and in the Laboratories.

The **Sub-contractor** for the **Material Investigations** must ensure that an **ECO**, as well as a **Health and Safety Officer**, are present during the **Required Fieldwork for the Material Investigations (e.g., during Excavations and Drilling)**.

The Risk Assessment and Safety File must be submitted to the DWS before any Fieldwork for the Material Investigations is undertaken. Furthermore, the DWS also reserves the right to Request and Check the Safety File at any time during Fieldwork for the Material Investigations.

**Note:**

In the case where the same Sub-contractor is appointed for both the Geotechnical and Material Investigations, then only One (1) Risk Assessment and One (1) Safety File will suffice for both the Geotechnical and Material Investigations.

### 5.7.3 Geotechnical Investigations

This Sub-task entails obtaining Detailed Information on the Geotechnical Conditions for the Large Civil Works and Water Conveyance Infrastructure to facilitate the Feasibility Investigations and Evaluation of the Recommended Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality during the **Pre-feasibility Investigations**, and the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality during the **Feasibility Investigations**. A **Qualified Engineering Geologist/Geotechnical Engineer** with proven experience in the Construction of Large Civil Works shall supervise all the Geotechnical Investigations.

A **Write-up** on the **Geotechnical Investigations** that covers the **Geotechnical Investigations** for the **Pre-feasibility Investigations** is required.

A **Geotechnical Investigation Supporting Report** that covers the **Geotechnical Investigations** for the **Feasibility Investigations** is required, which must be of a High Standard especially of the Core Photographs, if applicable.

Provision has been made for the DWS to appoint **Specialist Geotechnical Sub-contractors**, to undertake the **Fieldwork** and **Laboratory Work** for the **Geotechnical Investigations**.

The **Amount** for the **Specialist Geotechnical Sub-contractors** based on an estimate from a historic study shall be **included** in the **Financial Proposal** by all the Bidders to cover these costs. Furthermore, Bidders **must make provision** in their **Financial Proposals** for **assisting the DWS with the Procurement (Specifications, Evaluation of Quotations and Recommendations) of the Services of Specialist Geotechnical Sub-contractors** as a **percentage (%)** of the **Amount** and for the **Management of Payments to the Specialist Geotechnical Sub-contractors** as a **percentage (%)** of the **Amount** through the appointed PSP's invoices.

Furthermore, Bidders **must price** their **Professional Time** of the **Professional Team Members** for the **Supervision of the Geotechnical Investigations** and for **Reporting on the Findings of the Geotechnical Investigations** in the **Financial Proposal**.

All the **Required Fieldwork** and **Laboratory Work** for the **Geotechnical Investigations** shall be **supervised directly on-site** by **Registered Professionals**. It must be ensured that any Plant, Machinery, Vehicles, Drones, and/or Equipment are used under the General Supervision of Trained Persons who understand the hazards associated with this Plant, Machinery, Vehicles, Drones, and/or Equipment, where and if applicable. Furthermore, these Trained Persons must have the authority to ensure that the Precautionary Measures taken by their Employer/s are implemented. All the Required Excavations and Drilling must be undertaken by Competent Persons under the Direct Supervision of Registered Professionals on site. The **Specialist Sub-contractor** for the **Geotechnical Investigations** will also be required to:

(1) Compile a Risk Assessment before any Fieldwork.

(2) Prepare a Safety File and keep it up to date.

(3) Ensure Safe Working Procedures.

(4) Ensure that all his/her employees are provided with, and are wearing/using, the necessary PPE, which applies to employees on Site and in the Laboratories.

The **Sub-contractor** for the **Geotechnical Investigations** must ensure that an **ECO**, as well as a **Health and Safety Officer**, are present during the **Required Fieldwork for the Geotechnical Investigations (e.g., during Excavations and Drilling)**.

The Risk Assessment and Safety File must be submitted to the DWS before any Fieldwork for the Geotechnical Investigations is undertaken. Furthermore, the DWS

also reserves the right to Request and Check the Safety File at any time during Fieldwork for the Geotechnical Investigations.

**Note:**

In the case where the same Sub-contractor is appointed for both the Geotechnical and Material Investigations, then only One (1) Risk Assessment and One (1) Safety File will suffice for both the Geotechnical and Material Investigations.

The required Geotechnical Investigations for this Study are the following:

***a) Large Civil Works Components***

Detailed Geotechnical Investigations are required for the **Feasibility Investigations** to confirm the Foundation Conditions for any Large Civil Works Components, such as Pump Stations, Bulk Concrete Storage Reservoirs, etc., if applicable.

***b) Water Conveyance Infrastructure***

Detailed Geotechnical Investigations are required, for the **Feasibility Investigations**, to confirm the Geotechnical Conditions for Proposed Water Conveyance Infrastructure (e.g., Pipelines) in terms of Bedding and Backfilling of Pipelines, Slope Stability of Pipeline Excavations as well as for Excavations and Backfilling of Canals, if applicable.

### 5.7.4 Topographical Surveys

Topographical Surveys are required for the Feasibility Investigations for the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality, and the Preferred Scale of these Topographical Surveys is 1:1 000. These Topographical Surveys are typically required for Pipeline Routes, Large Civil Works, and Other Associated Works.

**Soft Copies** of all the **Surveys** and **Data Files** must be submitted to the DWS. These **Soft Copies** must be **accessible** and **usable** for the future Detailed Design of the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality.

Provision has been made for the DWS to appoint **Sub-contractors**, to undertake the **Topographical Surveys**.

The **Amount** for **Sub-contractors** based on an estimate from a historic study shall be **included** in the **Financial Proposal** by all the Bidders to cover these costs. Furthermore, Bidders **must make provision** in their **Financial Proposals** for **assisting the DWS with the Procurement (Specifications, Evaluation of Quotations and Recommendations) of the Services of Sub-contractors** as a **percentage (%)** of the **Amount** and for the **Management of Payments to the Sub-contractors** as a **percentage (%)** of the **Amount** through the appointed PSP's invoices.

Furthermore, Bidders **must price** their **Professional Time** of the **Professional Team Members** for the **Supervision of the Topographical Surveys** and the **Deliverables**.

All the **Fieldwork for the Topographical Surveys** shall be **supervised directly on-site** by **Registered Professionals**. It must be ensured that any Plant, Machinery, Vehicles, Drones, and/or Equipment are used under the General Supervision of Trained Persons who understand the hazards associated with this Plant, Machinery, Vehicles, Drones, and/or Equipment, where and if applicable. Furthermore, these Trained Persons must have the authority to ensure that the Precautionary Measures taken by their Employer/s are implemented. All the Fieldwork for the Topographical Surveys must be undertaken by Competent Persons under the Direct Supervision of Registered Professionals on site. The **Sub-contractor** for the **Topographical Surveys** will also be required to:

(1) Compile a Risk Assessment before any Fieldwork.

(2) Prepare a Safety File and keep it up to date.

(3) Ensure Safe Working Procedures.

(4) Ensure that all his/her employees are provided with, and are wearing/using, the necessary PPE, which applies to employees on Site.

If any of the Required Fieldwork for the Topographical Surveys is of such a nature that an **ECO** must be on-site, then the **Sub-contractor** for the **Topographical Surveys** must ensure that an **ECO** is present during any such Fieldwork.

The Risk Assessment and Safety File must be submitted to the DWS before any Fieldwork for the Topographical Surveys is undertaken. Furthermore, the DWS also reserves the right to Request and Check the Safety File at any time during Fieldwork for the Topographical Surveys.

### 5.7.5 Land and Servitude Requirements

The Land and Servitude Requirements need to be determined for the Feasibility Investigations of the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality, which includes the areas required for the following:

- Boreholes;
- Abstraction Works;
- Pipelines;
- Pump Stations;
- Access Road Servitudes, as well as
- Any other Structures and Infrastructure required for the Preferred Contingency Measures.

The Ownership of the Land Required for the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality during the **Feasibility Investigations**, including Servitudes, needs to be determined, namely:

- Privately Owned Land, which is acquired at market value, including betterments and financial losses due to the acquisition, and
- State-Owned Land, which is managed and/or utilized by Government Departments, Municipalities, Traditional Leaders, and/or Other Authorities.

The compensation applies to the relocation of infrastructure and people living on this land. Cost Estimates of Land and Servitude Acquisitions are required for the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality and are to be based on Land Ownership, Betterments, Relocation of Affected Communities, and Infrastructure, as well as Land Utilisation. Furthermore, Cost Estimates shall also be undertaken for the Relocation of Roads and Power Lines, if applicable. These Relocation Costs shall be reported under Separate Items for the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality.

A **Land Matters Supporting Report** is required for the **Feasibility Investigations**, which must be of a High Standard.

### 5.7.6 Optimisation of Water Supply Options

During the Evaluation and Optimisation of Water Supply from the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality the factors that need to be considered are but are not limited to, the following:

- The Localities and Details of Works for any River and Groundwater Abstractions;
- The Types and Routes of the Water Conveyance Infrastructure from the Sources to the Points of Supply, e.g., Pipelines, Pump Stations, etc., as well as
- The Unit Reference Values (URVs) to Determine Optimum Component Sizes for the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality, e.g., Pipelines, Pump Stations, etc., and the Layouts of these Components.

The Operational Requirements and the Cost thereof, need to be determined, as part of the Optimisation Process for the Recommended Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality for the **Pre-feasibility Investigations**, and these must be refined for the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality for the **Feasibility Investigations**.

The Operation and Maintenance (O&M) Costs also need to be determined as part of the Economic Assessment of the Life Cycle Costs for the Recommended Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality for the **Pre-feasibility Investigations** and must be refined for the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality for the **Feasibility Investigations**.

The Life Cycle Cost of a Project, upon which the URV Calculations are based, includes the Initial Capital Cost plus O&M Costs, as well as the Replacement of Mechanical and

Electrical Equipment over a lifetime of 40 to 50 years. For this Study, twenty (20) years must be used. The O&M Costs of the Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality being investigated should be estimated according to current best practices. The recommendations in the *Vaal Augmentation Planning Study: Guidelines for the Preliminary Sizing, Costing and Engineering Economic Evaluation of Planning Options (VAPS)*, DWA, 1996 can also be used as a guideline. Costs should also be verified with the Recently Completed Similar Water Infrastructure Projects in South Africa.

A **Write-up on the Optimisation of Water Supply Options** is required for the **Pre-feasibility Investigations**.

An **Optimisation of the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality Supporting Report** is required for the **Feasibility Investigations**.

### 5.7.7 Feasibility Investigations of the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality

The Pre-feasibility Identification, Investigation, and Evaluation of the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality will culminate in the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality, which must then be investigated at Feasibility Level of Detail for Implementation. The Feasibility Investigations of the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality shall, however, not commence until the DWS has approved, in writing for this Option to be investigated.

Bidders are required to submit **Technical** and **Financial Proposals** for the **Feasibility Investigations** of the **Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality** based on the **Recommended Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality** that was investigated at the **Pre-feasibility Level of Detail**, during **Phase 2** of this Study, as described in **5.7.1** above. Bidders must make provisions to undertake the **Feasibility Investigations** at a **Suitable Level of Detail** to **Provide Adequate Information** to **Facilitate Tender Designs** during the **Implementation Phases** of the **Preferred Contingency**

**Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality.**

The main aspects to be addressed during the Feasibility Investigations of the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality are based on the Assumed Configurations of this Preferred Option. Bidders should therefore make provisions to undertake these tasks, and all implied tasks, necessary to complete the required Feasibility Investigations. The Recommended Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality shall be determined during the Pre-feasibility Investigations of these Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality.

The Feasibility Investigations for the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality, including the Preliminary Designs and Costing, should include, but are not limited to, the following:

- Topographical Surveys to obtain Site Information;
- Optimisation of the Layout and Detail for the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality;
- Preliminary Design of any Pump Stations, Water Conveyance Infrastructure (e.g., Pipelines), etc.;
- Electricity Requirements for New Pump Stations and Groundwater Abstraction;
- Upgrading of any Access Roads to the Works
- Preparation of a Bill of Quantities (BoQ) to include all components of the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality and Cost Items;

- Pricing of the BoQ;
- Specification of the O&M Requirements, as well as
- Preparation of the required **Technical Reports** on the **Feasibility Investigations**, **Preliminary Designs,** and **Costing**, which must be of a High Standard.

A **Feasibility Investigation Report** is required, which must be of a High Standard. Furthermore, a **Book of Drawings and Maps** that meets the **DWS Standards** is also required. **Soft Copies** of all the Drawings (e.g. AutoCAD, Civil 3D, etc.), Design Software Files (e.g., HEC-RAS, GeoSlope, EPANET, etc.), Spreadsheets, and GIS Files must also be submitted to the DWS. All these **Soft Copies** must be **Properly Indexed**, **Accessible**, and **Usable** for **Detail Design** in the future.

### 5.7.8 Cost Estimates for the Recommended and the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality

A **Cost Engineer** who has both a Proven Record and Experience in Estimating Construction Costs and who is still employed in this field, shall estimate the cost of the Recommended Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality for the **Pre-feasibility Investigations**, and refine the Cost Estimate for the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality for the **Feasibility Investigations**. These Cost Estimates shall include all the items in the BoQs for each one of the Recommended Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality for the **Pre-feasibility Investigations**, and the refined items for the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality for the Feasibility Investigations. The Design Engineers will also, therefore, need to assist in identifying the Billing Items that should be included in the Cost Estimates.

Typical Billing Items can also be found in the VAPS, DWA, 1996. Costs for items that will make up 80% of the Project Construction Costs, e.g., Excavation, Fill Material, Concrete, etc., should be developed from First Principles considering the costs of Labour, Plant, Materials, Energy Requirements, and Transport (hauling). The remaining

items having a minor impact on the Overall Cost of the Proposed Project may be estimated by other means. Costs should also be verified with Recently Completed Similar Water Infrastructure Projects in South Africa.

Rates determined shall exclude Contingencies and VAT. Cost Models also need to be developed for the Estimation of Capital Costs for the Various Project Components, and to undertake analyses to compare the various Recommended Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality for the **Pre-feasibility Investigations**. These Cost Models must therefore be developed for the Pre-feasibility Investigations and need to be refined for the **Feasibility Investigations** of the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality. The DWS prefers a **Microsoft Excel Spreadsheet**, which is not overly complicated, together with clear explanations.

A **Write-up on the Costing** is required for the **Pre-feasibility Investigations**.

A **Costing Supporting Report** is required for the **Feasibility Investigations**, which must be of a High Standard.

Both the aforementioned Write-up and Supporting Report must explain the Cost Models and discuss the Rates, Base Dates, Information Sources, Assumptions, and any other Relevant Information.

## 5.8 CLIMATOLOGICAL DATA

The objective of this Task is to describe Climatology. For this Task, the readily available variables, which give a Broad Perspective of the Expected Climatological Conditions at the Various Sites should be considered. These variables are, but are not limited to, the following:

- Rainfall;
- Evaporation, and
- Temperature.

It is vital to provide Reasonable Predictions of the Expected Climate at the Various Sites before Construction since inclement weather conditions might have a significant impact

on the execution of work for which the Contractor needs to plan. The PSP must gather and report the Climatological Information for the Various Sites.

A **Write-up on the Climatological Data** is required for the **Feasibility Investigations**.

## 5.9 TRAFFIC IMPACT ASSESSMENT

The objectives of this Task are, but are not limited to, the following:

- Determine the Traffic Impacts during the Construction and Operational Phases of the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality, e.g., the Impacts of the Proposed Pipelines and Large Civil Works;
- Propose Feasible Measures to Mitigate the Traffic Impacts of the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality on the Surrounding Road Networks to Acceptable Levels, as well as
- Recommendations for Adherence to the Environmental Management Plan (EMP) concerning Traffic.

Specific attention must also be given to the following aspects:

- Locations where Access Routes intersect with National, Provincial, District and other Main Roads;
- Possible Locations of Pipeline Crossings along any roads;
- Sensitive Areas (e.g., Residential Settlements, Schools, etc.) close to the routes that could be affected by the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality, as well as
- Deviation of Existing Roads, Expropriation Lines, and Servitudes.

A **Write-up** on the **Traffic Impacts** is required for the **Feasibility Investigations**.

Bidders must take note that the extent of this Task is uncertain at this stage and this can therefore have Financial Implications. Bidders must therefore consider this in their **Financial Proposals**.

## 5.10 IMPLEMENTATION ACTIONS

### 5.10.1 Implementation Programmes

This Task entails the determination of the required **Implementation Programmes,** in **Microsoft Project Format**, for the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality for Implementation, comprising the following Main Programme Components:

- Approvals, Authorisations, Funding, and Institutional Arrangements;
- Appointment of Project Management Teams;
- Detailed Geotechnical and Materials Investigations for the Detailed Design;
- Tender Design of the Preferred Contingency Measures ;
- Compliance with the Conditions of the Environmental Authorisation, if applicable;
- Appointment of an Environmental Control Officer and a Heritage Specialist;
- Detailed Design, which will follow on the Tender Design and continue during Construction;
- Land Acquisitions and Relocations of Affected People;
- Relocation of Affected Existing Infrastructure, e.g. Roads, Power Lines, etc.;
- Letting of Tenders;
- Adjudications and Award of Contracts, as well as
- Actual Construction of the Contingency Measures.

### 5.10.2 Project Summary

The **Project Summary** must cover the Technical, Environmental Aspects and other Aspects dealt with outside of the Feasibility Investigations. Information on some of

these aspects may only become available after the completion of the Feasibility Investigations and therefore the PSP will essentially produce a **Preliminary Project Summary** for the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality for Implementation.

The **Project Summary** will be drafted in a format suitable for publication in the **Government Gazette** if the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality are to be implemented as a Government Waterworks. This format must also be suitable for other uses, such as Applications for Funding. The **Project Summary** shall be in **Arial 11 font** with a length of about ten (10) to fifteen (15) pages. The **Project Summary** shall also contain some **Elementary Drawings** to illustrate the Project Area and some of the most Important Infrastructure Components.

### 5.10.3 Record of Implementation Decisions

The PSP will be responsible for writing the **Record of Implementation Decisions (RID) Report for the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality**, which describes to the **Implementing Agent** what needs to be **implemented**. The DWS will provide a Template for the Format of the RID and agree on the RID Format with the PSP before the RID is compiled. The RID must include the following:

- The Scope of the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality;
- A Summary of the Feasibility Investigations, Designs, and Costing;
- The Specific Scheme Configuration to be Implemented;
- The Required Implementation Timelines;
- The Finalisation of Required Institutional Arrangements;
- The Required Environmental Mitigation Measures as described in the **Environmental Impact Report**, if applicable, as well as
- The Environmental Authorisation and Conditions prescribed by the DFFE, if applicable.

## 5.11 LEGAL, INSTITUTIONAL, FINANCIAL AND OPERATIONAL ASPECTS

A **Legal, Institutional, Financial and Operational Aspects Report** is required, which must be of a High Standard.

> Bidders must take note that the extent of this Task is uncertain at this stage, and this can have Financial Implications. Bidders must therefore consider this in their **Financial Proposals**.

### 5.11.1 Legal Aspects

The PSP must Identify, Assess and Investigate all the **Legal Aspects** concerning the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality in terms of all the relevant Legislation, Policies, and Regulations. An **Experienced Legal Professional** with appropriate experience in the relevant Legislation, Policies, and Regulations must preferably undertake this Sub-task.

### 5.11.2 Institutional and Operational Aspects

The PSP must investigate the **Institutional Arrangements** for the Implementation of the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality. The Role Players that are responsible for Implementation and Operation, as well as the Funding Options, determine these Arrangements for the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality. Recommendations need to be made on the Legal, Administrative, and Financial Arrangements as well as Responsibilities for the Implementation of the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality.

### 5.11.3 Financial Aspects

The PSP must investigate the **Financial Aspects,** which are, but not limited to, the following:

- The Financial Viability of the Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality;

- The Affordability of Water to be supplied by the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality for the user and/or various users and the DWS Pricing Strategy, as well as
- Funding Arrangements.

The above-mentioned aspects are in addition to the URV Calculations that are required during the Pre-feasibility Evaluation of the Recommended Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality (refer to **5.7.6** above).

## 5.12 Economic and Socio-Economic Analysis

The Economic and Socio-economic Analyses of the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality are required. These analyses must establish what the Socio-Economic Benefits/Losses for the entire region, and other areas that could benefit from the Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality, will be if the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality are not implemented.

An **Economic Analysis and Socio-economics Impact Report** is required, which must be of a High Standard.

## 5.13 Main Report

When all the tasks are nearing completion, the PSP will be required to Prepare and Submit a **Main Report** to the DWS, which must be of a High Standard. The Main Report must summarise this Study and should not exceed one hundred (100) pages. The Structure of the Main Report will be agreed upon between the DWS and the PSP during the **Inception Stage** of this Study.

## 5.14 Summary Report

Upon completion of the Main Report, or near the completion of the Main Report, the PSP will be required to Prepare and Submit a **Summary Report** to the DWS, which must be

of a High Standard. The Summary Report must be an Abbreviated Version of the Main Report and should not exceed twenty-five (25) pages. The Structure of the Summary Report will be agreed upon between the DWS and the PSP during the **Inception Stage** of this Study.

## 5.15 CLOSE-OUT REPORT

Upon completion of this Study, and approval of all the Study Reports by the DWS, the PSP will also be required to Prepare and Submit a **Close-out Report** for this Study to the DWS, which must be of a High Standard. The Close-out Report will be the Final Deliverable for this Study and should serve as Feedback on all the Deliverables and should serve as the Feedback on all the following aspects:

- Study Deliverables;
- Milestones;
- Stakeholder Participation;
- Capacity Building and Training;
- Challenges;
- Contact Details of all the Stakeholders and I&APs;
- Lessons Learned, as well as
- Recommendations that can be considered for the purposes of similar studies in the future.

The Close-out Report should not exceed fifty (50) pages, including its Annexures. The Structure and Contents of the Close-out Report will be agreed upon between the DWS and the PSP during the Inception Stage of this Study.

## 5.16 CAPACITY BUILDING AND TRAINING

The PSP will be required to undertake Capacity Building and Training of DWS Officials and/or Interns in one (1) or more of the following aspects of this Study:

- Project Management;

- Technical Aspects, as well as
- Legal, Institutional, Financial and Operational Aspects.

The DWS Officials and/or Interns could therefore be seconded to the PSP for certain Portions of this Study to gain practical experience. The Cost to the PSP would be Time to Mentor the DWS Interns as well as the Provision of Office Space and Resources.

Alternatively, the PSP can arrange One-day Accredited Continued Professional Development (CPD) Training Workshops to Present Certain Technical Aspects of this Study to the DWS Officials and/or Interns. Copies of all the Presentations and Other Training Materials must be submitted to the DWS. Furthermore, the PSP must also email Electronic Copies of all the Presentations and Other Training Materials to the DWS Officials and/or Interns who attended these Workshops.

# 6. TENTATIVE PROJECT PROGRAMME

The Tentative Project Programme is summarised in **Table 6.1** below. Once the Project Planning has been completed the timing of the Design and Construction Phases will be revised.

**Table 6.1: Tentative Project Programme**

| Project Stage | Duration | Start | Finish |
|---|---|---|---|
| Project Planning and EIA | 24 months | June 2025 | June 2027 |
| Detail Design and Tendering | 12 months | June 2027 | June 2028 |
| Construction | 12 months | June 2028 | June 2029 |

# 7. DELIVERABLES

Deliverables such as Reports, Presentations, Analyses, Letters, Minutes of Meetings, and Databases must be provided in **Microsoft Applications** and **PDF Format** (where applicable). The text for all documents shall be in **Arial 11 font** at **1.5 spacing** unless otherwise stated or agreed.

Provision must also be made to supply deliverables, such as Reports and Letters, in Hard Copy Format. The Standard and Format of Reports must be confirmed with the DWS before Drafting and Submitting the Required Reports for this Study. Reports are typically submitted as the First Draft, Draft Final, and Final.

The **Required Deliverables** for this **Study** are summarised in **Table 7.1** below. Bidders should, however, scrutinize these **Required Deliverables**, as well as the **Scope of Services, Required**, and submit an **Updated Comprehensive List of the Expected Deliverables for this Study** in their **Technical Proposals**. The **Required Deliverables** should be chosen as such to be achievable regularly to ensure a steady (monthly) income for the Bidder (the PSP) throughout this Study.

**Table 7.1: Required Deliverables for this Study**

| No. | Description |
|---|---|
| A | A **Work Plan** setting out the Various Tasks that must be undertaken, with a Detailed Description of each Task/Sub-task/Work Package and showing the Expected Technical Deliverables. |
| B | **Study Status Reports** to Summarise Information and Progress to Date on the various tasks and provide other relevant information. |
| C | A **Study Gantt Chart** showing the various Tasks, Sub-tasks, and Work Packages with Delivery Dates. |
| D | **Formal Study Progress Reports** including Information on Expenditure. |
| E | **Minutes of PSC and SMC Meetings** as well as Other Meetings and Workshops. |
| F | A **Decision Register** with Processes to Record Substantial Decisions. |
| G | A **Record of Liaison** with Role Players and Stakeholders. |

| No. | Description |
|---|---|
| H | **Applications** in the Required Forms and supported by Appropriate Documentation for all Permits, Licences, and Authorisations required for the Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality to proceed to the Implementation Phase. |
| I | **Executive Reports** on the Findings and Recommendations of this Study. |
| J | The **Required Study Reports** and **Information** as the **Deliverables** for this **Study** are, but are not limited, to the following:<br>• INCEPTION REPORT<br>• ENVIRONMENTAL SCREENING REPORT<br>• ASSESSMENT OF POTENTIAL WATER RESOURCES FOR ADDITIONAL WATER SUPPLY TO THE MEDUPI POWER STATION AND OTHER WATER USERS<br>• IDENTIFICATION AND REVIEW OF CONTINGENCY MEASURES FOR ADDITIONAL WATER SUPPLY TO THE MEDUPI POWER STATION AND OTHER WATER USERS<br>• AUGMENTATION OF WATER SUPPLY TO CURRENT INADEQUATELY SERVED SURROUNDING COMMUNITIES BY THE PROPOSED CONTINGENCY MEASURES FOR ADDITIONAL WATER SUPPLY TO THE MEDUPI POWER STATION, INCLUDING THE USER PRIORITY CLASSIFICATION TABLE<br>• PRE-FEASIBILITY INVESTIGATION REPORT, INCLUDING THE FOLLOWING WRITE-UPS:<br>o Material Investigations for the Pre-feasibility Investigations;<br>o Geotechnical Investigations for the Pre-feasibility Investigations;<br>o Optimisation of Water Supply Options for the Pre-feasibility Investigations, and<br>o Costing for the Pre-feasibility Investigations.<br>• FEASIBILITY INVESTIGATION REPORT, INCLUDING THE FOLLOWING SUPPORTING REPORTS, WRITE-UPS, PRELIMINARY DESIGNS, and INFORMATION:<br>o Material Investigation Supporting Report for the Feasibility Investigations; |

| No. | Description |
|---|---|
| | ○ Geotechnical Investigation Supporting Report for the Feasibility Investigations;<br>○ Land Matters Supporting Report for the Feasibility Investigations;<br>○ Optimisation of the Preferred Contingency Measures Supporting Report for the Feasibility Investigations;<br>○ Costing Supporting Report for the Feasibility Investigations;<br>○ Write-up on the Climatological Data for the Feasibility Investigations;<br>○ Write-up on the Traffic Impacts for the Feasibility Investigations;<br>○ Topographical Surveys, including the Soft Copies, for the Feasibility Investigations, as well as<br>○ Book of Drawings and Maps, including the Soft Copies, of the Preliminary Designs.<br><br>• LEGAL, INSTITUTIONAL, FINANCIAL AND OPERATIONAL ASPECTS<br>• ECONOMIC ANALYSIS AND SOCIO-ECONOMICS IMPACTS<br>• MAIN REPORT<br>• SUMMARY REPORT<br>• CLOSE-OUT REPORT |
| K | **Project Summary** covering the **Technical, Environmental Aspects**, and **Other Aspects** dealt with outside of the **Feasibility Investigations** |
| L | A **Record of Implementation Decisions (RID) Report** to **Formally Handover** the **Project** to the **Implementing Agent**. |
| M | An **Implementation Programme** for the **Preferred Contingency Measures for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality** for **Implementation.** |

# 8. PROJECT PROPOSAL

Bidders are required to submit, at their own cost, a Proposal (Bid), which consists of the following documents:

- Standard Bidding Documents, as described under **Sub-section 8.3** below;
- A Technical Proposal, to demonstrate the capability of the bidder to perform the full scope of this Study is presented in this ToR, and
- A Financial Proposal, to provide the cost to undertake this Study.

Bidders should submit comprehensive Technical and Financial Proposals as this Investigation is managed to avoid variation orders as far as possible. There is a limit to the amount of variation of the original Contract Amount that is permitted by National Treasury Regulations, and any variation of scope or cost requires the approval of DWS regardless of the extent. Bids that show a lack of understanding of the Scope of Services Required, and that is not comprehensive enough will be evaluated accordingly.

## 8.1 TECHNICAL PROPOSAL

### 8.1.1 Introduction

An Introductory Section should provide a brief overview of the Bidding Organisation with particular emphasis on the available capacity to undertake this Study.

### 8.1.2 Past Experience

Bidders are required to provide information on the recent past ten (10) relevant assignments undertaken by the Bidding Organisation. Specific details must be given to indicate the extent to which these studies relate to the Scope of Services Required for this Study. The responsibility of the Proposed Study Leader and the other key team members, e.g., the Task Leaders and Specialists, for these past assignments, must be specified. The client organisations and contact details (names, telephone numbers, and email addresses), indicative professional fees, and duration of the work program must also be specified for each assignment.

### 8.1.3 Estimated Total Hours

Bidders are required to include the **Required Summary of Hours** in **ANNEXURE D** in their **Financial Proposals** only **and not** in their **Technical Proposals**. Bidders are, however, required to **state** their **Estimated Total Hours** in the **Technical Proposal** to **Undertake and Complete this Study** since the Bidder's **Estimated Total Hours** form part of the **Functional/Technical Evaluation** (refer to **8.3.3** below).

The **Estimated Total Hours** are for the **Bidder's Professional Fees**, including the hours of any **Sub-consultants** proposed by the Bidder.

The Estimated Total Hours, however, **exclude the time spent by the Sub-contractors** for those tasks for which **Amounts** were specified based on an estimate from a historic study.

These **Estimated Total Hours** in the **Technical Proposal must correspond** to the **Estimated Total Hours in the Financial Proposal**. Any **discrepancies** between the **Estimated Total Hours** in the **Technical Proposal** and in the **Financial Proposal** to Undertake and Complete this Study could lead to possible disqualification.

## 8.2 FINANCIAL PROPOSAL

The **Financial Proposal** is a stand-alone document that should provide comprehensive information on the cost of undertaking this Study.

Bidders shall make provision in their Financial Proposal for all costs and expenses to undertake and complete the tasks described in the Scope of Services Required. The DWS will make provisions for necessary **Contingencies**, and bidders must not add them to the Financial Proposal.

The Financial Proposal shall include the following:

- **Breakdown of Deliverables** and Associated Costs based on the allocation of resources to the various tasks, sub-tasks, and other activities described in the Scope of Services Required;

- **Value Added Tax** (VAT) at 15% on the Total Estimated Cost. The VAT amount must only be added as a penultimate item before the total cost, right at the bottom of the table;
- **Escalation of Professional Fees** over the contract period must be built into the deliverable costs and may not be claimed separately later. However, escalation of professional fees beyond the contract period, if the contract is extended, must be stated separately as a percentage (%);
- **Monthly Cash Flow** for the Contract period based on the Work Programme, as well as
- **Breakdown of Professional Fees** to show the amount earned by each team member and the fees earned by **Historically Disadvantaged Individuals (HDIs)**.

### 8.2.1 Cost of Deliverables

The **Cost of Deliverables** must be defined in the **Financial Proposal** as it is the intention to manage this Study based on deliverables and not on the number of hours worked. The person-hours, which also need to be provided, must therefore be linked to suitable deliverables that can be achieved regularly to provide a smooth cash flow that meets the requirements of the PSP. Experience has shown that, on average, most Service Providers cannot survive periods longer than three (3) months without payment. A Guideline of the Expected Deliverables is presented in **Section 7** above.

The **Required Detailed Cost Summary Sheet** is given in **ANNEXURE B** and the **Required Cost Summary Sheet** is given in **ANNEXURE C**.

This information on the cost of deliverables will form the basis of the **Study Budget** and shall include the following:

a) Professional Time-based Costs and Disbursements for each task;

b) Sub-consultants and sub-contractors whose costs are part of this Bid;

c) Value Added Tax (VAT) at 15% on the Total Estimated Cost, which must appear on Summary Sheet;

d) Cash Flow and Estimated Total Cost;

e) Links to the Proposed Work Programme, as well as

f) Breakdown by Study Team Member Fees including fees earned by HDIs.

**ADMINISTRATIVE REQUIREMENTS**

Bidders are required to comply with the following listed below:

| No | Criteria | Yes | No |
|---|---|---|---|
| 1. | Companies must be registered with National Treasury's Central Supplier Database. Provide proof of print out from CSD. | | |
| 2. | Tax compliant with SARS (to be verified through CSD). | | |
| 3. | Complete, sign and submit SBD 1, SBD 3.3, SBD 4 and SBD 6.1 | | |
| 4. | General Conditions of Contract (GCC) | | |
| 5. | Active registration with Company Intellectual Property Commission (to be verified through CSD and CIPC) Attach copy of CIPC/CIPRO Certificate | | |
| 6. | The service provider (and in the case of a consortium or joint venture – at least one member of such consortium or joint venture) should submit a notary agreement between the parties must clearly identify the lead partner (if applicable) | | |
| 7. | CERTIFICATE OF AUTHORITY FOR SIGNATORY (bidders to complete the relevant form.) | | |
| 8. | Copy of an Identity document of the authorised individual to represent the Service provider as per the CERTIFICATE OF AUTHORITY FOR SIGNATORY form | | |
| 9. | Non Compulsory Hybrid Briefing Session | | |

## 8.3 EVALUATION SYSTEM

Department of Water and Sanitation will evaluate all proposals in terms of the Preferential Procurement Regulations (PPR's) 2022. In accordance with the PPR's 2022, submissions will be adjudicated on 80/20 points system and the evaluation criteria. A three phase evaluation criteria will be considered in evaluating the bid. On the receipt of the proposals, the evaluation criteria shown below will be used for the selection of the most suitable bidder to undertake the assignment.

**PHASE 1: MANDATORY COMPLIANCE (**IF NOT COMPLIED WITH BIDDER WILL BE DISQUALIFIED**)**

**PHASE 2: FUNCTIONAL / TECHNICAL EVALUATION**

**PHASE 3: POINTS AWARDED FOR PRICE AND SPECIFIC GOALS (80/20 PREFERENTIAL SYSTEM)**

### 8.3.1 Phase 1: Mandatory Compliance

Please note that all bidders must comply with the following mandatory requirement. Failure to submit the document listed below will render your bid non-responsive and will be disqualified.

| NO | DESCRIPTION | COMPLY | DO NOT COMPLY |
|---|---|---|---|
| 1. | Attach a valid proof of membership/registration for the study leader, deputy study leader and task leaders with either of the below Professional body:<br>Study Leader: Engineering Council of South Africa (ECSA) for Engineers.<br>Deputy Study Leader: Engineering Council of South Africa (ECSA) for Engineers.<br>Task Leaders: Engineering Council of South Africa (ECSA); South African Council of Natural Science Professions (SACNASP); similar relevant professional association or proof of expertise must be provided. | | |

**Technical Proposals will be evaluated and scored without reference to the Financial Proposals.**

### 8.3.2 Phase 2: Functionality (Technical) Evaluation

The 80/20 point system will be used in evaluating all proposals. The criteria and guideline weighting points applicable are detailed in the following paragraphs.

Definition of values: 1= Very Poor... 2 = Poor...3 = Average.....4 = Good.... 5 = Excellent

| Criteria | Sub-Criteria | Points Value | Weight of Criterion | Bidder Score |
|---|---|---|---|---|
| **Past experience of the company: 30%**<br><br>Provide details of work of a similar nature undertaken by the bidding PSP. | Specific details must be given to indicate the extent to which these previous studies relate to the work described below:<br>• Feasibility designs of water recourse projects;<br>• Environmental impact assessments for water resource developments;<br>• Final designs of water recourse projects;<br>*(Attach testimonial letters or refences with contact details as proof of past experience)* | | 30% | |
| | ≥10 years on all 3 items | 5 | | |
| | Above 6 to 10 years on all 3 items | 4 | | |
| | Above 5 to 6 years on all 3 items | 3 | | |
| | Above 3 to 5 years on all 3 items | 2 | | |
| | 1 to 3 years on all 3 items | 1 | | |
| **Team Capability: 25%**<br>Team should have a range of experts in various fields (water resource engineer, . hydrologist, geohydrologist, water quality specialist, environmentalist, stakeholder engagement specialist). | The **Study leader** must be a professional engineer (ECSA registered), with relevant experience, and in coordinating and managing the following studies.<br>• Feasibility Designs of Water Recourse Projects;<br>• Environmental Impact Assessments for water resource developments;<br>• Final Designs of Water Recourse Projects ;<br>*(Bidders are required to attach abbreviated (2pages max) Curriculum Vitae (CV) highlighting* | | 10%<br>Of<br>25% | |

| Criteria | Sub-Criteria | Points Value | Weight of Criterion | Bidder Score |
|---|---|---|---|---|
| A study team organogram must be provided indicating key positions such as Study Leader, Task Leader and supporting Specialists. The organogram shall also indicate the levels at which there will be interaction with the client and/or other interested bodies. Persons proposed for these positions must be identified and supported by CVs of one page each to be included in an **Appendix**. Brief capability statements must be given for each designated team member, emphasizing recent experience relevant to the task envisaged | *the areas of work that was previously conducted).* | | | |
| | With more than 10 years' experience in at least 2 of the above | 5 | | |
| | With above 8 to 10 years' experience in at least 2 of the above | 4 | | |
| | With above 6 to 8 years' experience in at least 2 of the above | 3 | | |
| | With above 4 to 6 years' experience in at least 2 of the above | 2 | | |
| | With less than 4 years' experience in at least 2 of the above | 1 | | |
| | The **Deputy Study Leader** must be a Professional Engineer who has experience in projects in the water resource development environment<br><br>*(Bidders are required to attach abbreviated (2pages max) Curriculum Vitae (CV) highlighting the areas of work that was previously conducted)..* | | 5%<br><br>Of<br><br>25% | |
| | With more than 10 years' experience | 5 | | |
| | With above 8 to 10 years' experience | 4 | | |
| | With above 6 to 8 years' experience | 3 | | |
| | With above 4 to 6 years' experience | 2 | | |

| Criteria | Sub-Criteria | Points Value | Weight of Criterion | Bidder Score |
|---|---|---|---|---|
| | With less than 4 years' experience | 1 | | |
| | The **Task leaders** (hydrologists/ engineers/scientists)<br><br>*(Bidders are required to attach abbreviated (2pages max) Curriculum Vitae (CV) highlighting the areas of work that was previously conducted).* | | 10%<br>Of<br>25% | |
| | Task leader with more than 10 years' experience | 5 | | |
| | Task leader with above 8 to 10 years' experience | 4 | | |
| | Task leader with above 6 to 8 years' experience | 3 | | |
| | Task leader with above 4 to 6 years' experience | 2 | | |
| | Task leader with less than 4 years' experience | 1 | | |
| **Methodology: 35%**<br><br>Present a short concise description of the Scope of Work, such as to reveal **understanding of the study required**. The proposed approach and methods to be used during the study should be outlined with emphasis on the | Considers the responsiveness to the ToR, the level of detail in the proposal, attention to project management and innovative approaches and ideas. General approach planned methodology and proposed activities towards the undertaking of the project. The following items must be clearly indicated in detail:<br><br>The methodology will be evaluated on the following:<br><br>**1.** Broad methodologies in line with the task descriptions outlined under project scope/ task description. | | 35% | |

| Criteria | Sub-Criteria | Points Value | Weight of Criterion | Bidder Score |
|---|---|---|---|---|
| important or critical aspects of each task. This section may also be used by the bidding PSP to briefly present alternative proposals, innovative approaches or other special features of their proposal. | **2.** Clear milestones, timeframes and man hours required for each task to be completed.<br>**3.** Detailed programme.<br>**4.** Detailed method statement for each task within the study area.<br>**5.** Demonstrate innovation | | | |
| | All 5 items above included. | 5 | | |
| | Item 2, 3, 4 and 5 included | 4 | | |
| | Item 1, 2, 3 and 4 included. | 3 | | |
| | Any two of the items above | 2 | | |
| | Any one or less items above included | 1 | | |
| **Skill transfer: 10%** | In terms of building capacity and ensuring skills transfer in the DWS, the PSP will be responsible for establishing a capacity building programme aligned to the skills developmental needs of identified officials responsible for water resource planning process.<br>Provide clear proposals on Capacity Building and Training of 5 DWS officials in project management and/or technical aspects to be undertaken as part of this study.<br>Capacity building is realised through the following components: | | 10% | |

| Criteria | Sub-Criteria | Points Value | Weight of Criterion | Bidder Score |
|---|---|---|---|---|
| | 1. Hands on practical training including field work.<br>2. Inclusion of DWS officials in all phases of the project.<br>3. Develop a capacity building programme with quantifiable measures.<br>4. Relevant software training and training manuals; and<br>5. Inclusion of local specialists and stakeholders.<br>*(The Service provider is requested to attach a capacity building programme to demonstrate how they will transfer skills through the identified components above)*<br>PSP to submit a previous project with skills transfer plan executed and output thereof. (Provide portfolio of evidence). | | | |
| | All 5 items above included. | 5 | | |
| | Item 2, 3, 4 and 5 included. | 4 | | |
| | Item 1, 2, 3 and 4 included. | 3 | | |
| | Item 1, 2 and 3 included. | 2 | | |
| | Any 2 items above included. | 1 | | |
| **Total** | | | **100%** | |

Bidders must score the required minimum of **70 points (70%)**, or higher, for **Functionality** (Past Experience, Methodology, Team Capability, and Capacity Building and Training), in order to qualify for further evaluation. Further evaluation is based on **Price and Preference** after the minimum score has been achieved by the bidder.

Please note, that in order to achieve a qualifying score for Functionality, bidders must have experience and capability to successfully undertake the updating of the water resource assessment and feasibility investigations of this Study.

| |
|---|
| Bidders can form a joint venture, or other similar arrangement, to ensure that they are qualified for all aspects of this Study. |

### 8.3.3 Phase 3: The 80/20 Principle based on Price and Specific Goals

***The 80/20 Preferential Procurement System will be used in evaluating these bids:***

| *Evaluation element* | *Weighting (Points)* |
|---|---|
| ***SPECIFIC GOALS*** | ***20*** |
| ***PRICE*** | ***80*** |
| ***Total*** | ***100*** |

***Price***

***A maximum of 80 points are allocated for price on the following basis:***

$$Ps = 80\left(1 - \frac{Pt - P\ \min}{P\ \min}\right)$$

***Where:***

***Ps = Points scored for comparative price of bid under consideration***

***Pt = Comparative price of bid under consideration***

***Pmin = Comparative price of lowest acceptable bid***

***Preference point system***

| | ***NUMBER OF POINTS TO BE ALLOCATED*** |
|---|---|

| | |
|---|---|
| ***SPECIFIC GOALS*** | |
| ***Women*** | ***5*** |
| ***People with disability*** | ***5*** |
| ***Youth (35 and below)*** | ***5*** |
| ***Location of enterprise (Province)*** | ***2*** |
| ***B-BBEE status level contributors from level 1 to 2 which are QSE or EME*** | ***3*** |
| ***Total points for SPECIFIC GOALS*** | ***20*** |

***Documents Requirement for verification of Points allocation: -***

| ***Procurement Requirement*** | ***Required Proof Documents*** |
|---|---|
| ***Women*** | ***Full CSD Report*** |
| ***Disability*** | ***Full CSD Report*** |
| ***Youth*** | ***Full CSD Report*** |
| ***Location*** | ***Full CSD Report*** |
| ***B-BBEE status level contributors from level 1 to 2 which are QSE or EME*** | ***Valid BBBEE certificate/sworn affidavit*** |
| | ***Consolidated BEE certificate in cases of Joint Venture*** |
| | ***Full CSD Report*** |

***The definition and measurement of the goals above is as follows:***

***Women, disability, and youth:***

***This will be measured by calculating the pro-rata percentage of ownership of the bidding company which meets this criterion. E.g., Company A has five shareholders each of whom own 20% of the company. Three of the five shareholders meet the criterion, i.e. they are women/disability/youth. Therefore, this bidder will obtain 60% of the points allowable for this goal.***

***Location of enterprise***

***Local equals province. Where a project cuts across more than one province, the bidder may be located in any of the relevant provinces to obtain the points.***

***B-BBEE status level contributors from level 1 to 2 which are QSE or EME***

***Measured in terms of normal BBBEE requirements.***

***Note: Formula for calculating points for specific goals***

***Preference points for entities are calculated on their percentage shareholding in a business, provided that they are actively involved in and exercise control over the enterprise. The following formula is prescribed:***

$$PC = Mpa \times \frac{P\text{-}own}{100}$$

***Where***

***PC= Points awarded for specific goal***

***Mpa= The maximum number of points awarded for ownership in that specific category***

***P-own = The percentage of equity ownership by the enterprise or business***

# 9. GENERAL INFORMATION

## 9.1 CLIENT AND STUDY TITLE

The **DWS** will act as the **Client** for this Proposed Assignment. This Assignment shall be referred to as:

***MOKOLO AUGMENTATION CONTINGENCY STUDY (MACS)***

## 9.2 INTELLECTUAL PROPERTY OWNERSHIP

The Ownership of all Intellectual Property derived from this Study shall vest with the DWS. This stipulation will be included in the Contract between the PSP and the DWS.

## 9.3 INVOICES

The **Financial Proposal**, and hence invoices submitted for payment, must be set up in such a way that it will be possible for payments to be linked to the deliverables. The DWS needs to be in a position to track the contract progress by checking deliverables achieved and hours worked. Payments will be made after the DWS has received satisfactory proof of deliverables. Examples of deliverables are discussed in **Section 7** above.

The invoice format will need approval by the DWS at the commencement of this Study. A Pro-forma Invoice must be submitted for the approval process. Only **one (1) invoice** may be submitted for payment in any month of this Study although an invoice does not need to be submitted every month. Furthermore, the first invoice may only be submitted after the Contract has been signed between the parties and an Order Number has been created.

**Under no circumstances may the PSP commence with any work before signing the Contract.**

## 10. HEALTH, SAFETY, AND ENVIRONMENTAL CONTROL ASPECTS OF THIS STUDY

Any **Required Fieldwork** and **Site Visits** for this Study shall be supervised by Professionals. It must be ensured that any Plant, Machinery, Vehicles, Drones, and/or Equipment are used under the General Supervision of Trained Persons who understand the hazards associated with this Plant, Machinery, Vehicles, Drones, and/or Equipment, where and if applicable. Furthermore, these Trained Persons must have the authority to ensure that the Precautionary Measures taken by their Employer/s are implemented. The appointed PSP for this Study will also be required to do the following before any Fieldwork and Site Visits:

(1) Compile **Risk Assessments** before any Fieldwork and Site Visits.

(2) Prepare a **Safety File** and keep it up to date.

(3) Ensure **Safe Working Procedures**.

(4) Ensure that all his/her employees are provided with, and are wearing/using, the necessary **Personal Protective Equipment (PPE)**, which applies to employees on Site.

If any Required Fieldwork is of such a nature that an **Environmental Control Officer (ECO)** must be present on-site, then the appointed PSP for this Study must ensure that an ECO is present during such Fieldwork.

**The DWS reserves the right to Request and Check any Risk Assessment, and/or any Safety File, before and during any Required Fieldwork and/or any Site Visits.**

# 11. CONTACT PERSONS

The **DWS Directorate: Water Resource Development Planning** together with the **DWS Directorate: Supply Chain Management** is administering this ToR and Invitation to Bid. The Contact Persons for Enquiries about this Study are given in **Table 11.1** below:

**Table 11.1: Contact Persons for Enquiries about this Study**

| Contact Persons | | Postal Address |
|---|---|---|
| **For Technical Matters** | **For Bid Administrative Matters** | |
| Mr. Prashen Jugdawooh<br>Tel: (012) 336 8188<br>E-mail: JugdawoohP@dws.gov.za | Mr K Koenaite<br>Tel: 012 336 8363<br>E-mail: koenaitek@dws.gov.za | Private Bag X 313<br>PRETORIA<br>0001 |

| | |
|---|---|
| ***Note:*** | *Email correspondence regarding this Bid should be sent to both the Contact Persons listed in **Table 11.1** above.* |

# ANNEXURE A

## Strengths, Weaknesses, Opportunities and Threats Analysis of the Potential Water Resources for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality

**Table A1: Strengths, Weaknesses, Opportunities and Threats Analysis of the Potential Water Resources for Additional Water Supply to the Medupi Power Station / Lephalale Local Municipality**

| Potential Water Resource | Short-term before Water Delivery by the MCWAP-2A | | Long-term when the MCWAP-2A is Operational | |
|---|---|---|---|---|
| | **Strengths** | **Weaknesses** | **Opportunities** | **Threats** |
| Return Flows | • Water Availability. | • Water Quality.<br>• Special Treatment Required.<br>• Distances of WWTWs from Medupi.<br>• Construction of New Conveyance Infrastructure.<br>• An EIA Process will most likely be triggered.<br>• Capital Costs.<br>• Operation and Maintenance (O&M)<br>• O&M Costs.<br>• Time to Implement. | • Use of the Return Flows and Conveyance Infrastructure during Emergencies.<br>• Permanent Contingency Water Supply in place.<br>• Converting the Conveyance Infrastructure for other Beneficial Uses (e.g. from Raw Water to Potable Water Infrastructure). | • Lack of Maintaining the Conveyance Infrastructure.<br>• Maintaining the Conveyance Infrastructure to ensure that it can be operational in case of an Emergency.<br>• Possible Environmental Impacts.<br>• Security.<br>• Theft and Vandalism.<br>• Long-term O&M Costs. |
| Groundwater | • Possible Close Proximity of Groundwater Resources. | • Low Borehole Yields.<br>• The need for Additional Boreholes to be drilled.<br>• Rapid Depletion of Aquifers. | • Use of the Groundwater and Conveyance Infrastructure during Emergencies. | • Lack of Maintaining the Developed Groundwater Resources and Conveyance Infrastructure. |

| Potential Water Resource | Short-term before Water Delivery by the MCWAP-2A | | Long-term when the MCWAP-2A is Operational | |
|---|---|---|---|---|
| | **Strengths** | **Weaknesses** | **Opportunities** | **Threats** |
| | • Minimal Conveyance Infrastructure is Required.<br>• Less Expensive.<br>• Groundwater Quality.<br>• Minimal Environmental Impacts. | • Impacts on other Surrounding Groundwater Users.<br>• An EIA Process will most likely be triggered.<br>• Time to Implement. | • Permanent Contingency Water Supply in place.<br>• Other Possible Beneficial uses of the Developed Groundwater Resources and Conveyance Infrastructure. | • Maintaining the Boreholes and Conveyance Infrastructure to ensure that it can be operational in case of an Emergency.<br>• Security.<br>• Theft and Vandalism.<br>• Cost of O&M. |
| Additional Abstraction of Mokolo Dam | • Sufficient Additional Capacity in the MCWAP-1 Pipeline to Convey the Required Additional Water.<br>• No need for any Additional Conveyance Infrastructure. | • Water Availability in Mokolo Dam.<br>• Lower Assurance of Supply.<br>• Earlier Implementation of Water Restrictions.<br>• World Bank Loan in the light of Possible Earlier Water Restrictions. | N/A | N/A |

| Potential Water Resource | Short-term before Water Delivery by the MCWAP-2A | | Long-term when the MCWAP-2A is Operational | |
|---|---|---|---|---|
| | **Strengths** | **Weaknesses** | **Opportunities** | **Threats** |
| | • No or Minimal Additional Capital Costs to Implement.<br>• No Additional Environmental Impacts before the Implementation of the Full Reserve.<br>• Unlikely to Trigger an EIA Process.<br>• No, or Minimal Time Required to Implement. | | | |

# ANNEXURE B

## Required Detailed Cost Summary Sheet for the Financial Proposal

| Deliverable Number | Payment Ref. in ToR | Description | Unit | Quantity | Rate, Including All Disbursements | Amount, Including All Disbursements | Notes and Comments |
|---|---|---|---|---|---|---|---|
| 1 | 5.1 | Inception Report | Sum | - | - | | - |
| 2 | 5.2 | Environmental Screening Report | Sum | - | - | | - |
| 3.1 | 5.3, 5.3.1 and Table 5.1 | Study Management Committee (SMC) and Project Steering Committee (PSC) Meetings | No. | 8 SMC<br>8 PSC | | | Price for 4 meetings in Pretoria, and 4 meetings in Lephalale for the SMC.<br><br>Price for 8 meetings in Lephalale for the PSC. |
| 3.2 | 5.3, 5.3.2 and Table 5.1 | Liaison with Role Players and Stakeholders | No. | 6 | | | Price for 6 meetings in Lephalale. |
| 3.3 | 5.3, and Table 5.1 | Presentation to DWS Management at DWS Head Office in Pretoria | No. | 2 | | | Price for 2 Physical Meetings in Pretoria |
| 3.4 | 5.3, and Table 5.1 | Public Meetings with Stakeholders | No. | 2 | | | Price for 2 meetings in Lephalale. |
| 3.5 | 5.3.4 | Quality Control of Study Reports | N/A | N/A | N/A | R0,00 | To be included in the prices for the various reports submitted. |
| 3.6 | 5.3.5 | External Specialist Reviewers | Sum | - | - | | Based on an estimate from a historic study |
| 3.7 | 5.3.5 | Procurement of the Services of Specialist Reviewers (% of item 3.6 above) | % | | | | Price as a percentage (%) of **Item 3.6** above. |

| Deliverable Number | Payment Ref. in ToR | Description | Unit | Quantity | Rate, Including All Disbursements | Amount, Including All Disbursements | Notes and Comments |
|---|---|---|---|---|---|---|---|
| 3.8 | 5.3.5 | Management of Payments to the Specialist Reviewers (% of item 3.6 above) | % | | | | Price as a percentage (%) of **Item 3.6** above. |
| 3.9 | 5.3.6 | Financial Management | Sum | - | - | | - |
| 3.10 | 5.3.7 | Collaboration with the EAP for the EIA | Sum | - | - | | - |
| 4.1 | 5.4 | Supporting Report on the Assessment of Potential Water Resources for Additional Water Supply to Medupi Power Station and Other Potential Water Users | Sum | - | - | | - |
| 4.2 | 5.4.1 | Write-up on the Character of the Available Return Flows | Sum | - | - | | - |
| 4.3 | 5.4.2 | Write-up on the Character of the Identified Groundwater Resources | Sum | - | - | | - |
| 4.4 | 5.4.3 | Write-up on the additional abstraction of Mokolo Dam | Sum | - | - | | - |
| 4.5 | 5.4.4 | Write up on the Existing and Future Water Requirements from the Return Flows and Identified Existing Groundwater Resources | Sum | - | - | | - |

| Deliverable Number | Payment Ref. in ToR | Description | Unit | Quantity | Rate, Including All Disbursements | Amount, Including All Disbursements | Notes and Comments |
|---|---|---|---|---|---|---|---|
| 4.6 | 5.4.5 | User Priority Classification Table for all the Existing and Future Water Users of the Return Flows and the Identified Groundwater Resources | Sum | - | - | | - |
| 5 | 5.5 | Write-up on the Identification and Review of Contingency Measures for Additional Water Supply to the Medupi Power Station and Other Water Users is required before the Pre-feasibility Investigations | Sum | - | - | | - |
| 6 | 5.6 | Write-up on the Augmentation of Water Supply to Current Inadequately Served Surrounding Communities by the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station | Sum | - | - | | - |
| 7 | 5.7 and 5.7.1 | Pre-feasibility Investigation Report | Sum | - | - | | - |
| 8.1 | 5.7.2 | Material Investigations Fieldwork, Laboratory Work, and Reporting | Sum | - | - | | Based on an estimate from a historic study |

| Deliverable Number | Payment Ref. in ToR | Description | Unit | Quantity | Rate, Including All Disbursements | Amount, Including All Disbursements | Notes and Comments |
|---|---|---|---|---|---|---|---|
| 8.2 | 5.7.2 | Procurement of the Services of a Specialist Sub-contractor (% of item 8.1 above) | % | | | | Price as a percentage (%) of **Item 8.1** above. |
| 8.3 | 5.7.2 | Management of Payments to the Specialist Subcontractor (% of item 8.1 above) | % | | | | Price as a percentage (% ) of **Item 8.1** above. |
| 8.4 | 5.7.2 | Write-up on the Material Investigations for Pre-feasibility Investigations | Sum | - | - | | Bidders are to price for their Professional Time and Disbursements other than those under **Items 8.1**, **8.2**, and **8.3** above. |
| 8.5 | 5.7.2 | Material Investigation Supporting Report for Feasibility Investigations | Sum | - | - | | Bidders are to price for their Professional Time and Disbursements other than those under **Items 8.1**, **8.2**, and **8.3** above. |
| 8.6 | 5.7.3 | Geotechnical Investigations Fieldwork, Laboratory Work, and Reporting | Sum | | | | Based on an estimate from a historic study |

| Deliverable Number | Payment Ref. in ToR | Description | Unit | Quantity | Rate, Including All Disbursements | Amount, Including All Disbursements | Notes and Comments |
|---|---|---|---|---|---|---|---|
| 8.7 | 5.7.3 | Procurement of the Services of a Specialist Sub-contractor (% of item 8.6 above) | % | | | | Price as a percentage (%) of **Item 8.6** above. |
| 8.8 | 5.7.3 | Management of Payments to the Specialist Subcontractor (% of item 8.6 above) | % | | | | Price as a percentage (%) of **Item 8.6** above. |
| 8.9 | 5.7.3 | Write-up on the Geotechnical Investigations for Pre-feasibility Investigations | Sum | - | - | | Bidders are to price for their Professional Time and Disbursements other than those under **Items 8.6**, **8.7**, and **8.8** above. |
| 8.10 | 5.7.3 | Geotechnical Investigation Supporting Report for Feasibility Investigations | Sum | - | - | | Bidders are to price for their Professional Time and Disbursements other than those under **Items 8.6**, **8.7**, and **8.8** above. |
| 8.11 | 5.7.4 | Topographical Surveys – Scale 1:5000 | Sum | - | - | | Based on an estimate from a historic study |

| Deliverable Number | Payment Ref. in ToR | Description | Unit | Quantity | Rate, Including All Disbursements | Amount, Including All Disbursements | Notes and Comments |
|---|---|---|---|---|---|---|---|
| 8.12 | 5.7.4 | Procurement of the Services of a Specialist Sub-contractor (% of item 8.11 above) | % | | | | Price as a percentage (%) of **Item 8.11** above. |
| 8.13 | 5.7.4 | Management of Payments to the Specialist Subcontractor (% of item 8.11 above) | % | | | | Price as a percentage (%) of **Item 8.11** above. |
| 8.14 | 5.7.4 | Professional Time for the Topographical Surveys | Sum | - | - | | Bidders are to price for their Professional Time and Disbursements other than those under **Items 8.11**, **8.12**, and **8.13** above. |
| 8.15 | 5.7.5 | Land Matters Supporting Report | Sum | - | - | | - |
| 8.16 | 5.7.6 | Write-up on the Optimisation of Water Supply Options | Sum | - | - | | - |
| 8.17 | 5.7.7 | Feasibility Investigation Report | Sum | - | - | | - |
| 8.18 | 5.7.7 | Book of Drawings and Maps | Sum | - | - | | - |

| Deliverable Number | Payment Ref. in ToR | Description | Unit | Quantity | Rate, Including All Disbursements | Amount, Including All Disbursements | Notes and Comments |
|---|---|---|---|---|---|---|---|
| 8.19 | 5.7.7 | Soft Copies of all the Drawings. Spreadsheets, and GIS Files | Sum | - | - | | - |
| 8.20 | 5.7.8 | Write-up on the Costing for the Pre-feasibility Investigations | Sum | - | - | | - |
| 8.21 | 5.7.8 | Costing Supporting Report for the Feasibility Investigations | Sum | - | - | | - |
| 9 | 5.8 | Write-up on the Climatological Data | Sum | - | - | | - |
| 10 | 5.9 | Write-up on the Traffic Impacts | Sum | - | - | | - |
| 11.1 | 5.10.1 | Implementation Programmes | Sum | - | - | | - |
| 11.2 | 5.10.2 | Project Summary | Sum | - | - | | - |
| 11.3 | 5.10.3 | Record of Implementation Decisions Report | Sum | - | - | | - |
| 12 | 5.11, 5.11.1, 5.11.2 and 5.11.3 | Legal, Institutional, Financial and Operational Aspects Report | Sum | - | - | | - |

| Deliverable Number | Payment Ref. in ToR | Description | Unit | Quantity | Rate, Including All Disbursements | Amount, Including All Disbursements | Notes and Comments |
|---|---|---|---|---|---|---|---|
| 13 | 5.12 | Economic Analysis and Socio-economics Impact Report | Sum | - | - | | - |
| 14 | 5.13 | Main Report | Sum | - | - | | - |
| 15 | 5.14 | Summary Report (30% of the Main Report) | % | 30 | - | | Price 30% of the Main Report |
| 16 | 5.15 | Close-out Report (30% of Pre-feasibility Study Report) | % | 30 | - | | Price 30% of the Main Report |
| 17 | 5.16 | Capacity Building and Training | Sum | - | - | | - |
| **TOTAL (Excluding VAT)** | | | - | - | - | | - |
| VAT (15% of the Total above) | | | % | 15 | - | | - |
| **TOTAL (Including VAT)** | | | - | - | - | | - |
| **Escalation of Professional Fees beyond the Contract Period, if the Contract is extended** | | | | | | | |
| **Deliverable Number** | **Ref. in ToR** | **Description** | **Unit** | **Quantity** | **Rate** | **Amount** | **Notes and Comments** |

| Deliverable Number | Payment Ref. in ToR | Description | Unit | Quantity | Rate, Including All Disbursements | Amount, Including All Disbursements | Notes and Comments |
|---|---|---|---|---|---|---|---|
| N/A | 8.2 | Indicate Escalation (% per annum) of Professional Fees, including Disbursements, beyond the Contract Period, if the Contract is extended. | % per annum | N/A | | N/A | Rate (% per annum) only. |

# ANNEXURE C

# Required Cost Summary Sheet for the Financial Proposal

| Number | Payment Ref. in ToR | Description | Amount, Including All Disbursements |
|---|---|---|---|
| 1 | 5.1 | Inception | |
| 2 | 5.2 | Environmental Screening | |
| 3 | 5.3 | Project Management and Co-ordination | |
| 4 | 5.4 | Assessment of the Potential Water Resources | |
| 5 | 5.5 | Identification and Review of Contingency Measures for Additional Water Supply to Medupi Power Station and Other Potential Water Users | |
| 6 | 5.6 | Augmentation of Water Supply to Identified Inadequately Served Surrounding Communities | |
| 7 | 5.7 | Pre-feasibility Investigations | |
| 8 | | Feasibility Investigations | |
| 9 | 5.8 | Climatological Data | |
| 10 | 5.9 | Traffic Impact Assessment | |
| 11 | 5.10 | Implementation Actions | |
| 12 | 5.11 | Legal, Institutional, Financial and Operational Aspects | |
| 13 | 5.12 | Economic and Socio-Economic Analysis | |
| 14 | 5.13 | Main Report | |
| 15 | 5.14 | Summary Report | |
| 16 | 5.15 | Close-out Report | |
| 17 | 5.16 | Capacity Building and Training | |
| **TOTAL (Excluding VAT)** | | | |
| VAT (15% of the Total above) | | | |
| **TOTAL (Including VAT)** | | | |

# ANNEXURE D

## Required Summary of Hours for the Financial Proposal

| Deliverable Number | Ref. in ToR | Description | Hours | Notes and Comments |
|---|---|---|---|---|
| 1 | 5.1 | Inception Report | | - |
| 2 | 5.2 | Environmental Screening Report | | - |
| 3.1 | 5.3, 5.3.1 and Table 5.1 | Study Management and Project Steering Committee Meetings | | Hours for 4 meetings in Pretoria, and 4 meetings in Lephalale. |
| 3.2 | 5.3, 5.3.2 and Table 5.1 | Liaison with Role Players and Stakeholders | | Hours for 6 meetings in Lephalale. |
| 3.3 | 5.3, and Table 5.1 | Presentation to DWS Management at DWS Head Office in Pretoria | | Hours for 2 Physical Meetings in Pretoria |
| 3.4 | 5.3, and Table 5.1 | Public Meetings with Stakeholders | | Hours for 2 meetings in Lephalale. |
| 3.5 | 5.3.4 | Quality Control of Study Reports | N/A | To be included in the hours for the various reports to be submitted. |
| 3.6 | 5.3.5 | External Specialist Reviewers | N/A | This is time spent by the Appointed External Specialist Reviewers. |
| 3.7 | 5.3.5 | Procurement of the Services of Specialist Reviewers (% of item 3.6 above) | | |
| 3.8 | 5.3.5 | Management of Payments to the Specialist Reviewers (% of item 3.6 above) | | |
| 3.9 | 5.3.6 | Financial Management | | - |
| 3.10 | 5.3.7 | Collaboration with the EAP for the EIA | | - |

| Deliverable Number | Ref. in ToR | Description | Hours | Notes and Comments |
|---|---|---|---|---|
| 4.1 | 5.4 | Supporting Report on the Assessment of Potential Water Resources for Additional Water Supply to Medupi Power Station and Other Potential Water Users | | - |
| 4.2 | 5.4.1 | Write-up on the Character of the Available Return Flows | | - |
| 4.3 | 5.4.2 | Write-up on the Character of the Identified Groundwater Resources | | - |
| 4.4 | 5.4.3 | Write-up on the additional abstraction of Mokolo Dam | | - |
| 4.5 | 5.4.4 | Write up on the Existing and Future Water Requirements from the Return Flows and Identified Existing Groundwater Resources | | - |
| 4.6 | 5.4.5 | User Priority Classification Table for all the Existing and Future Water Users of the Return Flows and the Identified Groundwater Resources | | - |
| 5 | 5.5 | Write-up on the Identification and Review of Contingency Measures for Additional Water Supply to the Medupi Power Station and Other Water Users is required before the Pre-feasibility Investigations | | - |
| 6 | 5.6 | Write-up on the Augmentation of Water Supply to Current Inadequately Served Surrounding Communities by the Proposed Contingency Measures for Additional Water Supply to the Medupi Power Station | | - |
| 7 | 5.7 and 5.7.1 | Pre-feasibility Investigation Report | | - |
| 8.1 | 5.7.2 | Material Investigations Fieldwork, Laboratory Work, and Reporting | N/A | This is time spent by the Appointed Sub-contractor for this deliverable. |
| 8.2 | 5.7.2 | Procurement of the Services of a Specialist Sub-contractor (% of item 8.1 above) | | - |

| Deliverable Number | Ref. in ToR | Description | Hours | Notes and Comments |
|---|---|---|---|---|
| 8.3 | 5.7.2 | Management of Payments to the Specialist Subcontractor (% of item 8.1 above) | | - |
| 8.4 | 5.7.2 | Write-up on the Material Investigations for Pre-feasibility Investigations | | - |
| 8.5 | 5.7.2 | Material Investigation Supporting Report for Feasibility Investigations | | - |
| 8.6 | 5.7.3 | Geotechnical Investigations Fieldwork, Laboratory Work, and Reporting | N/A | This is time spent by the Appointed Sub-contractor for this deliverable. |
| 8.7 | 5.7.3 | Procurement of the Services of a Specialist Sub-contractor (% of item 8.6 above) | | - |
| 8.8 | 5.7.3 | Management of Payments to the Specialist Subcontractor (% of item 8.6 above) | | - |
| 8.9 | 5.7.3 | Write-up on the Geotechnical Investigations for Pre-feasibility Investigations | | - |
| 8.10 | 5.7.3 | Geotechnical Investigation Supporting Report for Feasibility Investigations | | - |
| 8.11 | 5.7.4 | Topographical Surveys – Scale 1:5000 | N/A | This is time spent by the Appointed Sub-contractor for this deliverable. |
| 8.12 | 5.7.4 | Procurement of the Services of a Specialist Sub-contractor (% of item 8.11 above) | | - |
| 8.13 | 5.7.4 | Management of Payments to the Specialist Subcontractor (% of item 8.11 above) | | |

| Deliverable Number | Ref. in ToR | Description | Hours | Notes and Comments |
|---|---|---|---|---|
| 8.14 | 5.7.4 | Professional Time for the Topographical Surveys | | |
| 8.15 | 5.7.5 | Land Matters Supporting Report | | - |
| 8.16 | 5.7.6 | Write-up on the Optimisation of Water Supply Options | | - |
| 8.17 | 5.7.7 | Feasibility Investigation Report | | - |
| 8.18 | 5.7.7 | Book of Drawings and Maps | | - |
| 8.19 | 5.7.7 | Soft Copies of all the Drawings. Spreadsheets, and GIS Files | | - |
| 8.20 | 5.7.8 | Write-up on the Costing for the Pre-feasibility Investigations | | - |
| 8.21 | 5.7.8 | Costing Supporting Report for the Feasibility Investigations | | - |
| 9 | 5.8 | Write-up on the Climatological Data | | - |
| 10 | 5.9 | Write-up on the Traffic Impacts | | - |
| 11.1 | 5.10.1 | Implementation Programmes | | - |
| 11.2 | 5.10.2 | Project Summary | | - |
| 11.3 | 5.10.3 | Record of Implementation Decisions Report | | - |
| 12 | 5.11, 5.11.1, 5.11.2 and 5.11.3 | Legal, Institutional, Financial and Operational Aspects Report | | - |
| 13 | 5.12 | Economic Analysis and Socio-economics Impact Report | | - |
| 14 | 5.13 | Main Report | | - |
| 15 | 5.14 | Summary Report | | - |

| Deliverable Number | Ref. in ToR | Description | Hours | Notes and Comments |
|---|---|---|---|---|
| 16 | 5.15 | Close-out Report | | - |
| 17 | 5.16 | Capacity Building and Training | | - |
| **TOTAL HOURS** | | | - | Please refer to the **Note** below. |
| **Note:** Bidders must **only state** their **Total Hours** in their **Technical Proposals** since the **Stated Total Hours** forms part of the **Functional/Technical Evaluation**. Please refer to **8.1.3** and **8.3.3** in the **ToR**. | | | | |