



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

**DUE AT 11:00 ON**

**(09 MAY 2019)**

**DWS10-0319(WTE)**

**CONCRETE SURFACE PREPARATION AT THE RAISING OF CLANWILLIAM DAM  
FOR CONSTRUCTION SOUTH IN THE WESTERN CAPE**

**SUBMIT BID DOCUMENTS TO:**

**POSTAL ADDRESS:**  
DIRECTOR-GENERAL:  
WATER AND SANITATION  
PRIVATE BAG X313  
PRETORIA, 0001

**OR**

**TO BE DEPOSITED IN:**  
THE BID BOX AT THE ENTRANCE  
OF ZWAMADAKA BUILDING  
157 FRANCIS BAARD STREET  
PRETORIA, 0001

**Compulsory Briefing Session**

**Date:** 16 April 2019

**Time:** 13:00

**Venue:** Clanwilliam dam site

**BIDDER: (Company Address OR Stamp)**

**COMPILED BY: CONSTRUCTION**

# DEPARTMENT OF WATER AND SANITATION

## DWS10-0319 (WTE)

### CONCRETE SURFACE PREPARATION AT THE RAISING OF CLANWILLIAM DAM FOR CONSTRUCTION SOUTH IN THE WESTERN CAPE PROVINCE

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Certificate of Independent Bid Determination (SBD 9)

Instructions to Bidders: Purchases (ANNEXURE 7)

Certificate of Attendance at Site Meeting

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###### (a) Schedules to be submitted:

- Schedule of plant and equipment
- Schedule of similar work undertaken(**Concrete surface preparation**)
- Schedule of proposed Sub-Contractors
- Amendments proposed by tenderer

###### (b) Verification documentation to be submitted to confirm 30% sub-contracting

- B-BBEE Status Level Verification Certificate
- Sub-Contractor Status Verification and or Valid Sworn Affidavit
- Pro-forma sub-contracting agreement signed by both parties

###### (c) Contractors Certificate of Registration with CIDB(7CE or 7SE )

###### (d) Additional Documentation to be submitted

- Method Statement (PS 5)
- Pro Forma Health and Safety Plan (PS 11.1)

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**DEPARTMENT OF WATER AND SANITATION**

**DWS10-0319 (WTE)**

**CONCRETE SURFACE PREPARATION AT THE RAISING OF CLANWILLIAM DAM FOR CONSTRUCTION  
SOUTH IN THE WESTERN CAPE PROVINCE**

**T1. TENDERING PROCEDURES**

- T1.1 PART A: INVITATION TO BID**
- T1.2 PART B: TERMS AND CONDITIONS FOR BIDDING**
- T1.3 CONDITIONS OF TENDER**

## T1.1 PART A INVITATION TO BID

<b>YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE (NAME OF DEPARTMENT/ PUBLIC ENTITY)</b>					
BID NUMBER:	DWS10-0319 (WTE)	CLOSING DATE:	09 MAY 2019	CLOSING TIME:	11:00
DESCRIPTION	CONCRETE SURFACE PREPARATION AT THE RAISING OF CLANWILLIAM DAM FOR CONSTRUCTION SOUTH IN THE				
	WESTERN CAPE PROVINCE				
<b>BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT (STREET ADDRESS)</b>					
THE BID BOX AT THE ENTRANCE					
OF ZWAMADAKA BUILDING					
157 FRANCIS BAARD STREET, PRETORIA, 0001					
<b>BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO</b>			<b>TECHNICAL ENQUIRIES MAY BE DIRECTED TO:</b>		
CONTACT PERSON	Bid Office		CONTACT PERSON	A. Frylinck	
TELEPHONE NUMBER	012 336 7596/7066/6544/7780/6562		TELEPHONE NUMBER	021 8720591	
FACSIMILE NUMBER			FACSIMILE NUMBER	021 8720594	
E-MAIL ADDRESS	bidenquirieswte@dws.gov.za		E-MAIL ADDRESS	Frylincka@dws.gov.za	
<b>SUPPLIER INFORMATION</b>					
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]  <input type="checkbox"/> Yes <input type="checkbox"/> No		B-BBEE STATUS LEVEL SWORN AFFIDAVIT  <input type="checkbox"/> Yes <input type="checkbox"/> No		[TICK APPLICABLE BOX]  <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>[A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE/ SWORN AFFIDAVIT (FOR EMES &amp; QSEs) MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE]</b>					
ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES ENCLOSE PROOF]		ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED?  <input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES, ANSWER PART B:3 ]		
<b>QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS</b>					
IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)? <span style="float: right;"><input type="checkbox"/> YES <input type="checkbox"/> NO</span>					
DOES THE ENTITY HAVE A BRANCH IN THE RSA? <span style="float: right;"><input type="checkbox"/> YES <input type="checkbox"/> NO</span>					
DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA? <span style="float: right;"><input type="checkbox"/> YES <input type="checkbox"/> NO</span>					
DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA? <span style="float: right;"><input type="checkbox"/> YES <input type="checkbox"/> NO</span>					
IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION? <span style="float: right;"><input type="checkbox"/> YES <input type="checkbox"/> NO</span>					
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.					

## T1.2 PART B

### TERMS AND CONDITIONS FOR BIDDING

<b>1. BID SUBMISSION:</b>	
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).	
<b>2. TAX COMPLIANCE REQUIREMENTS</b>	
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 <a href="http://WWW.SARS.GOV.ZA">WWW.SARS.GOV.ZA</a> .	
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:

.....

# **DEPARTMENT OF WATER AND SANITATION**

**DWS10-0319 (WTE)**

## **CONCRETE SURFACE PREPARATION AT THE RAISING OF CLANWILLIAM DAM FOR CONSTRUCTION SOUTH IN THE WESTERN CAPE PROVINCE**

### **T1.3 CONDITIONS OF TENDER**

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1. Issuing of documents
2. Queries with respect to this bid
3. Eligibility
4. Completion of Bids
5. Submission of Bids
6. Signature on Bids
7. Telegraphic Bids
8. The Department's right to decline any bid
9. Department is not liable for bidder's expenses
10. Evaluation Criteria
11. Rejection of bids
12. Results of Bids

## T1.3 CONDITIONS OF TENDER

### 1. ISSUING OF DOCUMENTS

- (a) A complete sets of bid documents are issued to a prospective Bidder. These documents are available from the DWS website and e-Tender portal.
- (b) Bidders must satisfy themselves that the document is complete and conform to the index of this document. Should any figures or writing be indistinct or should any pages be missing from this document or should this document or the drawing(s) contain any obvious errors, the Bidders must immediately notify the Department in order to have any discrepancy rectified or clarified before submitting his bid. Such clarification will be valid only if made by the Department by means of formal amendment as described hereunder prior to the date of submission of bids. The Department may issue amendments to clarify or modify the Bid Documents. A copy of each amendment will be issued to each bidder and shall be acknowledged on the form issued with the amendments. No claim whatsoever will be entertained for faults in the bid price resulting from the above-mentioned discrepancies.
- (c) No alterations, omissions or additions shall be made to this document, but should it be deemed necessary to do so, the Bidder is at liberty to qualify his bid.
- (d) All Bidders shall be deemed to have waived, renounced and abandoned any conditions printed or written upon any stationery used by them for the purpose of or in connection with the submission of bids which are in conflict with the conditions laid down in this document.
- (e) Each page of the completed document that will be submitted should be initialled by the Bidder at the bottom of the page.

### 2. QUERIES WITH RESPECT TO THIS BID

Queries of a specific technical nature may be discussed personally or telephonically with A Frylinck, Telephone 021 872 0591 or may be directed in writing to: **The Director: Construction Management Support, Department of Water and Sanitation, Private Bag X 323, Pretoria, 0001.**

### 3. ELIGIBILITY

An Entity is not eligible to submit a bid if:

- (a) the bidder does not comply with the legal requirements of the Department's Procurement as stated in paragraph 10.
- (b) the Entity submitting the bid is under restrictions or has principals who are under restriction to participate in the Department's procurement due to corrupt or fraudulent practices;
- (c) the Bidder does not have the legal capacity to enter into the contract;
- (d) the Entity submitting the bid is insolvent, in receivership, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his business activities, or is subject to legal proceedings in respect of the foregoing;
- (e) the Bidder cannot demonstrate that he possesses the necessary professional and technical qualifications and competent, financial resources, equipment and other physical facilities, managerial capability, personnel, experience and reputation to perform the contract;
- (f) the Bidder cannot provide proof that he is in good standing with respect to duties, taxes, levies and contributions required in terms of legislation applicable to the work in the contract;
- (g) the Bidder has failed to perform on any previous contract and has been given a written notice to this effect;
- (h) the Bidder or a competent authorized representative of the Entity who submitted the tender has not attended the compulsory clarification meeting or site inspection if applicable;
- (i) the bid offer is not signed by a person authorized to sign on behalf of the Bidder;

- (j) more than one bid has been submitted by a Bidder. Each Bidder shall submit only one bid for the same project, either individually as a Bidder or as a partner in a joint venture. No Entity can be a subcontractor while submitting a bid individually or as a partner of a joint venture in the same bidding process. An Entity, if acting in the capacity of subcontractor in any bid, may participate in more than one bid, but only in that capacity. A Bidder who submits or participates in more than one bid will cause all the proposals in which the Bidder has participated to be disqualified.

#### 4. COMPLETION OF BIDS

- (a) The bid must be signed on Part A Invitation to Bid form (SBD 1) with all blanks filled in Part A Invitation to Bid and Part B Terms and Conditions for Bidding.
- (b) All forms and schedules as per section T2.1 shall be completed in full. The documents as per section T2.2 shall be submitted.
- (c) **The Pricing Schedule in Section C3 of the bid document must be fully completed and priced out by the bidder. Failure to do so will deem your bid invalid.**
- (d) The bid documents shall not be separated in any way nor must any pages be detached from the original documents.
- (e) Each page of the completed document that will be submitted should be initialled by the Bidder at the bottom of the page.
- (f) Not make any alterations or additions to the bid documents, except to comply with instructions issued by the Department, or necessary to correct errors made by the Bidder. All signatories to the bid offer shall initial all such alterations. Erasures and the use of masking fluid are prohibited
- (g) Submit alternative bid offers only if a main bid offer, strictly in accordance with all the requirements of the bid documents, is also submitted. The alternative bid offer is to be submitted with the main bid offer together with a schedule that compares the requirements of the bid documents with the alternative requirements the Bidder proposes.

#### 5. SUBMISSION OF BIDS

The Bid Document shall be completed, signed and submitted as follows:

- (a) The original Bid, together with a covering letter and supporting documents, shall be sealed in an envelope endorsed:

**"ORIGINAL BID DWS10-0319 (WTE) FOR BID:CONCRETE SURFACE PREPARATION AT THE RAISING OF CLANWILLIAM DAM FOR CONSTRUCTION SOUTH IN THE WESTERN CAPE PROVINCE**

and the name of the Bidder shall be clearly shown

- (b) Bids sealed and endorsed as above, will be received by: The Supply Chain Management office or may be deposit in the bid box at the entrance of the ZwaMadaka Building, 157 Francis Baard Street, Pretoria and not later than 11:00 on the date stipulated on the front cover of this document.

#### 6. SIGNATURE ON BIDS

The successful bidder will be required to submit a "Letter from the manufacturer" confirming the supply arrangement within **14 days** after the approval of the bid. **Failure to do so will invalidate the Bid.**

If the bid is submitted by joint venture of more than one person and/or Companies and/or firms it shall be accompanied by the following:

- (a) The original or a notarial certified copy of the original document under which such joint venture was constituted which must define precisely inter alia the conditions under which the joint venture will function, its period of duration and the participation of the several constituent persons and/or companies and/or firms.
- (b) A certificate signed by or on behalf of each participating person and/or company and/or firm authorising the person who signed the bid to do so.

## **7. TELEGRAPHIC BIDS**

No bid forwarded by telegram, telex, facsimile, e-mail or similar apparatus will be considered.

## **8. THE DEPARTMENT'S RIGHT TO DECLINE ANY BID**

The Department may accept or decline any variation, deviation, tender offer, or alternative tender offer, and may cancel the tender process and reject all tender offers at any time before the formation of a contract. The Department shall not accept or incur any liability to a tenderer for such cancellation and decline. The Department does not bind itself to accept the lowest or any bid.

## **9. DEPARTMENT NOT LIABLE FOR BIDDER'S EXPENSES**

The Department will not be held liable for any expenses incurred in preparing and submitting bids, including the costs of any testing necessary to demonstrate that aspects of the offer satisfy requirements

## **10. EVALUATION CRITERIA**

Bids will be evaluated in accordance with the new Preferential Procurement Regulations, 2017, using 80/20 preference points system as prescribed in the Preferential Procurement Policy Framework Act (PPPFA, Act 5 of 2000). The lowest acceptable bid will score 80 points for price and a maximum of 20 points will be awarded for attaining the Broad-Based Black Economic Empowerment (B-BBEE) Status Level of Contribution. Bids received will be evaluated on the four (4) phases namely **Compulsory subcontracting, Administrative and mandatory requirements, Technical Evaluation and Specification Compliance and Price and Preference Points Claimed.**

### **Phase 1:**

#### **Compulsory subcontracting**

#### **Preferential procurement regulations, 2017, regulation 9**

To give effect to the Preferential Procurement Regulations, 2017 pertaining to the Preferential Procurement Policy Framework Act (Act No 5 of 2000), the prequalification criteria in terms of regulation 9 will be applicable.

Only Bidders who do have a 30 % sub-contracting agreement to an 51 % black owned EME or QSE will be considered for this bid. Verification documentation to be submitted to confirm 30% sub-contracting compliance requirements (failure to submit the supporting documents, the Bidder will be disqualified):

- Sub-Contractor's Valid Sworn Affidavit or B-BBEE Status Level Verification Certificate
- The Sub-contractor's proof of Central Supplier Database registration.
- Tax compliant with SARS (to be verified through CSD and SARS). Attach a copy of Tax Clearance certificate and PIN.
- Pro-forma sub-contracting agreement signed by both parties

**Phase 2:****Administrative Compliance:**

Bidders are required to comply with the following listed below: - Failure to submit any of the documents shall render your bid non responsive and will be disqualified.

No	Criteria	Yes	No
1	Companies must be registered with National Treasury's Central Supplier Database. Provide MAAA number on SBD1		
2	Tax compliant with SARS (to be verified through CSD and SARS). Attach a copy of Tax Clearance certificate and PIN.		
3	Active registration with Company Intellectual Property Commission (to be verified through CSD and CIPC). Attach copy of CIPC / CIPRO certificate.		
4	The Bid must be signed by a director of the company or a duly authorised person and proof of such authority must be submitted with the bid.		
5	Complete, sign, submit SBD 1, SBD 3.2, SBD 4, SBD 6.1, SBD 8, SBD 9		
6	Valid Sworn Affidavit or B-BBEE Status Level Verification Certificate of the main bidder – Failure to submit the required documentation will be interpreted to mean that the preference points for the B-BBEE status level of contribution are not claimed.		

**Mandatory requirements**

Failure to submit any of the documents listed below may render your bid non-responsive and may be disqualified.

**Yes - list the relevant documents required on the table below**

No	Criteria	Yes	No
1	Attendance of compulsory briefing session		
2	Only Bidders who does have a CIDB grading of 7CE or 7SE will be considered for this bid.		
3	Submit a current (may not be older than three (3) months) letter of good standing with the COIDA with the bid		
4	Certified copy of UIF certificate or letter of good standing		

### Phase 3:

#### Technical Evaluation and Specification Compliance:

The bid will be evaluated using the below criteria. Bids that fail to achieve a minimum of 32 will not be considered for phase 4 of the evaluation.

NO.	CRITERIA	DELIVERABLES	WEIGHTING/ JUDGEMENT PER CRITERIA	MAXIMUM POINTS
1.	Schedule of Plant and Equipment	1. A fully completed and signed schedule list of major items of relevant equipment that the bidder own or will lease and have for this contract must be provided. The following must be presented on the schedule to be provided:	Points will be allocated as follow if criteria is meet.	Total for criteria 10
		Item description & Type and size	No=0 Yes=2	
		Capacity	No=0 Yes=2	
		Quantity	No=0 Yes=2	
		Year of manufacture Quantity	No=0 Yes=2	
		Present financial liability	No=0 Yes=2	
2.	Past Experience	1. Contactable reference (description of the project, period of the contract, contract amount and project manager for reference)	Points allocation will be as follow:	Total for criteria 10
		2. Provide a minimum of 1 contactable reference of a client for which surface preparation or similar work was undertaken.		
		3. Bidders must submit signed reference letter(s) from previous clients/employer.		
		4. Note that only completed projects will be accepted for evaluation.		
		Reference letter(s) must indicate any of the above listed projects completed by the bidder.		
		6 Completed projects	10	
		5 Completed projects	8	
		4 Completed projects	6	
		3 Completed projects	4	
3.	Method Statement for Concrete surface removal 5mm deep	It is a requirement that the Contractor will submit a preliminary Method Statement for Concrete surface removal of 5mm deep and removal of debris	Points will allocated as follow:	Total for criteria 10
		Working methods properly addressed.	No=0 Yes=2	
		List of equipment and material required for execution of work addressed.	No=0 Yes=2	
		List of skills and personnel required for execution of work addressed.	No=0 Yes=2	
		Health and Safety Risks identified and provided	No=0 Yes=2	
		Environmental Risks identified and provided.	No=0 Yes=2	

NO.	CRITERIA	DELIVERABLES	WEIGHTING/ JUDGEMENT PER CRITERIA	MAXIMUM POINTS
4.	Method Statement for Concrete surface removal 100mm deep	It is a requirement that the Contractor will submit a preliminary Method Statement for Concrete surface removal of 5mm deep and removal of debris	Points will allocated as follow:	Total for criteria 10
		Working methods properly addressed.	No=0 Yes=2	
		List of equipment and material required for execution of work addressed.	No=0 Yes=2	
		List of skills and personnel required for execution of work addressed.	No=0 Yes=2	
		Health and Safety Risks identified and provided	No=0 Yes=2	
		Environmental Risks identified and provided.	No=0 Yes=2	
5.	Health and Safety Plan	Provide Health and Safety Management System for all the work to be carried out with specific reference	Max 6 Points	Total for criteria 6
		Organogram & legal appointments	Submitted =2 Omitted = 0	
		Baseline Risk assessment and;	Submitted =2 Omitted = 0	
		File structure of documentation	Submitted =2 Omitted = 0	
	TOTAL		Max 46 Min 32	

#### Phase 4:

**Preferential Procurement Regulations, 2017 will be applied to evaluate this proposal as per the applicable threshold value.**

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

Proof includes original and valid B-BBEE Status Level Verification Certificates or certified copies thereof together with their price quotations, to substantiate their B-BBEE rating claims.

Bidders who qualify as EMEs or QSEs are only required to submit a sworn affidavit signed by the company representative and attested by a Commissioner of oaths, confirming its annual total revenue and level of Black ownership.

B-BBEE certificate must be a certified copy and it must be valid on or before the closing date of the invitation in order for a bidder to qualify for the points to be claimed.

The original Sworn Affidavit endorsed or signed off by the commissioner of oath must be the original document not a copy and it must be valid on or before the closing date of the invitation in order for a bidder to qualify for the points to be claimed.

In bids where there is Consortia/Joint Ventures, a consolidated valid B-BBEE certificate must be submitted.

**NB: A Copy of certified copy of B-BBEE status level contributor certificate will not be accepted.**

**NB: A Copy of a sworn affidavit will not be accepted.**

**BIDDERS ARE REQUESTED NOT TO MAKE A COPY OF THE DOCUMENT WHICH HAS ALREADY BEEN CERTIFIED FOR TENDERING PURPOSES!!**

#### 11. REJECTION OF BID

Bids not complying with the above-mentioned requirements and specifications will be regarded as incomplete and will not be considered.

#### 12. RESULTS OF BIDS

Results of non-acceptance of bids will be sent to individual unsuccessful bidders. Particulars of accepted bids are published weekly in the Government Tender Bulletin.

## DEPARTMENT OF WATER AND SANITATION

DWS10-0319 (WTE)

### CONCRETE SURFACE PREPARATION AT THE RAISING OF CLANWILLIAM DAM FOR CONSTRUCTION SOUTH IN THE WESTERN CAPE PROVINCE

#### T2. FORMS AND SCHEDULES TO BE COMPLETED BY TENDERER

##### T2.1 FORMS TO BE COMPLETED

Declaration of Interest (SBD 4)  
Preference Points Claim in terms of the Preferential Procurement Regulation, 2017 (SBD 6.1)  
Declaration of Bidders Past Supply Chain Management Practices (SBD 8)  
Certificate of Independent Bid Determination (SBD 9)  
Instructions to Bidders: Purchases (ANNEXURE 7)

##### T2.2 DOCUMENTS TO BE SUBMITTED

###### (a) Schedules to be submitted:

- Schedule of plant and equipment
- Schedule of similar work undertaken (**Concrete surface preparation**)
- Records and returns shall be reported to the Main Contractor in an agreed format
- Schedule of proposed Sub-Contractors
- Amendments proposed by tenderer

###### (b) Verification documentation to be submitted to confirm 30% sub-contracting

- B-BBEE Status Level Verification Certificate
- Sub-Contractor Status Verification and or Valid Sworn Affidavit
- Pro-forma sub-contracting agreement signed by both parties

###### (c) Contractors Certificate of Registration with CIDB

###### (d) Additional Documentation to be submitted

- Method Statement (PS 5.)
- Pro Forma Health and Safety Plan (PS 11.1)

## ANNEXURE B

**SBD 4**  
**DECLARATION OF INTEREST**

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

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

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

- 2.1 Full Name of bidder or his or her representative \_\_\_\_\_

- 1.2 Identity Number:**

- 1.3 Position occupied in the Company (director, trustee, shareholder<sup>2</sup>, member):**

- 1.4 Registration number of company, enterprise, close corporation, partnership agreement or trust:**

- 1.5 Tax Reference Number:**

- 1.6 VAT Registration Number:**

- 1.6.1 The names of all directors/trustees/shareholders/members, their individual identity numbers, tax reference numbers and, if applicable, employee/PERSAL numbers must be indicated in paragraph 3 below.

"State" means –

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

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

- 2.7 Are you or any person connected with the bidder presently employed by the state?

YES

NO

- 2.7.1 If so, furnish the following particulars:

Name of person/director/trustee shareholder/  
member:

Name of state institution at which you or the  
person connected to the bidder is employed:

Position occupied in the state institution:

Any other particulars:

- 2.7.2 If you are presently employed by the state, did you obtain the appropriate authority to undertake remunerative work outside employment in the public sector?

YES

NO

- 2.7.2.1 If yes, did you attach proof of such authority to the bid document?

YES

NO

***(Note: Failure to submit proof of such authority, where applicable, may result in the disqualification of the bid.)***

- 2.7.2.2 If no, furnish reasons for non-submission of such proof:

2.8 Did you or your spouse, or any of the company's directors/trustees/shareholders/members or their spouses conduct business with the state in the previous twelve months?

YES

NO

2.8.1 If so, furnish particulars:

---

---

---

---

2.9 Do you, or any person connected with the bidder, have any relationship (family, friend, other) with a person employed by the state and who may be involved with the evaluation and or adjudication of this bid?

YES

NO

2.9.1 If so, furnish particulars

---

---

---

---

2.10 Are you, or any person connected with the bidder, aware of any relationship (family, friend, other) between any other bidder and any person employed by the state who may be involved with the evaluation and or adjudication of this bid?

YES

NO

2.10.1 If so, furnish particulars.

---

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---

2.11 Do you or any of the directors/trustees/shareholders/members of the company have any interest in any other related companies whether or not they are bidding for this contract?

YES

NO

2.11.1 If so, furnish particulars:

---

---

---

---

### 3 Full details of directors/trustees/members/shareholders

Full Name	Identity Number	Personal Income Tax Reference Number	State Employee Number/Personal Number

### 4 DECLARATION

I, THE UNDERSIGNED (NAME) \_\_\_\_\_

CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 2 and 3 ABOVE IS CORRECT. I ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Position

\_\_\_\_\_  
Name of bidder

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

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

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

### 1. GENERAL CONDITIONS

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

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

1.2

a) The value of this bid is estimated to not exceed R50 000 000 (all applicable taxes included) and therefore the 80/20 preference point system shall be applicable; or

1.3 Points for this bid shall be awarded for:

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

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

	POINTS
PRICE	80
B-BBEE STATUS LEVEL OF CONTRIBUTOR	20
Total points for Price and B-BBEE must not exceed	100

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

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

### 2. DEFINITIONS

- (a) "B-BBEE" means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;
- (b) "B-BBEE status level of contributor" means the B-BBEE status of an entity in terms of a code of good practice on black economic empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;
- (c) "bid" means a written offer in a prescribed or stipulated form in response to an

invitation by an organ of state for the provision of goods or services, through price quotations, advertised competitive bidding processes or proposals;

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

### 3. POINTS AWARDED FOR PRICE

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

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

**80/20**

**or**

**90/10**

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

Where

$P_s$  = Points scored for price of bid under consideration

$P_t$  = Price of bid under consideration

$P_{\min}$  = Price of lowest acceptable bid

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

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

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

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

## 5. BID DECLARATION

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

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

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

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

## 7. SUB-CONTRACTING

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

(Tick applicable box)

YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

- 7.1.1 If yes, indicate:

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

(Tick applicable box)

YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

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

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

## 8. DECLARATION WITH REGARD TO COMPANY/FIRM

- 8.1 Name of company/firm:.....
- 8.2 VAT registration number:.....
- 8.3 Company registration number:.....

8.4 TYPE OF COMPANY/ FIRM

Partnership/Joint Venture / Consortium

One person business/sole propriety

Close corporation

Company

(Pty) Limited

[TICK APPLICABLE BOX]

8.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES

.....

.....

.....

.....

8.6 COMPANY CLASSIFICATION

Manufacturer

Supplier

Professional service provider

Other service providers, e.g. transporter, etc.

[TICK APPLICABLE BOX]

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

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

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

fraudulent basis, be restricted by the National Treasury from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and

- (e) forward the matter for criminal prosecution.

WITNESSES

1. ....
2. ....

.....  
SIGNATURE(S) OF BIDDERS(S)

DATE: .....

ADDRESS .....

.....

.....

**DEPARTMENT OF WATER AND SANITATION**

**INSTRUCTIONS TO BIDDERS: PURCHASES**

1. The standard bidding forms should not be retyped or redrafted but photocopies may be prepared and used. Additional offers may be made of any item but only on a photocopy of the page in question or on other forms obtainable from the Head of Procurement: Department of Water and Sanitation, Private Bag X313, Pretoria, 0001, Attention: Supply Chain Management Office. Additional offers made in any other manner may be disregarded.
2. Should standard bid forms not be filled in by means of mechanical devices, for example typewriters, ink, preferably black, must be used to fill in bids.
3. Bidders shall check the numbers of the pages and satisfy themselves that none are missing or duplicated. No liability shall be accepted in regard to claims arising from the fact that pages are missing or duplicated.
4. Where items are specified in detail, the specifications form an integral part of the bid document and bidders shall indicate in the space provided whether the items offered are to specification or not.
5. In respect of the paragraphs where the items offered are strictly to specification, bidders shall insert the words "as specified".
6. In cases where the items are not to specification, the deviations from the specifications shall be indicated.
7. The bid prices shall be given in the units shown.
8. With the exception of basic prices, where required, all prices shall be quoted in South African currency.
9. Delivery basis:
  - (a) Supplies which are held in stock or are in transit or on order from South African manufacturers at the date of bid, shall be offered on a basis of delivery into consignee's store or on his site within the free delivery area of the bidder's centre, or carriage paid consignee's station if the goods are required elsewhere.
  - (b) Notwithstanding the provisions of paragraph 9(a), bid prices for supplies in respect of which installation/erection/assembly is a requirement, shall include ALL costs on a basis of delivered on site as specified.
10. Unless specifically provided for in the bid document, no bids transmitted by telegram, telex, facsimile, e-mail or similar apparatus shall be considered.

11. Bids received after the closing date and time are late and will as a rule not be accepted for consideration.
12. Bids will be opened in public, that is, bidders or their representatives may be present. If requested by any bidder, the names of bidders and if practical the total amount of each bid and of any alternative bids, will be read aloud.
13. The period for which offers are to remain valid and binding is indicated in the bid documents and is calculated from the closing date on the understanding that offers are to remain in force and binding until the close of business on the last day of the period calculated and if this day falls on a Saturday, Sunday or public holiday, the bid is to remain valid and binding until the close of business on the following working day.
14. These conditions (ANNEXURE 7) form part of the bid and failure to comply therewith may invalidate a bid.
15. Bidders are requested to promote local content optimally. Bidders who use locally manufactured components, products, equipment and systems, must complete the Declaration Certificate for Local Production and Content Form (SBD 6.2), if attached.
16. After public opening of bids, information relating to the examination, clarification and evaluation of bids and recommendations concerning awards will not be disclosed to bidders or other persons not officially concerned with the process, until the successful bidder is notified of the award. The bid documentation of bidders is considered to be confidential and will under no circumstances be made available to other bidders or other persons.
17. If you are a supplier but not the actual manufacturer and will be sourcing the product(s) from another company, a letter from that company(ies)/supplier(s) confirming firm supply arrangement(s) in this regard, has to accompany your bid and failure to submit the document may invalidate your bid.
  - 17.1 The said company/supplier must confirm that it has familiarised itself with the item description, specifications and bid conditions and if the bid consist of more than one item it should be clearly indicated in respect of which item(s) the supportive letter has been issued.
18. The financial standing of bidders and their ability to manufacture or to supply goods or to render a service may be examined before their bids are considered for acceptance.
19. The Department may, where a bid relates to more than one item, accept such bid in respect of any specific item or items and also accept part of the specified quantity of any specific item or items.
20. The Department is not obliged to accept any bid. The evaluation of a bid will be done in accordance with the Preferential Procurement Policy Framework Act, 2000 (Act no. 5 of 2000) and its regulations.

**ANNEXURE 7**

21. After approval of the bid, both parties must sign a written contract. The Contract Form must be filled in duplicate by both the successful bidder and the purchaser. Both Contract Forms must be signed in the original so that the successful bidder and the purchaser would be in possession of originally signed contracts for their respective records.
- 21.1 Failure of the successful bidder to sign the Contract Form in ink may result in the invalidation of their bid.

Special Conditions of Bid: Purchases  
November 2011



## water & sanitation

Department:  
Water and Sanitation  
REPUBLIC OF SOUTH AFRICA

SBD 8

### DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

This Standard Bidding Document must form part of all bids invited.

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

The bid of any bidder may be disregarded if that bidder, or any of its directors have-

abused the institution's supply chain management system;  
committed fraud or any other improper conduct in relation to such system; or  
failed to perform on any previous contract.

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

Item	Question	Yes	No
4.1	<p>Is the bidder or any of its directors listed on the National Treasury's Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector?</p> <p>(Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the audi alteram partem rule was applied).</p> <p>The Database of Restricted Suppliers now resides on the National Treasury's website(<a href="http://www.treasury.gov.za">www.treasury.gov.za</a>) and can be accessed by clicking on its link at the bottom of the home page.</p>	<input type="checkbox"/>	<input type="checkbox"/>
4.1.1	<p>If so, furnish particulars:</p> <hr/> <hr/>		
4.2	<p>Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)?</p> <p>The Register for Tender Defaulters can be accessed on the National Treasury's website (<a href="http://www.treasury.gov.za">www.treasury.gov.za</a>) by clicking on its link at the bottom of the home page.</p>	<input type="checkbox"/>	<input type="checkbox"/>

4.2.1	If so, furnish particulars:  		
4.3	Was the bidder or any of its directors convicted by a court of law (including a court outside of the Republic of South Africa) for fraud or corruption during the past five years?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.3.1	If so, furnish particulars:  		
4.4	Was any contract between the bidder and any organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.4.1	If so, furnish particulars:  		

**SBD 8**

## **CERTIFICATION**

I, THE UNDERSIGNED (FULL NAME) \_\_\_\_\_

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

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

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Position

\_\_\_\_\_  
Name of Bidder



## **CERTIFICATE OF INDEPENDENT BID DETERMINATION**

- 1 This Standard Bidding Document (SBD) must form part of all bids<sup>1</sup> invited.
- 2 Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).<sup>2</sup> Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.
- 3 Treasury Regulation 16A9 prescribes that accounting officers and accounting authorities must take all reasonable steps to prevent abuse of the supply chain management system and authorizes accounting officers and accounting authorities to:
  - a) disregard the bid of any bidder if that bidder, or any of its directors have abused the institution's supply chain management system and or committed fraud or any other improper conduct in relation to such system.
  - b) cancel a contract awarded to a supplier of goods and services if the supplier committed any corrupt or fraudulent act during the bidding process or the execution of that contract.
- 4 This SBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.
- 5 In order to give effect to the above, the attached Certificate of Bid Determination (SBD 9) must be completed and submitted with the bid:

<sup>1</sup> Includes price quotations, advertised competitive bids, limited bids and proposals.

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

## CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:

---

(Bid Number and Description)

in response to the invitation for the bid made by:

---

(Name of Institution)

do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of: \_\_\_\_\_ that:  
(Name of Bidder)

- 1 I have read and I understand the contents of this Certificate;
- 2 I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
- 3 I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
- 4 Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign the bid, on behalf of the bidder;
- 5 For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
  - (a) has been requested to submit a bid in response to this bid invitation;
  - (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
  - (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder

- 6 The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or consortium<sup>3</sup> will not be construed as collusive bidding.
- 7 In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
- (a) prices;
  - (b) geographical area where product or service will be rendered (market allocation)
  - (c) methods, factors or formulas used to calculate prices;
  - (d) the intention or decision to submit or not to submit, a bid;
  - (e) the submission of a bid which does not meet the specifications and conditions of the bid; or
  - (f) bidding with the intention not to win the bid.
- 8 In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
- 9 The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.

---

<sup>3</sup> 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.

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

---

Signature

---

Date

---

Position

---

Name of Bidder

## **T2.1 FORMS TO BE COMPLETED**

### **T2.2 (a) SCHEDULES TO BE SUBMITTED**

#### **SCHEDULE OF PLANT AND EQUIPMENT**

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

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

DESCRIPTION (type, size, capacity etc)	QUANTITY	YEAR OF MANUFACTURE	PRESENT FINANCIAL LIABILITY

*Attach additional pages if more space is required*

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

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

*Attach additional pages if more space is required*

The Tenderer undertakes to bring onto site without additional cost to the Employer any additional plant not listed but which may be necessary to complete the contract within the specified contract period.

***Failure to complete this form properly and correctly, will lead to the conclusion that the tenderer does not have the necessary plant and equipment resources at his disposal, which will prejudice his tender.***

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

DATE: .....

**SCHEDULE OF SIMILAR WORK UNDERTAKEN (Concrete surface preparation)**

The following is a statement of work of similar nature recently successfully executed by myself / ourselves:

[illegible]

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

DATE: .....

**SCHEDULE OF PROPOSED SUBCONTRACTORS (if Applicable)**

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

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

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

[illegible]

**NOTE:** It is a requirement of this contract that the names of proposed subcontractors for the work listed above must be provided with the Tender.

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

DATE: .....

**CONTRACTOR'S CERTIFICATE OF REGISTRATION WITH CIDB**

***Attached hereto is my / our Contractor's Certificate of Registration with CIDB. My failure to submit the certificate with my / our tender document will lead to the conclusion that I am / we are not registered with the CIDB and therefore not eligible to tender.***

***[Note: Only certificates for the specified category TCE or TSE are acceptable. Applications, or acknowledgement of applications by CIDB, will only be acceptable if it is certain that the application will be successful and a certificate will be issued before award of the contract.]***

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

DATE: .....

## **CONTRACTOR'S HEALTH AND SAFETY DECLARATION**

In terms of Clause 4(4) of the OHSA 1993 Construction Regulations 2003 (referred to as "the Regulations" hereafter), a Contractor may only be appointed to perform construction work if the Employer is satisfied that the Contractor has the necessary competencies and resources to carry out the work safely in accordance with the Occupational Health and Safety Act No 85 of 1993 and the OHSA 1993 Construction Regulations 2003.

To that effect a person duly authorised by the tenderer must complete and sign the declaration hereafter in detail.

### **Declaration by Tenderer**

1. I the undersigned hereby declare and confirm that I am fully conversant with the Occupational Health and Safety Act No 85 of 1993 (as amended by the Occupational Health and Safety Amendment Act No 181 of 1993), and the OHSA 1993 Construction Regulations 2003.
2. I hereby declare that my company / enterprise has the competence and the necessary resources to safely carry out the construction work under this contract in compliance with the Construction Regulations and the Employer's Health and Safety Specifications.
3. I hereby undertake, if my tender is accepted, to provide a sufficiently documented Health and Safety Plan in accordance with Regulation 5(1) of the Construction Regulations, approved by the Employer or his representative, before I will be allowed to commence with construction work under the contract. I hereby agree that my company/enterprise will not have a claim for compensation for delay or extension of time because of my failure to obtain the necessary approval for the said safety plan.
4. I confirm that copies of my company's approved Health and Safety Plan, the Employer's Safety Specifications as well as the OHSA 1993 Construction Regulations 2003 will be provided on site and will at all times be available for inspection by the Contractor's personnel, the Employer's personnel, the Engineer, visitors, and officials and inspectors of the Department of Labour.
5. I hereby confirm that adequate provision has been made in my tendered rates and prices in the bill of quantities to cover the cost of all resources, actions, training and all health and safety measures envisaged in the OHSA 1993 Construction Regulations 2003, including the cost for specific items that may be scheduled in the bill of quantities.
6. I hereby confirm that I will be liable for any penalties that may be applied by the Employer in terms of the said Regulations for failure on my part to comply with the provisions of the Act and the Regulations as set out in Regulation 30 of the Regulations.
7. I agree that my failure to complete and execute this declaration to the satisfaction of the Employer will mean that I am unable to comply with the requirements of the OHSA 1993 Construction Regulations 2003, and accept that my tender will be prejudiced and may be rejected at the discretion of the Employer.
8. I am aware of the fact that, should I be awarded the contract, I must submit the notification required in terms of Regulation 3 of the OHSA 1993 Construction Regulations 2003 before I will be allowed to proceed with any work under the contract.

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

## **ADDITIONAL INFORMATION**

The following documentation to be included after this page:

- Method Statements (PS 5)
- Pro Forma Health and Safety Plan (PS 11.1)

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

DATE: .....

**DEPARTMENT OF WATER AND SANITATION**

**DWS10-0319 (WTE)**

**CONCRETE SURFACE PREPARATION AT THE RAISING OF CLANWILLIAM DAM FOR  
CONSTRUCTION SOUTH IN THE WESTERN CAPE PROVINCE**

**C1. CONTRACT DATA**

C1.1 GENERAL CONDITIONS OF CONTRACT

C1.2 SPECIAL CONDITIONS OF CONTRACT

C1.2.1 GENERAL

C1.2.2 ADMENDMENT TO THE GENERAL CONDITIONS OF CONTRACT FOR CONSTRUCTION WORKS.  
(3rdEdition 2015)(GCC)

C1.3 CONTRACT SPECIFIC DATA

## **C1.1 GENERAL CONDITIONS OF CONTRACT**

The Contract shall be governed by the "General Conditions of Contract for Construction works, Third Edition, 2015, published by the South African Institution of Civil Engineering, Private Bag X200, Halfway House, 1685 and is obtainable from [www.saice.org.za](http://www.saice.org.za). It is supplemented with the Special Conditions of contract for the GCC and the Contract Data for GCC.

The only variations from these General Conditions of Contract shall be given in the Special conditions of Contract below. Whenever there is a conflict, the provisions in the Special Conditions of Contract shall prevail.

## **C1.2 SPECIAL CONDITIONS OF CONTRACT**

### **C1.2.1 GENERAL**

These Special Conditions of Contract (SCC) form an integral part of the Contract. The Special Conditions of Contract shall amplify, modify or supersede, as the case may be, to the extent specified below, and shall take precedence and shall govern.

### **C1.2.2 ADMENDMENT TO THE GENERAL CONDITIONS OF CONTRACT FOR CONSTRUCTION WORKS. (3rd Edition 2015)(GCC)**

The clauses of the Special Conditions hereafter are numbered "SCC" followed in each case by the number of the applicable clause or sub clause in the General Conditions of Contract for Construction Works (3rd Edition 2015), and the applicable heading. A new special condition, that has no relation to the existing clauses, is introduced by a number that follows after the last clause number in the General Conditions, and an appropriate heading.

The pro forma annexures included in the General Conditions of Contract for Construction Works (3rd Edition 2015) are deleted for the purpose of this Contract and are replaced with the forms bound into this document

#### **SCC 1(1) Definitions**

The definitions contained in Clause 1(1) are hereby amended and/or supplemented as follows:

SCC 1.1.1 In the contract defined as:

#### **"CONCRETE SURFACE PREPARATION AT THE RAISING OF CLANWILLIAM DAM FOR CONSTRUCTION SOUTH IN THE WESTERN CAPE PROVINCE"**

the following words and expressions shall have the meanings hereby assigned to them except where the context otherwise requires:

SCC1.1.1.15 "Employer" means the Minister of Water and Sanitation acting on behalf of the Government of the Republic of South African and shall include the Employer's duly authorised representative.

SCC1.1.1.16 "Employers Agent" means Contract Manager DWS: Construction South or any other person appointed from time to time by him and notified in writing to the Contractor. The Employers Agent will appoint an "Employers Representative" to act as Engineer for the purpose of the contract.

SCC 6.5 Day works: Delete in entirety

SCC 8.6.1 Change paragraph to read "Except if provided otherwise in the Contract Data, the Contract, without limiting his obligations in terms of the Contract, shall as part of the documentation required before commencing with the Works in accordance with Clause 5.3.1, at his own cost, effect and maintain the following insurances in the name of the Contractor."

SCC 8.6.1.1 Delete

SCC 8.6.1.1.1 Delete with sub-clauses

SCC 8.6.1.3 Change paragraph to read "Liability insurance that covers the Contractor against its respective liability for the death of, or injury to any person, or loss of, or damage to property arising from or in the course of the fulfilment of the Contract, from the Commencement Date to the issue of the Certificate of Completion for a limit of indemnity covering the risks of the Contractor for an amount not less than stated in the Contract Data."

SCC 8.6.6 Delete

SCC 8.6.7 Delete



**NATIONAL TREASURY**  
**REPUBLIC OF SOUTH AFRICA**

# **GOVERNMENT PROCUREMENT GENERAL CONDITIONS OF CONTRACT**

**July 2010**

## **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.

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# 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 with 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](http://www.treasury.gov.za)

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| <b>4 Standards</b>  | 4.1 | The goods supplied shall conform to the standards mentioned in the bidding documents and specifications.  |
| <b>5 Use of contract documents and information; inspection.</b> | 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.   |
| <b>6 Patent rights</b>  | 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.   |
| <b>7 Performance security</b>                                   | 7.1 | Within thirty (30) days of receipt of the notification of contract award, 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** 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.

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| <p><b>24 Anti-dumping and countervailing duties and rights</b></p> | <p>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.</p> |
| <p><b>25 Force Majeure</b></p>                                     | <p>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.</p> <p>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.</p>  |
| <p><b>26 Termination for insolvency</b></p>                        | <p>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.</p>  |
| <p><b>27 Settlement of Disputes</b></p>                            | <p>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.</p> <p>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.</p> <p>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.</p> <p>27.4 Mediation proceedings shall be conducted in accordance with the rules of procedure specified in the SCC.</p>   |

	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.
<b>28</b>	<b>Limitation of liability</b>	
	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.
<b>29</b>	<b>Governing language</b>	
	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.
<b>30</b>	<b>Applicable law</b>	
	30.1	The contract shall be interpreted in accordance with South African laws, unless otherwise specified in SCC.
<b>31</b>	<b>Notices</b>	
	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.
<b>32</b>	<b>Taxes and duties</b>	
	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.

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|---|---|
| <b>33 National Industrial Participation (NIP) Programme</b> | <b>33.1</b> The NIP Programme administered by the Department of Trade and Industry shall be applicable to all contracts that are subject to the NIP obligation.   |
| <b>34 Prohibition of Restrictive practices</b>              | <b>34.1</b> 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).<br><br><b>34.2</b> 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.<br><br><b>34.3</b> 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. |

**Js General Conditions of Contract (revised July 2010)**

### C1.3 CONTRACT SPECIFIC DATA

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

#### Compulsory Data

Clause	Description	Information
1.1.1.13	Defects and liability period	12 Months
1.1.1.14	The time for practical Completion	24 Months from commencement date
1.1.1.15	The name of Employer	Minister of Water and Sanitation
1.2.1.2	The address of the Employer	Department of Water and Sanitation Private Bag X313 Pretoria 0001
1.1.1.16	The name of the Employers Agent.	Contract Manager DWS Construction South
1.2.1.2	The address of the Employers Agent.	Department of Water and Sanitation Construction South 4-6 Alkmaar Str. Paarl Tel: 021 8720604 Fax: 021 8720593
1.1.1.26	The Pricing Strategy	Re-measurable
3.2.3	Specific approval of the Employer required	5.7.3 Acceleration 5.12.3 Extension of Time 6.3.1 Variations 9.1 Termination of Contract 9.2 Termination by Employer 10 Claims and Disputes
5.1.1.1	Special non-working days	1. Statuary holidays as declared by National or Regional Government. 2. Three weeks annual Builders holiday December to January (dates to be confirmed) 3. The last Friday of every month.
5.8.1	The non-working days	Sundays
5.3.1	The documentation required before commencement with works execution:	Health and Safety plan (Clause 4.3) Initial programme (Clause 5.6) Insurance (Clause 8.6) Method Statements (as required by the applicable Specifications)
5.3.2	The time to submit the documentation required before commencement with Works execution	28 days
5.4.2	The access and possession of the Site	Shall not be exclusive to the Contractor but as set out in the Site Information
5.13.1	The penalty for failing to complete the Works	R 1/14 % of the contact value of outstanding work per day
5.14.1	Requirements for practical completion	On submission of all surface removal records of scheduled work
5.16.3	The latent defect period	12 months
6.2.1	The security to be provided by the contractor	Performance guarantee of <b>10%</b> of Contract sum plus retention of <b>5%</b> of the value of the Works.
6.10.1.5	The percentage advance on materials not yet built into the Permanent Works	0%

6.10.3	The limit of retention money	5% of the Contract Value
8.6.1.3	The limit of indemnity for liability insurance	R 5 000 000.00
10.5.3	The number of Adjudication Members to be appointed by the Contractor	1
10. 7.1	The determination of disputes	By arbitration

## **PART 2: DATA PROVIDED BY THE CONTRACTOR**

<b>Clause</b>	<b>Description</b>	<b>Information</b>
1.1.1.9	The name of the Contractor	
1.2.1.2	The address of the contractor	Physical address:  Postal address:  E-mail address:
6.8.2	The value of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule with the following values:	Fixed X = 0.15 Labour A = ..... Contractors Equipment B = ..... Material C = ..... Fuel D = .....
6.8.2	The definition and source of : "L" is the "labour Index".  "P" is the "Plant Index"  "M" is the "Materials Index"  "F" is the Fuel Index	The Consumer Price Index for the urban area nearest to the Site, as stated in the Contract Data, and as published in the Statistical News Release, P0141, Additional Tables : Table 14 "CPI- all items according to area" of Statistics South Africa and published by SAFCEC from time to time. Producer Price Index applicable to the appropriate Construction equipment as stated in the Contract Data and as published in the Statistical Release P0151, Table 4 of Statistics South Africa and published by SAFCEC from time to time. Producer Price Index applicable to the appropriate materials as stated in the Contract Data and as published in the Statistical Release P0151, Table 3 or Table 4 of Statistics South Africa and published by SAFCEC from time to time. Producer Price Index for Diesel at wholesale level for the coastal area as stated in the Contract Data and as published in the Statistical Release P0151, Table 4 of Statistics South Africa and published by SAFCEC from time to time.

6.8.3	Price adjustments for variations in the costs of special materials are allowed	Special Material(s)	Unit	Rate
		.....	.....	.....
		.....	.....	.....
		.....	.....	.....
		.....	.....	.....

(End of Section C1)

# **DEPARTMENT OF WATER AND SANITATION**

**DWS10-0319 (WTE)**

## **CONCRETE SURFACE PREPARATION AT THE RAISING OF CLANWILLIAM DAM FOR CONSTRUCTION SOUTH IN THE WESTERN CAPE PROVINCE**

### **C2. SCOPE OF WORK**

#### **CONTENT**

<b>C2.1</b>	<b>STANDARD SPECIFICATION</b>
<b>C2.2</b>	<b>PROJECT SPECIFICATION</b>
<b>C2.3</b>	<b>PARTICULAR SPECIFICATIONS</b>
<b>C2.4</b>	<b>VARIATIONS AND ADDITIONS TO SPECIFICATIONS</b>

## **C2.1 STANDARD SPECIFICATION**

### **SS 1 APPLICABLE STANDARD SPECIFICATIONS**

There is no Standard Specification for the anticipated works.

## **C2.2 PROJECT SPECIFICATION**

### **CONTENT**

#### **PS 1. PROJECT DESCRIPTION**

#### **PS 2. LOCATION AND ACCESS TO SITE**

#### **PS 3. SCOPE OF WORK**

#### **PS 4. FACILITIES**

PS 4.1 Site office and storage area

PS 4.2 Accommodation for employees

PS 4.3 The supply of water and electrical power

#### **PS 5. METHOD STATEMENTS**

#### **PS 6. PROGRAM**

PS 6.1 Program requirements

PS 6.2 Progress Meetings

#### **PS 7. WORKING TIMES**

PS 7.1 Deliveries

PS 7.2 Sunday Working

PS 7.3 Last Friday of Month

PS 7.4 Builders Holiday and Public Holidays

PS 7.5 24 Hour Working Days

#### **PS 8. PAYMENT**

#### **PS 9. RECRUITMENT**

#### **PS 10. QUALITY MANAGEMENT**

#### **PS 11. HEALTH AND SAFETY**

PS 11.1 General

PS 11.2 Audits

PS 11.3 Health and Safety Representative

PS 11.4 First Aid Provisions

PS 11.5 Accident Reporting

PS 11.6 Workman's Compensation Act

#### **PS 12. ENVIRONMENTAL REQUIREMENTS**

PS 12.1 General

PS 12.2 Protection of Rivers, Streams and Watercourses

PS 12.3 Refuse and Waste Control

PS 12.4 Protection of Flora

PS 12.5 Protection of the Fauna

#### **PS 13. INFORMATION TO BE SUBMITTED BY BIDDER**

## C2.2 PROJECT SPECIFICATION

### PS 1 PROJECT DESCRIPTION

The Department of Water and Sanitation's Construction Division has been appointed to undertake the raising of the Clanwilliam dam.

The raised dam wall will be approximately 370 m in length and 49 m in maximum height. At full supply level the reservoir will cover a surface area of approximately 2 022 ha and capacity of 344,3 million cubic metre. The works include addition of concrete on the downstream side, extending the apron, construction of a free standing intake tower, river outlet control house, a power generating house, short tunnel and coffer dam works on the upstream side, as well as various other pipe outlet structures on the downstream side. This work must be done without interfering with the day to day operation of the dam.

### PS 2. LOCATION AND ACCESS TO SITE

The dam site is situated on the Olifants river, in the Western Cape, approximately 2 km South- West of Clanwilliam town in the Western Cape Province.

The site is immediately next to the N7 and accessed through a controlled gate. The gravel site roads will be regularly maintained but could get challenging under abnormal rainfall conditions

### PS 3. SCOPE OF WORK

The contract requires the removal of material from the existing concrete (surface preparation), on the downstream face of the Clanwilliam dam as well as the removal of debris to two depths as follow:

1. **Concrete removal up to 5 mm deep** at the planned Sliding Joint sections on the downstream side of the existing dam wall by using sand blasting, high pressure water or a similar proposed method.
2. **Concrete removal of up to 100mm deep** at the planned Fixed Joint sections on the down-stream side of the existing dam wall using a proposed method.

The work will be carried out at the, Left bank Spillway and Right bank. Refer to the attached drawings (CWD 0102, CWD 2302, CWD 2151, CWD 2153 and 2154) for more detail and dimensions.

Figure 1: Schematic layout indicating types and position of concrete surface removal requirements



It must be noted that most of the work will be carried out at height and provision must be made for safe working platforms to perform the work.

It is a requirement that the bidder needs to mobilize with the required plant to perform a 2m x 2m test sections for each of two removal methods (5mm and 100mm) with and without vacuum debris removal or similar proposed methods as described in the initial Method Statement to be submitted with the bid. This item will be priced separately as per Schedule of Quantities.

Bond strength tests will be done for each type of surface removal method by an approved laboratory. (Tests will be arranged by the Main Contractor). The bond strength results will be used to select the removal method where upon a detail method statement will be finalized for approval by the Employer.

The final extent of the contract will depend on the results of concrete surface removal tests and the effectiveness of the proposed concrete surface removal procedures. The quantities are considered to be a reasonable estimate of the expected work to be done under this contract.

In practice however, if there are areas where less concrete surface removal is required and other areas where more concrete surface removal is required, not all work as described in this bid will be undertaken.

The Employer also reserves the right not to award all components of the work described in this document.

No claim for additional costs shall be considered in the event of certain components of work specified not being undertaken nor for quantities that deviate significantly from the estimated quantities.

Due to the nature of the restrictions of the project, multiple establishments may be required.

#### **PS 4. FACILITIES**

##### **PS 4.1 Site office and storage area**

A storage area of 25m by 25m, to the west of the N7 will be provided as part of the main site establishment area. If the Contractor requires more area or any other area it must be specified in his document and be negotiated with the Main Contractor.

A Site Office and suitably positioned areas for use by his / her workers on site during resting and eating periods and storage for equipment and plant and must be provided for by the successful Bidder.

##### **PS 4.2 Accommodation for employees**

No housing is available for the contractor's employees and the contractor shall make his / her own arrangements to house his / her employees and to transport them to the site. No informal housing or squatting shall be allowed on the site.

##### **PS 4.3 The supply of water and electrical power**

The Main Contractor will supply only potable water to the sub-contractors yard for human consumption. The Contractor shall make his own arrangements to provide his own power supply. Failure or interruption of the power supply shall not relieve the Contractor of any of his obligations under the Contract. required in the performance of its duties

#### **PS 5. METHOD STATEMENTS**

It is a requirement of this bid that a detail method statement must be provided with full details regarding working methods, equipment and materials requirements, the Health and Safety Risks anticipated and environmental protection of water sources.

**The above method statements must be submitted with the tender to evaluate the ability of the Contractor to perform the work according to specification.**

#### **PS 6. CONSTRUCTION PROGRAMME**

##### **PS 6.1 Program requirements**

A construction programme in Construction Computer Software for Windows (CCS) format, used by the Main Contractor for the construction programming of the Clanwilliam dam will be used to determine the requirements and work areas.

From the contractual programme the Contractor shall make provision for:  
An average steel fixing rate of 8 tonnes of steel to be fixed within one week;  
To complete cutting and bending within a period of two weeks from the date of receiving a bending schedule.

The Contractor shall take all necessary and required steps to ensure that his / her staff and personnel adhere to the construction programme requirements.

The Contractor shall not be allowed extension of time due to any mechanical failure of his / her equipment; provision must be made for standby equipment.

## **PS 6.2 Progress Meetings**

The Contractor could be requested to attend weekly or monthly site meetings with the Main Contractor where the Contractor is required to report on his progress and discuss relevant issues.

## **PS 7. WORKING TIMES**

### **PS 7.1 Deliveries**

Deliveries may be made during working hours: 06h30 to 17h00, but not on the following days or periods:

- (i) Saturdays 12h00 to Mondays 07h00.
- (ii) All public holidays.
- (iii) The period 11 December to 9 January.

Unless otherwise agreed before delivery.

Each consignment will be delivered to the designated store yard at the site, accompanied by the necessary delivery documents, stating the tender number, item description and quantity delivered.

### **PS 7.2 Sunday Working**

Sunday work shall not be permitted except for necessary maintenance, repairs and emergencies and shall only be undertaken with the prior written approval of the Main Contractor.

### **PS 7.3 Last Friday of Month**

The last Friday of the month is regarded as the pay day of the Main Contractor and Engineer's personnel. This is a non-working weekend for Main Contractor and Engineer's personnel, and the Contractor will only be allowed to work with special permission on this day.

### **PS 7.4 Builders Holiday and Public Holidays**

The site will close for the end of the year's Builders Holiday period. Work will not normally be permitted on Public Holidays, except when approved by the Main Contractor.

### **PS 7.5 24 Hour Working Days**

The Contractor could be requested to perform work at night. Responsible and qualified supervisory staff shall always be present and sufficient light must be available to conduct the work safely.

## **PS 8. PAYMENT**

Payments will be made monthly on receipt of specified tax invoices.

Payment will not be made for consignment unless supported by delivery notes duly signed by the official checking the delivery.

Escalation will only be paid if stipulated in the Special Conditions of Contract.

Payment will be done within 30 days of receipt of original invoice by depositing the payment directly into the bank account of the successful Tenderer. No cash payment or cheque payment will be done.

## **PS 9. RECRUITMENT**

The Labour Desk will be established by the Employer.

The Labour Desk will be responsible for the recruitment of local labour.

**The Contractor shall advise the labour desk in writing of the numbers of each category of temporary workers, which is required, and the period for which they are required.**

The Contractor shall pay his employees and shall ensure that his Sub-contractors pay their employees rates of remuneration not less than prescribed by legislation and applicable to the area of the Works and shall observe conditions of employment which are no less favourable than those which are customary in the area in which the Works are to be constructed for those trades and occupations involved in the fulfilment by the Sub-Contractor of his obligations under the Contractor.

The Sub-Contractor shall also practice and ensure that his Sub-contractors practice a policy of equal remuneration, conditions of employment and benefits for people of equal skills and productivity.

## **PS 10. QUALITY MANAGEMENT**

The Contractor shall keep accurate daily records detailing work carried out on the Works and shall submit them to the Main Contractor prior to the weekly and or monthly progress meeting or at such other times as the Main Contractor may require. The records shall include the following for each Portion of the Works separately and in sufficiently detail to establish the person- hours and equipment hours expended:

- Extent of work done;
- The numbers of each category of workmen and supervising staff;
- The numbers and types of Contractor's Equipment used;
- The time and duration of any significant delays or breakdowns of any Contractor's Equipment; and
- Any other events relevant to progress of the Works.

Records and returns shall be reported to the Main Contractor in an agreed format .

## **PS 11. HEALTH AND SAFETY**

### **PS 11.1 General**

The Contractor shall ensure that only competent personnel are employed in operations involving particular skills affecting the quality of the Works. Should the competence of any member of the Contractor's workforce be in doubt, the Main Contractor may order that the member be sent for additional training at the Contractor's account and/or that member be replaced with a competent person to perform the work.

It will be required from the contractor to work on heights on the project.

For this contract the Contractor will be the mandatory of the Main Contractor which means that the Contractor, as employer in his own right in respect of the contract, will be responsible for all the duties and obligations of an employer as set out in the Act(OHSA 1993) and the Construction Regulations 2003. Furthermore, the Contractor shall comply with any additional current statutory requirements of any relevant Government Departments regarding health and safety and specifically environmental health issues.

Nothing specified in this document shall relieve the Contractor of any obligations or responsibilities with regard to health and safety responsibilities.

Where safety precautions are not being observed, the Main Contractor may order the Contractor to comply with minimum safety requirements at the Contractor's expense, and compliance with such an order will not absolve the Contractor from any of his responsibilities and obligations under the Contract.

Before commencement of work under the contract the Contractor shall:

1. **Enter into an agreement with the Main Contractor** (Client) to confirm his status as mandatory (employer) for the contract under consideration.
2. **Submit a Health and Safety Plan to the Main Contractor** within 28 days after the Commencement Date. The Contractor shall immediately implement the policy and any amendments, and keep it in operation for the full duration of the Contract.
3. **Submit a risk assessment of the contract works** as part of the Health and Safety Plan and which is to include;
  - (i) Identification of the risks and hazards;
  - (ii) Analysis and evaluation of the risks and hazards identified;
  - (iii) A documented plan of safe work procedures;
  - (iv) A monitoring plan; and
  - (v) A review plan.

4. **Undergo compulsory Site Safety and Environmental Induction training** by all personnel who will be performing supervisory work and work related to the work under this contract before starting with any work on site.

The Contractor is required to keep health and safety records (which shall include audit reports) onsite in an orderly filing system which shall be handed over to the Employer on completion of construction.

Failure by the Contractor to comply with safety requirements will entitle the Main Contractor to reduce payment of the relevant Bill of Quantity items and/or order a temporary halt of work within the affected areas until the specified requirements are met, without any extension of time being granted and without any additional payment

Refer to CWD01 HS Health and Safety Specification in the Particular Specification Document.

**A Pro-Forma Health and Safety plan must be submitted with the Tender.**

#### **PS 11.2 Audits**

The Contractor shall arrange for health and safety audits at monthly intervals to be carried out. The results and details of these audits shall be submitted to the Main Contractor within the first week of the next month.

The Main Contractor will monitor compliance by the Contractor with the Health and Safety Policy by means of Audits, and may give instructions for improvements. The Contractor shall note that independent health and safety audits (or if considered suitable by the Main Contractor combined audits with the Contractor's auditor) will be carried out as considered necessary by the Main Contractor.

#### **PS 11.3 Health and Safety Representative**

The Contractor shall appoint a Health and Safety Representative on the commencement of the Works. The Health and Safety Representative shall carry out regular and random checks of all parts of the Site where work is taking place.

#### **PS 11.4 First Aid Provisions**

The Contractor shall provide a first aid station. The Contractor shall institute and operate a basic first aid training programme to ensure that at least each foreman or work crew leader is trained in first aid and possesses a valid certificate to that effect issued by the Red Cross Society of South Africa, or equivalent qualification within 3 months of his appointment. There shall be a person certified in first aid in each work crew.

#### **PS 11.5 Accident Reporting**

The Contractor, through the Health and Safety Representative shall keep the Main Contractor informed at the time, or as soon thereafter as is practical but not later than 12 hours, of any occurrence during the course of work, whether on or off the Site, if the said occurrence affected or may have affected the health or safety of any person employed on the Site or of any member of the public.

The Contractor shall submit to the Main Contractor at the end of each month reports and statistics in spread sheet format approved by the Main Contractor on all accidents involving any person employed on or visiting the Works.

#### **PS 11.6 Workman's Compensation Act**

By accepting the Contract, the Contractor warrants that all his and his Sub-Contractor's workmen are covered in terms of the Compensation for Occupational Injuries and Diseases Act (Act no 130 of 1993) which covers shall remain in force whilst any workman is present on the Site.

### **PS 12. ENVIRONMENTAL REQUIREMENTS**

#### **PS 12.1 General**

The Contractor shall take full responsibility for protecting the natural environment and eliminating or minimising the negative impacts of construction on the environment during construction and adhere to the requirements as per the **Raising of Clanwilliam - Baseline Environment Plan.**

#### **PS 12.3 Refuse and Waste Control**

The management of solid waste on site shall be strictly controlled and monitored. The Contractor shall adhere to and implement the following:

- Labelled recycling bins shall be used and waste separated where possible. In addition, a recycled-material collection schedule shall be established and the bins shall be collected regularly;
- Eating areas for the construction staff shall be designated and supplied with waste bins to control litter;
- No on-site burying or dumping or unauthorised burning of any waste materials, vegetation, litter or refuse shall occur;
- Organic waste refuse from food preparation and eating areas shall be collected and removed daily. Organic Waste shall be disposed of as per Domestic Waste.
- Building/Construction waste rubble shall be disposed of by burying in the dam basin in borrow pits, at a site and in such a way as approved by the Main Contractor.
- Scrap metal shall be disposed of offsite.
- Used oil and grease shall be removed from site and sold to an approved used oil recycling company.

### **PS 13 INFORMATION TO BE SUBMITTED BY BIDDER.**

The following information must be submitted with the tender to evaluate the ability of the Contractor to perform the work according to specification.

- Method statements must be submitted with the tender to evaluate the ability of the Contractor to perform the work according to specification. (PS 5.)
- A Pro-Forma Health and Safety plan must be submitted with the Tender.(PS11.1)

**C2.3    PARTICULAR SPECIFICATIONS**

- C2.3.1   CWD 01SC      General Surface Preparation**
- C2.3.2   CWD 01HS      Health and Safety (PS 11)**
- C2.3.3   Environmental Management Program (PS 12)**

**PARTICULAR SPECIFICATION CWD01 SC**

**GENERAL**

## **INDEX TO PARTICULAR SPECIFICATION CWD01 SC**

### **CWD01SC 1 SCOPE**

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### **CWD01SC 3 MEASUREMENT AND PAYMENT**

#### **CWD01SC 3.1 Measurement**

- CWD01SC 3.1.1 Method of Measurement, All Sections of the Schedule

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- CWD01SC 3.3.1 Establishment of Facilities for Contractor on Site
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- CWD01SC 3.4.1 Supervision for Duration of Construction
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#### **CWD01SC 3.5 Scheduled Value-related Items**

- CWD01SC 3.5.1 Test Section for concrete surface removal
  - CWD01SC 3.5.1.1 Removal of concrete surface material to 5mm deep
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- CWD01SC 3.5.2 Test Section for removal of waste from concrete surface removal
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  - CWD01SC 3.5.2.2 Waste Removal from 100mm deep surface removal
- CWD01SC 3.5.3 Test Section for concrete surface removal
  - CWD01SC 3.5.3.1 Removal of concrete surface material to 5mm deep
  - CWD01SC 3.5.3.2 Removal concrete of surface material to 100mm deep
- CWD01SC 3.5.4 Test Section for removal of waste from concrete surface removal
  - CWD01SC 3.5.4.1 Waste Removal from 5mm deep surface removal
  - CWD01SC 3.5.4.2 Waste Removal from 100mm deep surface removal

## GENERAL

### CWD01SC 1 SCOPE

This specification covers general requirements applicable to all the supporting activities required to deliver the required products within specification to complete the Works.

### CWD01SC 2 INTERPRETATIONS

#### CWD01SC 2.1 Application

Each standard referred to in a Standardised or Particular Specification shall be deemed to be the latest edition, including all amendments issued by the relevant body, published three calendar months or more before the closing date for receipt of tenders.

#### CWD01SC 2.2 No Limitation by Description

Nothing appearing in the Specification, Drawings or Schedule shall limit the obligations and liabilities of the Contractor, the Engineer or the Employer under the Conditions of Contract.

#### CWD01SC 2.3 Approval

No approval of any material or plant and its operation, or of any construction procedure to be used, will imply any relaxation of the requirements governing the quality of the materials or of the finished work, or relieve the Contractor of his responsibilities under the Contract.

### CWD01SC 3 MEASUREMENT AND PAYMENT

#### CWD01SC 3.1 Measurement

##### CWD01SC 3.1.1 Method of Measurement, All Sections of the Schedule

Measurement shall be the net actual quantity of each item and the method of measurement shall be in accordance with the Bill of Materials or other applicable schedules.

#### CWD01SC 3.2 Payment

##### CWD01SC 3.2.1 Fixed-charge and Value-related Items

The sum tendered for each fixed-charge and value-related item will be paid in a single payment in terms of the first progress certificate issued after the Contractor's obligations in respect of that item have, in the opinion of the Engineer, been discharged.

##### CWD01SC 3.2.2 Time-related Items

Payment for time-related items will be effected as follows only after payment for the relevant fixed-charge item has been made. Payment of incremental amounts (calculated by the division of the remainder of the tendered sum by the number of months required to complete the Site activities for which the relevant sum was tendered) will be authorised in each of the subsequent progress certificates until the sum tendered has been paid.

##### CWD01SC 3.2.3 Withholding of Certification for Payment for Time related Items by the Engineer

- a. Should the Contractor fail to continue to provide all or part of the services or to meet all or part of the obligations and liabilities required of him in a particular period in respect of any time-related item, certification for payment of all or part of the relevant incremental amount for that item may be withheld until the required service has been provided or the obligation or liability has been discharged.

- b. Should the Contractor fail to continue entirely to provide all or part of the continuing services or to meet all or part of the continuing obligations and liabilities required of him in respect of a time-related item, the amount or part of the amount for the item will be omitted from the certificates and the total amount of the Contract reduced accordingly.

### **CWD01SC 3.3 Scheduled Fixed-charge Items**

CWD01SC 3.3.1 Establishment of Facilities for Contractor on Site Unit: Sum

The sums shall cover the cost of providing, establishing and commissioning on the Site these facilities adequately equipped to allow the work to commence and to proceed to completion as required in terms of the Contract.

CWD01SC 3.3.2 Removal of Site Establishment Unit: Sum

The sum shall cover the cost of the demolition on and the removal from the surface of the Site of all items established to complete works and shall provide for the making good and the restoring of the Site to the satisfaction of the Engineer.

CWD01SC 3.3.3 Temporary de-establishment Unit: Sum

The sum shall cover the cost of discontinue work on instruction due to the phased availability of work place, including removal of equipment and personnel if necessary.

CWD01SC 3.3.4 Re-establishment after temporary de-establishment Unit: Sum

The sum shall cover the cost of re-establishment after temporary de-establishment, including return of equipment and personnel.

### **CWD01SC 3.4 Scheduled Time-related items**

CWD01SC 3.4.1 Supervision for Duration of Construction Unit: Sum

The sum shall cover the costs of on-site supervision and such local administration and quality control as the Contractor considers necessary to full fill the requirements for the proper completion of the Works, and shall cover the cost of the salaries, wages and allowances, and of transport

CWD01SC 3.4.2 Health and Safety and Environmental Unit : Sum

This cost will cover all costs incurred to full fill the legislative requirements of the Occupational Health and Safety Act and regulations and other related legislation. The cost of a Health and Safety Officer and up keeping of records and registers and audits as specified.

### **CWD01SC 3.5 Scheduled Value-related Items**

CWD01SC 3.5.1 Test Section for concrete surface removal Unit : Sum

The rates shall include full compensation for establishing and de-establishment of the equipment, plant , material, supervision and personnel required to perform the removal of surface material from a 2m by 2m test section to prove the effectiveness of the method statement submitted with the bid documentation and separated for payment as follow::

CWD01SC 3.5.1.1 Removal of concrete surface material to 5mm deep Unit : Sum

CWD01SC 3.5.1.2 Removal concrete of surface material to 100mm deep Unit : Sum

CWD01SC 3.5.2 Test Section for removal of waste from concrete surface removal Unit : Sum

The rates shall include full compensation for establishing and de-establishment of the equipment, plant, material, supervision and personnel required to perform the removal of the waste generated from the surface material, from a 2m by 2m test section to prove the effectiveness of the method statement submitted with the bid documentation and separated for payment as follow:

CWD01SC 3.5.2.1 Waste Removal from 5mm deep surface removal Unit : Sum

CWD01SC 3.5.2.2 Waste Removal from 100mm deep surface removal Unit : Sum

CWD01SC 3.5.3      Test Section for concrete surface removal      Unit : m<sup>2</sup>

The rates shall include full compensation for the equipment, plant, material, supervision and personnel required to perform the removal of surface material as per final approved method statement compiled after test section and separated for payment as follow::

CWD01SC 3.5.3.1      Removal of concrete surface material to 5mm deep      Unit : m<sup>2</sup>

CWD01SC 3.5.3.2      Removal concrete of surface material to 100mm deep      Unit : m<sup>2</sup>

CWD01SC 3.5.4      Test Section for removal of waste from concrete surface removal      Unit : m<sup>2</sup>

The rates shall include full compensation for the equipment, plant, material, supervision and personnel required to perform the removal of the waste generated from the surface material as per final approved method statement compiled after the test section and separated for payment as follow:

CWD01SC 3.5.4.1      Waste Removal from 5mm deep surface removal      Unit : m<sup>2</sup>

CWD01SC 3.5.4.2      Waste Removal from 100mm deep surface removal      Unit : m<sup>2</sup>

**PARTICULAR SPECIFICATION CWD01 HS**

**HEALTH AND SAFETY**

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## 1. SCOPE

This specification covers the health and safety requirements to be met by the Contractor to ensure a continued safe and healthy environment for all workers, employees and subcontractors under his control and for all other persons entering the site of works.

This specification shall be read with the Occupational Health and Safety Act (Act No 85 and amendment Act No 181) 1993, and the corresponding Construction Regulations 2003, and all other safety codes and specifications referred to in the said Construction Regulations.

This safety specification and the Contractor's own Safety Plan as well as the Construction Regulations 2003, shall be displayed on site or made available for inspection by all workers, employees, inspectors and any other persons entering the site of works.

Monitoring of compliance on site shall be to the requirements of the Occupational Health and Safety Act and Regulations as well as the contents of the Health and Safety Plan(s) (H&S Plan(s)) of the Principal Contractor and Contractors.

## 2. APPLICATIONS AND INTERPRETATION

This document is to be read in conjunction with the following:

- Occupational Health and Safety Act (Act 85 of 1993);
- All regulations published in terms of the Occupational Health and Safety Act;
- Construction Regulations (2003);
- SABS (SANS) codes referred to by the Occupational Health and Safety Act;
- Contract documents; and
- Basic Conditions of Employment Act (Act 75 of 1997).

## 3. DEFINITIONS

For the purpose of this contract the following shall apply:

- (a) **"Employer"** where used in the contract documents and in this specification, means the Employer as defined in the General Conditions of Contract and it shall have the exact same meaning as **"client"** as defined in the Construction Regulations 2003. **"Employer"** and **"client"** are therefore interchangeable and shall be read in the context of the relevant document.
- (b) **"Contractor"**, wherever used in the contract documents and in this specification, shall have the same meaning as **"Contractor"** as defined in the General Conditions of Contract.

In this specification the terms **"principal contractor"** and **"contractor"** are replaced with **"Contractor"** and **"subcontractor"** respectively.

- (c) **"Mandatory"**, wherever used in the contract, includes an agent, a contractor or a subcontractor for work, but without derogating from his status in his own right as an employer or user.

For the purpose of this contract the "**Contractor**" will, in terms of the agreement contemplated in section 37(2) of the Occupational Health and Safety Act (OHSA) 1993, be the mandatory, responsible to comply with all provisions of OHSA 1993 and the Construction Regulations (CR) 2003.

- (d) "**Engineer**" where used in this specification, means the engineer as defined in the General Conditions of Contract (GCC). In terms of the Construction Regulations the Engineer may act as agent on behalf of the Employer (the client as defined in the Construction Regulations).
- (e) **Health and Safety Plan** means a document plan, which addresses hazards, identified and includes safe work procedures to mitigate, reduce or control the hazards identified.
- (f) **Health and Safety Specification** means a documented specification of all health and safety requirements pertaining to the associated works on a construction site, so as to ensure the health and safety of persons.
- (g) **Risk Assessment** means a program to determine any risk associated with any hazard at a construction site, in order to identify the steps to be taken to remove, reduce or control such hazard.

Also refer to definitions given in the **Occupational Health and Safety Act (Act 85 of 1993)** and the **Construction Regulations (2003)**.

#### 4. TENDERS

The Contractor shall submit the following with his tender:

- (a) A documented Health and Safety Plan as stipulated in Regulation 5 of the Construction Regulations. The safety Plan must be based on the Construction Regulation 2003 and will be subject to approval by the Employer;
- (b) A declaration to the effect that he has the competence and necessary resources to carry out the work safely in compliance with the Construction Regulations 2003;
- (c) A declaration to the effect that he made provision in his tender for the cost of the health and safety measure envisaged in the Construction Regulations.
- (d) Failure to submit the foregoing with his tender, will lead to the conclusion that the Contractor will not be able to carry out the work under the contract safely in accordance with the Construction Regulations.

#### 5. NOTIFICATION OF COMMENCEMENT OF CONSTRUCTION WORK

After award of the contract, but before commencement of construction work, the Contractor shall, in terms of Regulation 3 of the Construction Regulations (2003), notify the Provincial director of the Department of Labour in writing if the following work is involved:

- (a) Construction work that will exceed 30 days of 300 person-days;
- (b) Working at a height greater than 3,0 m above ground or landings.

The notification must be done in the form of the pro forma included as Annexure A in the Construction Regulations (2003)

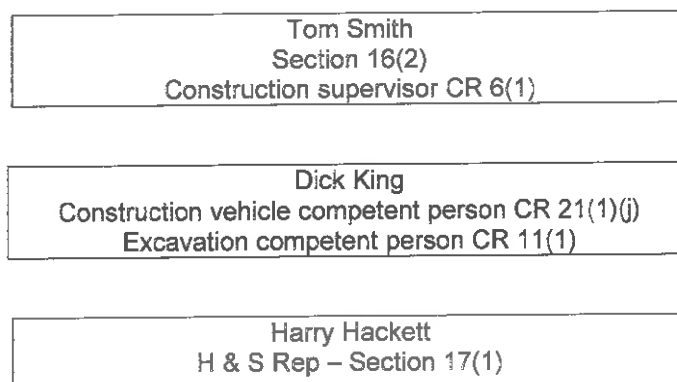
A copy of the notification form must be kept on site, available for inspection by inspectors, Employer, Engineer, employees and persons on site.

## 6. LEGAL DOCUMENTATION / APPOINTMENTS

The following documents must be provided in the Health and Safety Plan:

- Health and Safety Policy;
- Letter of good standing with the Compensation Commissioner, Federated Employers of similar insurer; and
- Health and Safety Organogram (or table, outlining the Health and Safety Team, as well as the appointment(s) they have under the Act and Regulations (reference to specific section/regulation applicable to appointment).

Example of Safety Organogram:



- The competency of each member of Health and Safety Team must be provided and should include knowledge, training, experience & qualifications specific to the work or task being performed.

Signed copies of legal appointments must be provided in the Health and Safety Plan.

The following information must be provided in the Health and Safety Plan:

- Indicate the estimated number of employees to be working on site.
- Indicate the expected number of contractors to be appointed by the Principal Contractor.

## 7. RISK ASSESSMENT

Before commencement of any construction work during the construction period, the Contractor shall have a risk assessment performed and recorded in writing by a competent person. (Refer Regulation 7 of the Construction Regulations 2003).

The risk assessment shall identify and evaluate the risks and hazards that may be expected during the execution of the work under the contract, and it shall include a documented plan of safe work procedures to mitigate, reduce or control the risks and hazards identified.

The risk assessment shall be available on site for inspection by inspectors, Employer, Engineer, sub-contractors, employees, trade unions and health and safety committee members, and must be monitored and reviewed periodically by the Contractor.

Risk assessments of all required activities shall form an integral part of the Health and Safety plan.

All risk assessments shall be conducted in terms of an acceptable methodology, prior to commencement of work, according to the provisions of Regulation 7 of the Construction Regulations (2003) and should cover at least the following:

- Movement of construction vehicles;
- All work near overhead power lines and underground cables;
- Locating underground cables/ existing services;
- Hand excavation of trenches;
- Mechanical excavation of trenches;
- All work carried out inside trenches, including compacting, pipe laying, backfilling etc.;
- Temporary stockpiling and removal of excavated material;
- Transporting material;
- Cutting into existing sewage line;
- All work carried out from scaffolding;
- Exposure to raw sewerage;
- All work carried out on live electrical installations;
- Welding in confined spaces;
- Working at heights;
- Roof work;
- Cladding;
- Formwork / Support work;
- Demolition work;
- Working with hand tools;
- Working with portable electrical tools;
- Asphaltting; AND
- All health hazards that can be present during any of the above activities and should include individual dusts, gases, fumes, vapours, noise, extreme temperatures, illumination, vibration and ergonomic hazards due to any of the above activities.

The above list is by no means exhaustive and should not be limited to these activities but must cover all activities that forms part of the said construction work. Each activity must be split down to individual tasks and all associated hazards identified and listed in the risk assessment. This ensures that critical tasks and subsequent critical hazards are not missed.

The risk assessment to be included in the Health and Safety Plan must clearly indicate:

- The methodology used to do the risk assessments;
- Frequency, likelihood and consequence;
- Breakdown of processes and activities covered; and
- High risks anticipated.

All risk assessments are to be conducted by a competent person as appointed under paragraph 6 of this document. The plan must include a declaration in this regard or the risk assessment must contain the signature(s) of these appointed persons.

## 8. APPOINTMENT OF EMPLOYEES AND SUBCONTRACTORS

### Health and Safety plan

The Contractor shall appoint his employees and any sub-contractors to be employed on the contract, in writing, and he shall provide them with a copy of his documented Health and Safety Plan, or relevant sections thereof. The Contractor shall ensure that all subcontractors and employees are committed to the implementation of his Safety Plan. To this end the Employer, or the Engineer or Agent on his behalf, will, in terms of Regulations 4(1)(d) and 5(3)(c), carry out audits on a regular basis to ensure that the Contractor as well as any sub-contractors in his employ, do implement the Contractor's Safety Plan as well as the Employer's Safety Specifications in accordance with the Construction Regulations.

### Health and safety induction training

The Contractor shall ensure that all employees under his control, including sub-contractors and their employees, undergo a health and safety induction training course by a competent person before commencement of construction work. No visitor or other person shall be allowed or permitted to enter the site of the works unless such person has undergone health and safety training pertaining to hazards prevalent on site. The Employer or the Engineer on his behalf will carry out audits from time to time to ensure compliance by the Contractor.

The Contractor shall ensure that every employee on site shall at all times be in possession of proof of the health and safety induction training issued by a competent person prior to commencement of construction work.

## 9. APPOINTMENT OF SAFETY PERSONNEL

### Construction Supervisor

The Contractor shall appoint a full-time **Construction Supervisor** with the duty of supervising the performance of the construction work. (*Refer Regulation 6(1)*). He may also have to appoint one or more competent employees to assist the construction supervisor where justified by the scope and complexity of the works.

### Constructions Safety Officer

Taking into consideration the size of the project and the hazards or dangers that can be expected, the Contractor shall appoint in writing a full-time or part-time **Construction Safety Officer** if so decided by the Inspector of the Department of Labour. The Safety Officer shall have the necessary competence and resources to perform his duties diligently. (*Refer Regulation 6(2)*). Provision will be made in the schedule of quantities to cover the cost of a dedicated construction safety officer appointed after award of the contract if so ordered by the Engineer.

### Health and safety representatives

In terms of **Section 17 and 18 of the Act (OHSA 1993)** the Contractor, being the employer in terms of the Act for the execution of the contract, shall appoint a **health and safety representative** whenever he has more than 20 employees in his employment on the site of the works. The health and safety representative must be selected from employees who are employed in a full-time capacity at a specific workplace.

The number of health and safety representatives for a workplace shall be at least one for every 100 employees.

The function of the health and safety representative(s) will be to review the effectiveness of health and safety measures, to identify potential hazards and major incidents, to examine causes of incidents (in collaboration with his employer, the Contractor), to investigate complaints by employees relating to health and safety at work, to make representations to the employer (Contractor) or inspector on general matters affecting the health and safety of employees, to inspect the workplace, plant, machinery etc. on a regular basis, to participate in consultations with inspectors and to attend meetings on the health and safety committee.

### **Health and safety committee**

In terms of **Sections 17 and 18 of the Act (OHSA 1993)** the Contractor (as employer), shall establish one or more **health and safety committee(s)** where there are two or more health and safety representatives at a workplace. The persons selected by the Contractor to serve on the committee shall be designated in writing.

The function of the health and safety committee shall be to hold meetings at regular intervals, but at least once every three months, to review the health and safety measures on the contract, to discuss incidents related to health and safety with the Contractor and the inspector, and to make recommendations regarding health and safety to the Contractor and to keep record of recommendations and reports made by the committee.

### **Competent persons**

In accordance with the Construction Regulations the Contractor has to appoint in writing **competent persons** responsible for supervising construction work.

A competent person may be appointed for more than one part of the construction work with the understanding that the person must be suitably qualified and able to supervise at the same time the construction work on all the work situations for which he has been appointed.

The appointment of competent persons to supervise parts of the construction work does not relieve the Contractor from any of his responsibilities to comply with **all** requirements of the Construction regulations.

## **10. RECORDS AND REGISTERS**

In accordance with the Construction Regulations (2003) the Contractor is bound to keep records and registers related to health and safety on site for periodic inspection by inspectors, the Engineer, the Employer, trade union officials and sub-contractors and employees. The following records and registers must be kept on site and shall be available for inspection at all times.

- (a) A copy of the OHSA 1993 Construction Regulation 2003;
- (b) A copy of the Client's Health and Safety Specification;
- (c) A copy of the Contractor's Health and Safety Plan (Regulation 4);
- (d) A copy of the Notification of Construction Work (Regulation 3);
- (e) A health and safety file in terms of Regulation 5(7) with inputs by the Construction Safety Officer (Regulation 6(7));
- (f) A copy of the risk assessment described in Regulation 7;
- (g) A full protection plan and the corresponding records of evaluation and training of employees working from elevated positions as described in Regulation 8;
- (h) A register for recording of findings by the competent person appointed to inspect construction vehicles and mobile plant (Regulation 21(1)(j)).

## 11. CONTRACTOR'S RESPONSIBILITIES

For this contract the Contractor will be the mandatory of the Employer (Client), as defined in the Act (OHSA 1993), which means that the Contractor, as employer in his own right in respect of the contract, will be responsible for all the duties and obligations of an employer as set out in the Act (OHSA 1993) and the Construction Regulations (2003).

Before commencement of work under the contract, the Contractor shall enter into an agreement with the Employer (Client) to confirm his status as mandatory (employer) for the contract under consideration.

The Contractor's duties and responsibilities are clearly set out in the Construction Regulations (2003), and are not repeated in detail but some important aspects are highlighted hereafter, without relieving the Contractor of any of his duties and responsibilities in terms of the Construction Regulations. Safety reminders in the form of a checklist of some of the more important aspects of safety as related to personnel on site, must be displayed at a prominent position at the site (see Annexure 1: Safety on the site of Works).

### *(a) Contractor's position in relation to the Employer (Client) (Regulation 4)*

Section 4 of the Regulations by implication requires that the Contractor shall at all times liaise closely with the Employer, or the Engineer on behalf of the Employer, to ensure that all requirements of the Act and the Regulations are met and complied with.

### *(b) The Principal Contractor and Contractor (Regulation 5)*

The Contractor for the contract under consideration is the equivalent of "Principal Contractor" as defined in Regulation 2(b) of the Construction Regulations, and he shall comply with all the provisions of Regulation 5.

Any subcontractors employed by the Contractor must be appointed in writing, setting out the terms of the appointment in respect of health and safety. An independent subcontractor shall however provide and demonstrate to the Contractor a suitable, acceptable and sufficiently documented health and safety plan before commencement of the subcontract. In the absence of such a health and safety plan the subcontractor shall undertake in writing that he will comply with the Contractor's safety plan, the health and safety specifications of the Employer and the Construction Regulations 2003.

### *(c) Supervision of construction work (Regulation 6)*

The Contractor shall appoint the safety and other personnel and employees as required in terms of Regulation 6 and as set out in paragraph 7 above. Appointment of those personnel and employees does not relieve the Contractor from any of the obligations under Regulation 6.

### *(d) Risk assessment (Regulation 7)*

The Contractor shall have the risk assessment made as set out in paragraph 7 above before commencement of the work, and it must be available on site for inspection at all times. The Contractor shall consult with the health and safety committee or health and safety representative(s) etc. on a regular basis to ensure that all employees, including subcontractors under his control, are informed and trained by a competent person regarding health hazards and related work procedures.

No subcontractor, employee or visitor shall be allowed to enter the site of works without prior health and safety induction training, all as specified in Regulation 7.

*(e) Fall protection (Regulation 8)*

Fall protection, if applicable to this contract shall comply in all respects with Regulation 8 of the Construction Regulations.

*(f) Scaffolding (Regulation 14)*

The Contractor shall ensure that all the provisions of Regulation 14 of the Construction Regulations are complied with. *(Note: Reference in the Regulations to "Section 44 of the Act" should read "Section 43 of the Act")*

*(g) Construction vehicles and mobile plant (Regulation 21)*

The Contractor shall ensure that all construction vehicles and plant are in good working condition and safe for use, and that they are used in accordance with their design and intended use. Workers or operators who have received appropriate training, all in accordance with all the requirements of Regulation 21, shall only operate the vehicles and plant.

All vehicles and plant must be inspected on a daily basis, prior to use, by a competent person and the findings must be recorded in a register to be kept on site.

*(h) Water environments (Regulation 24)*

Where construction work is done over or in close proximity to water, the provisions of Regulation 24 shall apply.

*(i) Housekeeping on Construction sites (Regulation 25)*

Housekeeping on all construction sites shall be in accordance with the provisions of the environment Regulations for workplaces (Government Notice R2281 of 16 October 1987) and all the provisions of Regulation 25 of the Construction Regulations.

*(j) Stacking and storage on construction sites (Regulation 26)*

The provisions for the stacking of articles contained in the General Safety Regulations (Government Notice R1031 of 30 May 1986) as well as all the provisions of Regulation 26 of the Construction Regulations shall apply.

*(k) Fire precautions on construction sites (Regulation 27)*

The provisions of the environment Regulations for Workplaces (Government Notice R2281 of 16 October 1987) shall apply.

In addition the necessary precautions shall be taken to prevent the incidence of fires, to provide adequate and sufficient fire protection equipment, sirens, escape routes etc. all in accordance with Regulation 27 of the Construction Regulations.

*(l) Construction welfare facilities (Regulation 28)*

The Contractor shall comply with the constructions site provisions as in the Facilities Regulations (Government Notice R1593 of 12 August 1988) and the provisions of Regulation 28 of the Construction Regulations.

**(m) Non-compliance with the Construction Regulations (2003)**

The foregoing is a summary of parts of the Construction Regulations applicable to all construction projects.

The Contractor, as employer for the execution of the contract, shall ensure that all provisions of the Construction Regulations applicable to the contract under consideration are complied with to the letter.

Should the Contractor fail to comply with the provisions of the Regulation 3 to 28 as listed in Regulation 30, he will be guilty of an offence and will be liable, upon conviction, to the fines of imprisonment as set out in Regulation 30.

**THE CONTRACTOR IS ADVISED IN HIS OWN INTEREST TO MAKE A CAREFUL STUDY OF THE ACT AND THE CONSTRUCTION REGULATIONS, AS IGNORANCE OF THE ACT AND THE REGULATIONS WILL NOT BE ACCEPTED IN ANY PROCEEDINGS RELATED TO NON-CONFORMANCE TO THE ACT AND THE REGULATIONS.**

**12. TRAINING**

Each Health and Safety Plan shall indicate the following regarding training:

- Name and contents of the following training courses which have to be conducted:
  - Induction Training;
  - Training regarding hazards identified and any corrective measures in place;
  - Training regarding all applicable regulations; and
  - Specific training regarding applicable competencies.
- Attendance registers must be kept as proof of training provided.
- Method of informing visitors and other persons entering the site of hazards prevalent site.
- Method providing personal protective equipment to visitors and non-employees.
- An example of ID training card for each employee (if used).
- Methodology to be used in the issuing and communicating of written instructions/safe work procedures.

**13. GENERAL REQUIREMENTS*****Personal Protective Equipment***

The procedures for issuing and control over PPE shall be indicated in the Health and Safety Plan, as well as the enforcement for the wearing thereof.

***Hired Plant***

The responsibility for the safe condition and use of all hired plant shall be that of the contractor.

***Transport of Employees***

Transport of employees shall be carried out in terms of the National Road Ordinances. The Health and Safety Plan shall detail the arrangements and methods of the transportation of workers.

### **Signs**

The Principal Contractor shall indicate in his Health and Safety Plan the arrangements regarding the posting of danger signs.

### **Certificates of fitness**

The Principal Contractor shall include in his H&S Plan copies of all employees that require medical fitness certificates under the following regulations where applicable:

- Construction Regulations (2003) Regulation 21 – Construction vehicles and Mobile plant operators.

### **Site Visitors Register**

A site visitor's register is to keep on site and steps are to be taken to ensure that all visitors sign the visitor's register before entering the site. A sign should also be provided directing all visitors to report to the site officer.

## **14. MEASUREMENT AND PAYMENT**

### **(a) Principles**

It is a condition of this contract that Contractors, who submit tenders for this contract, shall make provision in their tenders for the cost of all health and safety measures during the construction process. Special reference is made to the following:

#### **i. Safety personnel**

All safety personnel and competent persons referred to in clauses 9 will normally be members of the Contractor's personnel, and no additional payment will be made for the appointment of such safety personnel.

However provision will be made in the schedule of quantities for payment under the contract for a Construction supervisor in terms of Clause 7.1 and for a dedicated Construction Safety Officer in terms of Clause 7.2 on the instruction of the Inspector of the Department of Labour.

#### **ii. Records and Registers**

Provision will be made in the schedule of quantities for payment to the Contractor for the keeping of health and safety-related records and registers as described in Clause 8.

### **(b) Scheduled items**

Payment will be done under :

CWD01SC 5.4.1 Health and Safety and Environment

Unit : Sum

The sum shall cover all the Contractor's time-related costs related to complying with Health and Safety standards and the Environmental Requirements including the appointment of dedicated Construction Supervisor and Health and Safety Officer and up keeping of records and registers.

Payments for these items do not absolve the Contractor from his responsibilities and liabilities in terms of Regulation 30 of the Construction Regulations 2003

## ANNEXURE 1: SAFETY ON THE SITE OF WORKS

The basic day-to-day requirements for safety on the site of works are listed below. Compliance with these aspects does not relieve the Contractor of any of his obligations and responsibilities detailed in Regulations 4 to 28 referred to paragraph 9 of the Safety Specification.

### 1. Fall protection

- (a) All unprotected openings in floors, slabs, hatchways and stairways must be adequately guarded, fenced or barricaded or similar means must be used to safeguard any person from falling through such openings;
- (b) Notices must be placed conspicuously at all openings where the possibility exists that a person might fall through such openings;
- (c) Where roof work is being performed on a construction site, the contractor shall ensure that:
  - (1) No employees are permitted to work on roofs during inclement weather conditions or if weather conditions are a hazard to the health and safety of the employees;
  - (2) Prominent warning notices are to be placed where all covers to openings are not of sufficient strength to withstand any imposed loads and where fragile material exists; and
  - (3) There is suitable and sufficient guard-rails or barriers and toe-boards or other similar means of protection to prevent, so far as is reasonably practicable, the fall of any person, material or equipment.

### 2. Cranes

The Contractor shall ensure that where tower cranes are used, that:

- (a) The tower crane operators are competent to carry out the work safely; and
- (b) The tower crane operators are physically and psychologically fit to work in such an environment by being in possession of a medical certificate of fitness.

### 3. Construction vehicles and mobile plant

- (a) The contractor shall ensure that all construction vehicles and mobile plant; are operated by workers who:
  - (1) Have received appropriate training and been certified competent and been authorized to operate such machinery; and
  - (2) Are physically and psychologically fit to operate such construction vehicles and mobile plant by being in possession of a medical certificate of fitness.
- (b) The Contractor shall furthermore ensure that:
  - (1) No person rides or be required or allowed to ride on any construction vehicle or mobile plant otherwise than in a safe place provided thereon for that purpose;
  - (2) Vehicles used to transport employees have seats firmly secured and adequate for the number of employees to be carried; and
  - (3) When workers are working on or adjacent to public roads, reflective indicators are provided and worn by the workers.

### 4. Use and temporary storage of flammable liquids on construction sites

- (a) The Contractor shall ensure that:
  - Where flammable liquids are being used, applied or stored at the workplace concerned, it is done in a manner that would not cause fire or explosive hazards, and that the workplace is effectively ventilated. Where the workplace cannot effectively be ventilated:

- (i) Every employee involved must be provided with a respirator, mask or breathing apparatus of a type approved by the chief inspector, and
  - (ii) Steps must be taken to ensure that every such employee, while using or applying flammable liquids, uses the apparatus supplied to him or her.
- (b) No person smokes in any place in which flammable liquid is used or stored, and the contractor shall affix a suitable and conspicuous notice at all entrances to any such areas prohibiting smoking;
- (c) An adequate amount of efficient fire-fighting equipment is installed in suitable locations around the flammable liquids store with the recognized symbolic signs.

## **5. Fire precautions on construction sites**

The contractor shall ensure that smoking is prohibited and notices in this regard are prominently displayed in all places containing combustible or flammable materials.

## **6. Construction welfare facilities**

- (a) The contractor shall, depending on the number of workers and the duration of the work, provide at or within reasonable access of every construction site, the following clean and maintained facilities:
  - (1) At least one shower facility for every 15 workers;
  - (2) At least one sanitary facility for every 30 workers;
  - (3) Changing facilities for each sex; and
  - (4) Sheltered eating areas.
- (b) The Contractor shall also ensure that:
  - (1) No horseplay between employees or aggressive or threatening behaviour by anybody is allowed on site;
  - (2) Workers shall wear appropriate protective clothing for particular tasks, including protective eyewear, gloves, boots, ear protection, masks, etc. Workers shall not be allowed to wear loose clothes or footwear.
  - (3) Workers executing tasks in manholes for sewer and storm water systems shall be made aware of the existence of hazardous gasses in closed areas, and shall be issued with masks as necessary. Only specialists shall be allowed to work in gas-filled chambers;
  - (4) Blasting must be done by specialists in accordance with the Explosive Act;
  - (5) Workers shall not be allowed to make open fires on any part of the site, unless in designated areas approved by the health and safety manager;
  - (6) No vehicle or equipment shall be operated on site if it produces noise above 90 decibels, measured at a distance of 10m from the unit;
  - (7) Adequate signage shall be used on site to indicate:
    - Non-smoking areas on the site;
    - Safety exits / emergency exits from buildings under construction;
    - Stairs (temporary and permanent works);
    - Toilets;
    - Fire fighting equipment;
    - Fire assembly points;
    - Fire escapes;
    - Overhead works;
    - Areas where members of the public are not allowed; and
    - First aid facilities.
  - (8) Visitors to the site shall only be allowed to enter the site by pre-determined procedures, including safety induction training. Records of visitors shall be kept in the health and safety files.

## **DEPARTMENT OF WATER AND SANITATION**

**DWS10-0319 (WTE)**

### **CONCRETE SURFACE PREPARATION AT THE RAISING OF CLANWILLIAM DAM FOR CONSTRUCTION SOUTH IN THE WESTERN CAPE PROVINCE**

#### **C2.3.3. ENVIRONMENTAL MANAGEMENT PROGRAM**

The following documents are the Environmental Management Plan:

- REVISED ENVIRONMENTAL MANAGEMENT PROGRAMME FOR THE STRENGTHENING AND RAISING OF CLANWILLIAM DAM
- Approval of the Environmental Management Program (EMP) in terms of the Record of Decision for the Strengthening and Raising of the Clanwilliam Dam and associated re-alignment of certain Secondary Roads

The information and interpretations made in the above mentioned First Engineering Geological Report for Design are provided to assist bidders. No responsibility, for the accuracy of any information contained in this report, is accepted by the Employer. No subsequent claims made by the Contractor for losses or additional costs caused by information contained in the above report or any interpretation thereof will be considered by the Engineer.



**water & sanitation**

Department:  
Water and Sanitation  
REPUBLIC OF SOUTH AFRICA



**REVISED ENVIRONMENTAL  
MANAGEMENT PROGRAMME FOR  
THE STRENGTHENING AND RAISING  
OF CLANWILLIAM DAM**

Report No : 13086-46-Rep-001-EMP

REV 0



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**water & sanitation**

Department:  
Water and Sanitation  
REPUBLIC OF SOUTH AFRICA

# **OLIFANTS-DORING RIVERS THE STRENGTHENING AND RISING OF CLANWILLIAM DAM**

## **ENVIRONMENTAL MANAGEMENT PROGRAMME**

**Revision 0**

**October 2014**



**TLOU INTEGRATED TECH cc.**

*It is better To Trust in the Lord*

*PROJECT DETAILS*

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**Title:** *Revised EMPr for the Strengthening and Raising of Clanwillian Dam*

**Client:** *Department of Water and Sanitation  
Private bag x 313  
Pretoria  
0001*

**Project number:** *WP 0895 WTE*

**Date:** *October 2014*

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*Approved on behalf of the Department of Water and Sanitations:*

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## LIST OF ACROYNYS

Acronym	Description
CA	Competent Authority
DWA	Department of Water Affairs
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
ECA	Environment Conservation Act (73 of 1989)
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMP	Environmental Management Programme in terms of the NEMA
EMPr	Environmental Management Programme in terms of the MPRDA
HIA	Heritage Impact Assessment
MPRDA	Mineral Petroleum Resources Development Act (28 of 2002) as amended
NEMA	National Environmental Management Act (107 of 1998) as amended
NWA	National Water Act (36 of 1998) as amended
S&EIR	Scoping and Environmental Impact Reporting
BPEO	Best Practicable Environmental Option
I&AP	Interested and Affect Party

## GLOSSARY OF TERMS

Term	Description
Best Practicable Environmental Option	Best Practicable Environmental Option means the option that provides the most benefit or causes the least damage to the environment as a whole at a cost acceptable to society in the long term as well as in the short term.
Environment	<p>Environment means the surroundings within which humans exist and that are made up of –</p> <ul style="list-style-type: none"> <li>(i) the land, water and atmosphere of the earth;</li> <li>(ii) micro-organisms, plant and animal life;</li> <li>(iii) any part or combination of (i) and (ii) and the interrelationships among and between them; and</li> <li>(iv) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.</li> </ul>
Pollution	<p>Pollution means any change in the environment caused by –</p> <ul style="list-style-type: none"> <li>(i) substances;</li> <li>(ii) radioactive or other waves; or</li> <li>(iii) noise, odours, dust or heat,</li> </ul> <p>emitted from any activity, including the storage or treatment of waste or substances, construction and the provision of services, whether engaged in by any person or an organ of state, where that change has an adverse effect on human health or well-being or on the composition, resilience and productivity of natural or managed ecosystems, or on materials useful to people, or will have such an effect in the future.</p>
Environmental Aspect	Element of an organization's activities or products or services that can interact with the environment.
Environmental Impact	Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's environmental aspects.
Interested and Affected Party	<p>Interested and Affected Party for the purposes of Chapter 5 of the NEMA and in relation to the assessment of the environmental impact of a listed activity or related activity, means an interested and affected party contemplated in Section 24(4)(a)(v) of the NEMA and which includes –</p> <ul style="list-style-type: none"> <li>a) Any person, group of persons or organisation interested in or affected by such operation or activity; and</li> <li>b) Any organ of state that may have jurisdiction over any aspect of the operation or activity.</li> </ul>
Environmental Assessment Practitioner	Individual responsible for the planning, management, coordination or review of Environmental Impact Assessments, Strategic Environmental Assessments, Environmental Management Programmes or any other appropriate environmental instruments introduced through regulations.

## 1 Introduction

The Department of Water and Sanitation (DWS) (previous Department of Water Affairs) intend to proceed with the implementation of the Strengthening and Raising of the existing Clanwilliam Dam and associated re-alignment of certain secondary roads Project (hereafter referred to as the proposed project). The mandatory Environmental Authorisation Process for the proposed project was concluded with the granting of Environmental Authorisation by the Western Cape Department of Environmental Affairs and Development Planning (WCDEADP). The proposed project was prompted by the opportunity to increase the water-yield of the existing Clanwilliam Dam brought by the necessity to conform with the dam safety requirements stipulated in Chapter 12, Section 123 of the National Water Act (36 of 1998) (NWA) and regulations thereunder. The projected marginal cost of raising over and above the cost of strengthening the dam wall, is such that the raising is considered as economically viable, socially desirable and environmentally acceptable.

The Clanwilliam Dam is an existing impoundment structure (see Figure 1) and was constructed in 1935 prior to the coming into effect of the National Environmental Management Act (107 of 1998) (NEMA), the NWA as well as Specific Environmental Management Acts such as the National Environmental Management: Waste Act (59 of 2008) (NEMWA). Structural changes made to the Clanwilliam Dam to date include raising the dam wall with the addition of 13 crest gates and through the use of pre-stressed cables. The Clanwilliam Dam wall is 43 meters high and the dam has a storage capacity of 124 million m<sup>3</sup> which will be increased to 362 million m<sup>3</sup> with the proposed raising of the dam



Figure 1: View of existing Clanwilliam Dam Wall from western bank

wall.

The activities required for the Strengthening and Raising of the existing Clanwilliam Dam and associated re-alignment of certain secondary roads fall within the ambit of the National Environmental Management Act (107 of 1998) and as such require Environmental Authorisation (EA) before the activities can proceed. The Environmental Impact Assessment carried out for the proposed project was initiated during November 2004, prior to promulgation of the NEMA Environmental Impact Assessment Regulations 2010, as such the EIA Process for the proposed project was carried out in accordance with the EIA regulations (R.1183<sup>1</sup>) promulgated in terms of the Environment Conservation Act (73 of 1989) (ECA). Environmental Authorisation for the proposed project was granted by the WCDEADP on 22 February 2010, allowing the proposed project to be implemented. Prior to the implementation of the Construction Phase a number of conditions provided in the Environmental Authorisation must be met including revising the DWS' generic Environmental Management Programme to ensure that the document is project specific all that EA Conditions are incorporated. The revision and amendment of the EMP<sub>r</sub> for the proposed project will ensure that the management measures provided in the document are adapted to suit the project specific conditions and nature of the receiving environment.

### **1.1 Purpose of the Environmental Management Programme**

The application of the EIA Process, for the proposed project, served as a pre-decision making Environmental Management Tool for determining and evaluating the significance of the environmental consequences that the implementation of the project activities. The environmental consequences (i.e. environmental impacts) and mitigation measures formulated to manage these impacts informed the conditions provided in the EA and consideration of the Application by the WCDEADP. Managing the environmental consequences through preventing or reducing the significance thereof lies in the implementation of the mitigation measures.

The mitigation measures provided in the Environmental Impact Report (titled "Proposed raising of Clanwilliam Dam and associated realignment of affected roads Final

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<sup>1</sup> Environment Conservation Act (73 of 1989) Regulations regarding activities identified under Section 21(1). 1997. (Notice 1183). *Government gazette*. 8261:1, 5 Sept.

Environmental Impact Report”) dated September 2007, have been translated into enforceable EA Conditions and have been incorporated into this EMPr. This document serves as the Revised EMPr for the proposed Strengthening and Raising of the existing Clanwilliam Dam and associated re-alignment of certain secondary roads Project. Furthermore the EMPr is intended to achieve the following primary objectives:

- Conform to the information requirements stipulated in Regulation 33 of the NEMA EIA Regulations 2010 (Government Notice R.543)
- Ensure that environmental management practices are tailored to the site specific conditions are implemented throughout the project lifecycle;
- Ensure that the conditions provided in the EA are translated into management actions, and to report on the measures that have been taken to comply with the EA Conditions;
- Conform to Condition 23 of the Environmental Authorisation issued by the WCDEADP for the proposed project; and
- Ensure that all reasonable measures are taken to prevent the realisation of adverse environmental consequences that be prevented with the implementation of mitigation measures.

## **1.2 Particulars of the Environmental Assessment Practitioner**

In keeping with the requirements of Condition 23 of the Environmental Authorisation granted by the WCDEADP for the proposed project, Tlou Integrated Tech (referred to as “Tlou”) were appointed by the DWS to update and refine the DWS’ Generic Environmental Management Plan which was submitted with the initial EIA Application. In its team, Tlou has included a professional team members from Zitholele Environmental Consulting to look at specialist component of the project. The overall details and competencies of the project team members who contributed to and were instrumental in preparing this EMPr is provided in Table 1.

**Table 1-1: Details of Project Team Members**

Team Member	General responsibilities	Qualifications	Core competencies under this framework appointment
Isabel Radebe	Professional Staff – Project management	Registered Pr Tech Eng and Post Grad. Dipl in Business Management from University of Johannesburg and University of Natal.	<i>EIA Project Manager</i> , Review of deliverables, EIA Project and financial management, Client Liaison, EIA reporting, Management of specialists.
Dr Mathys Vosloo	Professional Staff – Environmental Assessment Practitioner	Ph.D. - Zoology (Nelson Mandela Metropolitan University, 2012). SACNASP, Pr Sci.Nat registered	<i>EIA Project Manager</i> , Review of deliverables, EIA Project and financial management, Management of GIS, Client Liaison, EIA reporting, Management of specialists, Technical mentoring, Management of statutory processes and risk assessment
Mrs Shandr� Laven	Professional Staff – Environmental Assessment Practitioner	BSc Hons. – Environmental Science (North West University, 2009). SACNASP, Cand.Sci.Nat. registered	

All existing feasibility, preliminary design, Ecological Water Requirements (EWR), and EIA documents was used to prepare the EMP<sub>r</sub>. These documents were provided by project proponent upon the appointment of Tlou. The conditions provided in the EA called for the development of mitigation measures aimed at protecting groundwater resources and the appointment of a Heritage Expert to assist with the recording of heritage resources and implementation of mitigation measures.

### 1.3 Document Roadmap – Rationale for document structure

The regulations promulgated under the ECA which related to EIA did not make any provision for the inclusion or contents of an Environmental Management Plan in the submissions made to the Competent Authority. Although the Environmental Impact Assessment Process for the proposed project was carried out in accordance with the EIA regulations (R.1183) promulgated in in terms of the ECA this EMP<sub>r</sub> has been structured to conform to the requirements provided in Regulation 33 of the NEMA EIA Regulations 2010.

### 1.3.1 Content of EMPr – Regulation 33 of NEMA EIA Regulations 2010

Specific provisions which are included in Regulation 33 of the Environmental Impact Assessment (EIA) Regulations 2010 (R.543<sup>2</sup>) relating to the contents of an EMPr is provided in Table 1-2. It should be noted that obligations imposed by the EMPr are legally binding in terms of environmental statutory legislation and in terms of the additional conditions to the general conditions of contract that pertain to this project. Non-compliance to environmental law is a criminal offence and if prosecuted Eskom will be liable for any environmental damage incurred.

**Table 1-2: Document Roadmap**

DOCUMENT ROADMAP		
Regulation 33 of the EIA Regulations (2010)	Description of Regulation	Relevant chapter of document
Regulation 33(a)	details of – (i) the person who prepared the environmental management programme; and (ii) the expertise of that person to prepare an environmental management programme;	Part 1.2
Regulation 33(b)	information on any proposed management or mitigation measures that will be taken to address the environmental impacts that have been identified in a report contemplated by these Regulations, including environmental impacts or objectives in respect of— (i) planning and design; (ii) pre-construction and construction activities; (iii) operation or undertaking of the activity; (iv) rehabilitation of the environment; and (v) closure, where relevant.	Part 6
Regulation 33(c)	a detailed description of the aspects of the activity that are covered by the draft environmental management programme;	Part 6
Regulation 33(d)	an identification of the persons who will be responsible for the implementation of the measures contemplated in paragraph (b);	Part 4
Regulation 33(e)	proposed mechanisms for monitoring compliance with and performance assessment against the environmental management programme and reporting thereon;	Part 7
		Part 8
Regulation 33(f)	as far as is reasonably practicable, measures to rehabilitate the environment affected by the undertaking of any listed activity or specified activity to its natural or predetermined state or to a land use which conforms to the generally accepted principle of sustainable development, including, where appropriate, concurrent or progressive rehabilitation measures;	Part 6.17

<sup>2</sup> South Africa. 2010. National Environmental Management Act, 1998 (Act No. 107 of 1998) Environmental Impact Assessment Regulations, 2010. (Notice 543). *Government gazette* 33306:3, 18 June

DOCUMENT ROADMAP		
Regulation 33 of the EIA Regulations (2010)	Description of Regulation	Relevant chapter of document
Regulation 33g)	a description of the manner in which it intends to— (i) modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation; (ii) remedy the cause of pollution or degradation and migration of pollutants; (iii) comply with any prescribed environmental management standards or practices; (iv) comply with any applicable provisions of the Act regarding closure, where applicable; (v) comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable;	Part 8
Regulation 33(h)	time periods within which the measures contemplated in the environmental management programme must be implemented;	Part 6
		Part 7
		Part 8
Regulation 33(i)	the process for managing any environmental damage, pollution, pumping and treatment of extraneous water or ecological degradation as a result of undertaking a listed activity;	Part 8.5
Regulation 33(j)	an environmental awareness plan describing the manner in which— (i) the applicant intends to inform his or her employees of any environmental risk which may result from their work; and (ii) risks must be dealt with in order to avoid pollution or the degradation of the environment;	Part 8.1
Regulation 33(k)	Where appropriate, closure plans, including closure objectives.	Not Applicable

### 1.3.2 Incorporation of EA Conditions

Where the management and mitigation measures provided in this EMP serves to conform and respond to a specific condition provided in the EA, it will be indicated as such.

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## 2 Project Description

### 2.1 Project Background and Description

The Clanwilliam Dam was built in 1935 and is situated on the Olifants River adjacent to the N7 in close proximity to the town of Clanwilliam in the Western Cape Province of the Republic of South Africa. Dam safety investigation concluded that the Clanwilliam Dam requires remedial work for dam safety reasons. Specific concerns are related to the pre-stressed cables having lost their shear resistance ability and there also being problems with alkali-aggregate reaction. As a result, the hazard and risk levels for the dam fall within an unacceptable range according to current DWS standards.

The Department of Water Affairs has received a conditional Environmental Authorisation for the raising of the existing Clanwilliam Dam by 15 m from 43 m to 58 m on 12 May 2009. The Environmental Authorisation for the dam raising requires that a comprehensive and detailed Environmental Management Programme for minimising and mitigating impacts be compiled and approved prior to the start of construction.

The proposed strengthening and raising of the Clanwilliam Dam Wall will entail the following overarching project activities:

- The strengthening of the dam wall by the addition of a concrete apron on the downstream face of the wall and adding additional concrete on the crest and downstream face;
- Raising the dam wall height from 43 meters to 58 meters, thereby increasing of the net storage volume of the Clanwilliam Dam with 240 million m<sup>3</sup>/a;
- Upgrading the dam to accommodate the reserve release requirements, which will include the construction of a multi-level intake structure on the upstream face of the dam wall, which will include drilling and cutting through the existing dam wall, accommodating the existing mini-hydropower station, and the construction of a new stilling basin for the outlets on the downstream side of the dam.

The raising of the Clanwilliam Dam Wall will necessitate roadworks relating to the realignment of the existing gravel access road on the eastern side of the dam as well as portions of the divisional and minor roads. The following roadworks associated with the proposed project will be carried out:

- To allow access to the raised Clanwilliam Dam Wall crest and outlet works, existing gravel access road located on the eastern side of the dam will be realigned;

- Realignment and raising, and possible closure, of portions of the gravel road between Clanwilliam and Citrusdal (Divisional Road DR2183) including the construction of a large culvert and bridge;
- Raising portions of the road between the N7 and Algeria (Divisional Road DR1487 / Minor Road MR539) including the construction of a bridge to replace the existing causeway over the Oliphant's River;
- Raising portions of the Citrusdal Road (Minor Road MR539) including the construction of a culvert to lift portions of the road; and
- Raising and realignment as well as the possible closure, of portions of the Renbaan Road (Minor Road MR16/2) including the construction of a large culvert.

Lastly, the proposed remedial work and possible raising of the dam would require numerous construction related activities which include, inter alia:

- The establishment of a construction camp (basic infrastructural services, sewerage and wastewater treatment, roads and storm water drainage, and erection of temporary or permanent housing).
- The establishment of a construction site (basic infrastructural services such as water and electrical reticulation, sewerage and wastewater treatment, roads and storm water drainage, administration offices, workshops, material storage areas).
- The construction of a permanent gravel road on the eastern side of the dam to provide access.
- The extension of the existing quarry to source and stockpile construction material

The maintenance and management of South Africa's National Road Network falls within the ambit of the SANRAL<sup>3</sup>. A separate EA Process for the realignment and raising of portions of the N7 to accommodate the raised Clanwilliam Dam Wall. EA was granted by the WCDEADP allowing the following project activities to proceed:

- Realignment of the portion of the N7 National Road between km 89.32 and km 95.92; and
- Raising of the portion of the N7 National Road between km 68.77 and km 70.22.

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<sup>3</sup> SANRAL: South African National Roads Agency Limited

## **2.2 Project Activities and Phasing**

Due to the long nature of the proposed construction activities associated with the raising of the Clanwilliam Dam, it is proposed to consider construction activities in a phased approach, thus allowing sufficient time for compliance with pre-construction conditions stipulated in the environmental authorisation (EA) dated 12 May 2009. The phased approach including proposed construction timeframes and pre-construction conditions stipulated in the EA are presented in the Table 2-1 below.

Table 2-1: Phased approach to construction activities for the Clanwilliam Dam raising project.

Phase No	Phase	Construction activities	Impact area	Phase timing	Pre-construction conditions from RoD to comply with	Pre-construction conditions deadline
1	Construction site establishment	The establishment of a construction camp (Batching plant, silos, laydown areas, offices)	Area west of the existing quarry and N7 road	November 2014 to April 2015 (6 Months)	Conditions 3, 4, 11, 14, 22, 23, 23.13, 24	1 December 2014
		The establishment of a construction site	Immediately downstream of dam wall			
		The construction of a permanent gravel road	Eastern side of dam			
		The extension of the existing quarry	Existing quarry location			
		Construction of temporary access roads	West of dam from construction camp to dam wall			
2	Rehabilitation and raising of dam wall	Clearing of the foundation footprint in the river and on the valley flanks	Within 100m radius from dam wall	February 2015 to December 2017 (35 months)	Conditions 6, 8, 16, 19, 20, 21, 27	15 January 2015
		Demolition of various components of the existing dam				
		Excavations				
		Infilling and cut-off grouting below the new foundation				
		Drilling and blasting o drainage addits into the valley flanks below the raised dam				
		Cutting of openings through the existing dam				
3	Raising, realignment and/or	Erection of form work and casting of concrete	Existing road alignments, area between existing	January 2018 - October	Conditions 9, 15	01 November 2017
		Portions of the gravel road between Clanwilliam and Citrusdal (Divisional Road DR 2183) including construction a large culvert and bridge				

Phase No	Phase	Construction activities	Impact area	Phase timing	Pre-construction conditions from RoD to comply with	Pre-construction conditions deadline
	decommissioning of existing provincial and minor roads	Raising of portions of the road between the N7 and Algeria (Divisional Road DR 1487 / Minor Road MR 539) including constructing a bridge to replace the causeway over the Oliphants River	dam level to new dam purchase line	2018 (10 months)		
		Raising of portions of the Citrusdal Road (Minor Road MR 539) including constructing a culvert to lift portions of the road				
		Raising and re-alignment, and possible closure, of portions of the Renbaan Road (Minor Road MR 16/2) including constructing a large culvert				
4	Raising of the water level in the dam and inundation of new area	Dam level rises causing inundation of the area below the purchase line.		Post October 2018	Conditions 10	30 September 2018

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## **2.3 Design Considerations**

### **2.3.1 Existing structure**

Clanwilliam Dam is a concrete gravity dam with a non-overspill crest (NOC) length of approximately 250 m. The spillway section is 117.5 m long and has an approximated ogee shape. Spillway discharge is controlled with 13 vertical spillway gates. The gates are used to provide additional storage above the spillway invert level. Piers support the gates and deck over the spillway, resulting in an effective spillway length of 101 m. The full supply level (FSL) of the dam is at RL 105.25 m and the crest of the ogee at RL 102.20 m. Two outlet pipes of nominal diameter ( $\phi$ ) 1 219 mm discharges into the river. Their inlets are at RL 80.51 m. Discharge is controlled with sleeve valves. The maximum discharge capacity is approximately 10 m<sup>3</sup>/s. An additional outlet pipe delivers water to the hydropower plant, which is currently dysfunctional, and the irrigation canal on the downstream right flank.

The existing outlet works comprise of two 1219 mm pipes (RL 79,55) and two 914 mm pipes (RL 81,99). Both 1219 mm pipes are located within the spillway section, with one being just left of the existing outlet chamber and the other towards the middle of the spillway. Releases to the river are undertaken through these pipes.

### **2.3.2 Design philosophy**

The design philosophy for the Clanwilliam Dam raising project centres on achieving the following aspects:

- Long-term structural reliability;
- Minimal operational requirements / predictable operation;
- Minimal maintenance requirements; and
- The budget for the project should be acceptable to the sponsor:

### **2.3.3 Availability of material**

Results from geotechnical investigations indicate that adequate aggregate is available for the proposed raising by roller compacted concrete (RCC). RCC is the preferred material mainly due to the rapid tempo at which it can be placed, resulting in shorter construction periods and its relatively low heat of hydration. For the purposes of this report the design was based on the use of RCC. The eventual choice of spillway type and construction programme may dictate the use of mass concrete.

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### **2.3.4 Dam wall structure considerations**

The proposed dam wall structure is recommended to have the following characteristics:

- Construction of a concrete apron on the downstream face of the existing structure
- Additional concrete on the crest and downstream face of the existing structure;
- Raising the dam wall height from 43 meters to 58 meters
- Construction of a multi-level intake structure on the upstream face of the dam wall
- Drilling and cutting through the existing dam wall
- Construction of a new stilling basin for the outlets on the downstream side of the dam.

### **2.3.5 Non-Overspill Crests (NOC's)**

It is recommended that NOC's are raised vertically including the addition of waterproof concrete balustrades or parapet walls. This will add to the storage height of the structure. Both the left and right NOC's are assumed to be 4,5 m wide. The crest levels of the NOC's are assumed to be at the maximum water levels. This means that a 0 m freeboard is accepted during the Safety Evaluation Flood.

### **2.3.6 New outlet works**

The new outlet works will comprise of a combination of 1200 mm pipes and 900 mm pipes. The 900 mm pipes will be used to extend the existing 914 mm pipes. All other pipes will have a diameter of 1200 mm. Discharging shall be done by means of 900 mm sleeve valves for the 1200 mm pipes, and 600 mm sleeve valves for the 900 mm pipes. The combination and quantity of valves shall depend on the required discharge capacity of the outlet works.

## **2.4 Potential impacts resulting from the raising of the dam**

The following impacts may affect the bio-physical and social environments within the study area.

### **2.4.1 Operational phase impacts**

- Impact on flora;
- Impact on terrestrial fauna;
- Impact of reservoir-induced seismicity;
- Impact on ability to achieve recommended scenario for EWRs
- Impact on Riverine Fish; and
- Impact on groundwater resources.
- Visual impacts;
- Impact on heritage resources;

- 
- Impact of inundation of roads on access.
  - Impact of inundation of existing infrastructure, other than roads
  - Impact of loss of agricultural land on livelihood security
  - Impact on assurance of supply to farmers
  - Impact of increased water yield on Resource Poor Farmers
  - Impact on the local economy
  - Macro-economic impacts

#### **2.4.2 Construction phase impacts**

- Disturbance of flora
- Disturbance of fauna
- Sedimentation and erosion
- Deterioration of water quality
- Traffic impacts
- Interruption of water releases
- Storage and utilisation of hazardous substances on site
- Risk of fire
- Creation of employment opportunities
- Influx of workers to the area (health and safety risks)
- Influx of job seekers
- Creation of business opportunities for local businesses
- Disturbance to sense of place, visual aesthetics
- Windblown dust
- Litter/ waste pollution
- Noise pollution
- Light pollution
- Impact of sourcing construction material

### 3 Environmental Legislative Requirements

#### 3.1 Framework Legislation

All environmental and applicable legislation, as well as other requirements will be complied with during the course of implementation of this project. Any changes in legislation, or other requirements, will be updated as and when required and communicated to all role-players involved in the project. A list of applicable legislation is provided in Table 3-1 below.

**Table 3-1: List of applicable legislation for the raising of the Clanwilliam Dam wall**

No	Legislation
1	Advertising on Roads and Ribbon Developments Act, Act 21 of 1940
2	Conservation and Agricultural Resources Act, Act 43 of 1983 (CARA)
3	Constitution of the Republic of South Africa Act, Act 108 of 1996
4	Development Facilitation Act, Act 67 of 1995
5	Environment Conservation Act, Act 73 of 1989
6	Fertilizer, Farm Feeds, Agricultural Remedies and Stock Remedies Act, Act 36 of 1947
7	Hazardous Substances Act, Act 15 of 1973
8	Intergovernmental Relations Framework Act, Act 13 of 2005
9	Mineral and Petroleum Resources Development Act, Act 28 of 2002
10	Mountain Catchment Area Act, Act 63 of 1970
11	Municipal Structures Act, Act 117 of 1998
12	Municipal Systems Act, Act 32 of 2000
13	National Building Regulations and Building Standards Act, Act 103 of 1977
14	National Building Regulations and Building Standards Amendment Act, Act 30 of 1982
15	National Building Regulations and Building Standards Amendment Act, Act 36 of 1984
16	National Environmental Management Act, Act 107 of 1998 (NEMA)
17	National Environmental Management: Air Quality Act, Act 39 of 2004
18	National Environmental Management: Biodiversity Act, Act 10 of 2004
19	National Environmental Management: Protected Areas Act, Act 57 of 2003
20	National Environmental Management: Waste Act, Act 59 of 2008
21	National Forest Act, Act 84 of 1998
22	National Forest and Fire Laws Amendment Act, Act 12 of 2001
23	National Heritage Resources Act, Act 25 of 1999
24	National Road Traffic Act, Act 93 of 1996
25	National Veld and Forest Fire Act, Act 101 of 1998
26	National Water Act, Act 36 of 1998
27	Occupational Health and Safety Amendment Act, Act 181 of 1993
28	Promotion of Access to Information Act, Act 2 of 2000
29	Promotion of Administrative Justice Act (PAJA), Act 3 of 2000
30	Protected Disclosure Act, Act 26 of 2000

No	Legislation
31	Provincial Nature Conservation Ordinances
32	Public Finance Management Act, Act 1 of 1999
33	Traditional Leadership and Governance Framework Amendment Act, Act 41 of 2003
34	White Paper on Environmental Management
35	White Paper On Integrated Pollution and Waste Management For South Africa
36	White Paper on Land
37	White Paper on the Conservation and Sustainable use of South Africa's Biodiversity

### 3.2 Environmental principles

The following principles should be considered at all times during all phases of the proposed dam raising activities.

- The environment is considered to be composed of both biophysical and social components.
- Construction is a disruptive activity and all due consideration must be given to the environment, including the social environment, during the execution of a project to minimise the impact on affected parties.
- Minimisation of areas disturbed by construction activities (i.e. the footprint of the construction area) should minimise many of the construction related environmental impacts of the project and reduce rehabilitation requirements and costs.
- As minimum requirements, all relevant standards relating to international, national, provincial and local legislation, as applicable, shall be adhered to. This includes requirements relating to waste emissions (e.g. hazardous, airborne, liquid and solid), waste disposal practices, noise regulations, road traffic ordinances, etc.
- Every effort should be made to minimise, reclaim and/or recycle "waste" material.
- The proponent shall exercise the "Duty of Care" principle at all times during the life of the dam raising project.
- The proponent shall also prescribe to the "Polluter Pays" principle and shall manage the project in a pro-active manner to avoid any incidents of pollution.

### 3.3 Licences and Permits Requirements

A number of permits and licences are generally required for projects of this nature before construction can commence. A list of such permits or licences is provided in Table 3-2 below.

**Table 3-2: List of possible permits or licences that may be applicable**

Permit / Licence	Relevant legislation / Regulating authority
Blasting	Blasting permits are required from the Department of Mineral Resources in accordance with the Explosives Act (Act No 26 of 1956).
Waste disposal	All wastes (general and hazardous) generated during the construction may only be disposed of at appropriately licensed sites. Government Notice (GN) 921, promulgated in terms of the National Environmental Management: Waste Act (Act 59 of 2008) (NEMWA), lists Waste Management Activities in respect of which a waste management licence is required; these include various activities associated with the storage of waste, reuse, recycling and recovery of waste, treatment of waste (which includes the remediation of contaminated land) and disposal of waste. NEMWA GN 926 presents the norms and standards for the storage of waste. The Department of Environmental Affairs is the regulating authority for waste management activities.
Storage of hazardous substances	Hazardous substances must be stored and handled in accordance with the appropriate legislation and standards, which may include the Hazardous Substances Act, the Occupational Health and Safety Act, and relevant associated Regulations.
Health and safety of work teams	Construction Regulations (2003) published under the Occupational Health and Safety Act (Act No 85 of 1993) apply to construction activities including "the moving of earth, clearing of land, the making of an excavation, piling, or any similar type of work". A "health and safety plan" which addresses hazards, and includes safe working procedures to mitigate, reduce or control the hazards identified, is required under this Act. A risk assessment must also be undertaken by an appropriately qualified person(s) and the Contractor shall ensure that all employees under his or her control are informed, instructed and trained by a competent person regarding any hazard and the related work procedures before any work commences.
Heritage resources	Before any heritage resources are demolished or damaged a permit should be obtained prior to any actions been taken. Permit applications must be submitted to South African Heritage Resources Agency (SAHRA).
Removal of trees	The removal of trees from the dam basin requires a permit in terms of the National Forest Act (No 84 of 1998).
Removal and transportation of endangered fauna and flora	A permit must be obtained from the relevant nature conservation agency for the removal or destruction of indigenous protected and endangered plant and animal species. Copies of permits required must be submitted to the DEA for record keeping purposes.
Water abstractions	Water abstracted from any sources for construction purposes requires authorisation in terms of the National Water Act, No 36 of 1998.
Removal of graves	Permits are required for the removal of graves in terms of the National Heritage Resources Act (No 25 of 1999) section 36.
Asphalt Plants	GN 893 of 2013 in GG 37054 dated 22 November 2013 provides a list of activities which result in atmospheric emissions which have or may have a significant detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage. Activities include Macadam preparation (the mixing of aggregate and tar or bitumen to produce road surfacing in permanent facilities and mobile plants). These activities require an Atmospheric Emission Licence in terms of Section 37 of the Act.
Borrow areas and Quarries	Government Gazette No 26501 dated July 2004 states that the Minister of the Mineral Resources, acting in terms of section 106 (1) of the Mineral and Petroleum Resources Development Act, 2002 (Act No 28 of 2002) (MPRDA) exempts the Department of Water Affairs, amongst other institutions, from the provisions of sections 16, 20, 22 and 27 of said Act in respect of any activity to remove any mineral for the construction and maintenance of dams, harbours, roads and railway lines and for purposes incidental thereto. Section 106 (2) of the MPRDA says that in such cases the

Permit / Licence	Relevant legislation / Regulating authority
	DWA must still compile an Environmental Management Programme (EMP) for approval in terms of Section 39 (4) of the Act.

## **4 Structure and responsibility for environmental management**

### **4.1 Implementation of Environmental Management Programme**

The implementation of the mitigation, environmental management and EA conditions documented in this EMPr requires the commitment of various stakeholders and role players. Although the onus of ensuring that all project activities associated with the proposed project comply with mitigation, environmental management and EA conditions rest with the holder of the EA, various parties will play a role in the implementation of this EMPr. Taking the aforementioned into account, this section of the EMPr is intended to clearly define the responsibilities for management actions contained in this document and to explain arrangements for coordination among the role players involved in the implementation of the proposed project lifecycle.

### **4.2 Regulating / Commenting Authority**

In accordance with Section 31 of the National Environmental Management Amendment Act (62 of 2009), the Competent Authority (DEA) is responsible for the application and enforcement of the NEMA as amended and Specific Environmental Management Acts. Concerning the implementation of this EMPr the specific role of the Competent Authority will entail the following:

- Review the revised EMPr submission and based on the review, approve the EMPr (with or without conditions) or request amendments to be made to the document as well as the resubmission thereof;
- Review all monitoring and audit reports submitted by the ECO and advise of any additional corrective measures to be implemented;
- Conduct routine inspections at any reasonable time with the intent to determine compliance with the EMPr, EA Conditions and Method Statements; and
- In instances where required assist the Project Proponent in understanding and meeting the specified conditions provided in the EA.

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## 4.3 Roles of Key Stakeholders

### 4.3.1 Project Proponent

The project proponent (holder of the EA) namely the DWS is required to ensure that all conditions provided in the EA, as well as any other reasonable condition that the Competent Authority (DEA) considers necessary for the protection of the environment, are met. In keeping with the requirements of Section 28 of the NEMA as amended, the holder of the EA is also required to take all reasonable measures and to implement mitigation / management measures to prevent adverse environmental consequences, associated with the implementation of the project activities, from happening.

The project proponent is responsible for ensuring that the mitigation measures provided in this EMP are implemented and that the mitigation measures are clearly understood by all relevant parties. Where the implementation of Construction and / or Operational activities associated with the proposed project are contracted out (e.g. to Contractors and / or Sub-contractors), the legal responsibility associated with non-compliance still rests with the Project Proponent (*unless otherwise agreed upon by the Competent Authority*). The project activities may not commence until such time when all required Environmental Authorisations have been granted by the various Competent Authorities within whose mandate the project activities fall.

Additional responsibilities of the Project Proponent also include the following:

- Ensure compliance with the EA Conditions by any person acting on their behalf, including but not limited to, an agent, sub-contractor, employee or any person rendering a service to the holder of the EA;
- Notify the WCDEADP, ECO any other relevant authority, in writing, within 24 hours thereof if any condition of the EA is not adhered to;
- Ensure that a copy of the EA is kept onsite at all times. The EA must be provided to authorised official of the WCDEADP who requests to see it and must be made available for inspection any employee or agent of the holder of the EA who works or undertakes work within the development footprint;
- Notify the WCDEADP, within 30 days, of any changes of the ownership and / or project developer. It must be explained to the new owner / developer that the conditions provided in the EA are legally binding and must be adhered to;
- Notify the WCDEADP of any change of the contact details including the name of the responsible person, the physical or postal address and / or telephonic details and provide the Department with the new details; and

- Allow Departmental Officials access to the development site for the purpose of assessing and / or monitoring compliance with the EA Conditions.

The project proponent will also be require (as requested by the Competent Authority) to:

- Provide a report which provides details regarding the following:
  - Extent to which the EA conditions are / not being complied with;
  - The nature of, and reasons for, any non-compliance with a condition provided in the EA; and
  - Any action taken, or to be taken, to mitigate the effects of any non-compliance or to prevent any recurrence of the non-compliance;
- Environmental Audit Reports on the impacts of the authorised activity on the environment, at specified times or intervals or whenever requested by the competent authority;
- Provide the Competent Authority with proof of compliance with the requirements regarding financial provision for the implementation of the management measures provided in this EMPr.

#### 4.3.2 Engineer

The Project Proponent will appoint an Engineer who will function to ensure that all construction activities are carried out in accordance with the approved detail design for the raising and strengthening of the Clanwilliam Dam and supervision of the contract. In addition the role and responsibility of the Engineer will include:

- Providing assistance to the ECO in the monitoring and execution of the Contractors or Sub-contractors' Method Statements;
- Review and approve the Method Statements developed by the Contractor;
- Maintaining a photographic record of the construction activities
- Verifying that the EMPr have been included in the contract documents;
- Ensuring that Environmental Compliance Matters are addressed during all Site Meetings;
- Provide technical guidance and assistance to onsite teams regarding the implementation and compliance with the EMPr;
- Consults and co-operates with the ECO concerning environmental matters;
- The Engineer may appoint an Engineer's Environmental Representative (EER) to plan and direct the implementation of the EMP and provide advice on environmental matters;
- Conduct regular (weekly) site inspections to determine whether construction activities are carried out as per the detailed design and management measures provided in the EMPr and Method Statements; and
- Provide inputs, as and when required, to the monthly Environmental Compliance Report prepared by the ECO.

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### **4.3.3 Project Manager**

The Project Manager, appointed by the DWS will function to coordinate and manage the Construction and Operational Phases of the proposed project. Separate Project Managers for the Construction Phase and Operation Phase may be appointed. Any project activity, which may result in adverse environmental consequences and for which mitigation and management measures are not provided in this EMPr must be approved by the Project Manager. The Project Manager must instruct the Contractor / Sub-contractor to cease any construction activity which is in contravention of this EMPr and the EA.

### **4.3.4 Contractor and Sub-contractor**

Where specific EMPr responsibilities are assigned to Contractors or Sub-contractors, there must be clearly stipulated and included in the contract documentation. Any construction activities or actions of onsite personnel which results in environmental damage, non-compliance with the EA and EMPr, must be reported to the project proponent by the Contractor. The roles and responsibilities of the Contractor will also include the following:

- To prepare Method Statements which sets out the manner in which the management actions contained in an EMPr will be implemented;
- Ensure that all sub-contractors and onsite personnel understand and are familiar with the management measures provided in the EMPr;
- Ensure that all mitigation and management measures relating to construction activities are implemented;
- Report any non-compliance with the EMPr and / or EA Conditions are reported to the project proponent and ECO; and
- Rehabilitate the construction footprint as well as damage to any sensitive environment caused by negligence on the part of the Contractor, to the satisfaction of the ECO.

### **4.3.5 Environmental Control Officer**

The Environmental Control Officer (ECO) will be appointed by the project proponent for the duration of the Construction Phase up to the completion of rehabilitation. In accordance with Condition 24 of the EA, the ECO must be appointed prior to the commencement of any site preparation, land clearing or construction activities. The ECO's primary role will be to monitor compliance with the conditions provided in the EA and the implementation of the EMPr, and to report the compliance / non-compliance to the Competent Authority. The appointed ECO must meet the following requirements:

- Have an appropriate Environmental Management / Science qualification / degree and be registered with a recognised professional affiliation;
- Appropriate training and experience in the implementation of environmental management specifications; and
- Have no vested interest in the proposed project.

The responsibilities of the ECO will include the following:

- Conduct weekly site inspections / audits and record compliance / non-compliance with the management and mitigation measures provided in the EMPr and EA Conditions observed during the inspection;
- Based on the observations made during weekly site inspections issue site instructions to the contractor for any corrective actions which may be required;
- Document the findings of the site inspection / audits against. Monthly Environmental Compliance Audit Reports should be submitted to the Competent Authority. The Environmental Compliance Report should provide an overview of any trends in non-compliance recorded;
- Develop and maintain a I&APs Complaints Register in which all complaints are recorded, as well as remedial action taken and the response provided to the I&APs;
- Verify that the management and mitigation measures provided in the EMPr as well as the EA Conditions have been communicated to, and are understood by all personnel on site including the Contractors and Sub-contractors;
- Report incidents which have lead / may lead to substantial danger to the surrounding communities /public or significant environmental damage, to the Competent Authority. Any remediation or corrective measures which have been / proposed to be implemented to prevent danger to the surrounding communities /public or significant environmental damage from occurring must also be reported to the Competent Authority (WCDEADP Appeals Management Unit);
- Ensure that a copy of the approved revised EMPr and EA is kept onsite and accessible to all personnel on site;
- Provide Environmental Awareness Training to all personnel on site, Contractor and Sub-contractor. Documented proof of the Environmental Awareness Training as well as the content of the training must be kept onsite and should be made available to the Competent Authority upon request.

#### **4.3.6 Interested and Affected Parties**

The role of Interested and Affected Parties will include the following:

- Request updates on the progress of the Construction Phase and the effectiveness of the EMPr implementation;
- Provide input into corrective actions where appropriate and to the revisions of the EMPr;
- Report any non-conformance with the EA Conditions and EMPr observed to the Competent Authority and ECO; and

- 
- Ensure that the communication platforms provided, such as the Community Consultative Forum are utilised to communicate any queries or concerns relating to the Construction Phase Activities.

#### **4.3.7 Environmental Assessment Practitioner**

Within the context of this EMPr and in keeping with the requirements of Condition 23 of the EA the role of the EAP is focussed on updating and refining the DWS' generic EMPr that was submitted to the Competent Authority as an appendix of the final Environmental Impact Report. Although due diligence have been exercised to ensure that the EMPr meets the requirements of the relevant national and provincial standards and guidelines for EIA processes and specialist studies, the EAP is also required to ensure that the EMPr includes the following:

- Submit the revised EMPr, following review of the document by the DWS, to the WCDEADP for review and approval;
- Take into account and be based on the WCDEADP Guideline for Environmental Management Plans (2005);
- Address the mitigation measures provided in the Environmental Impact Assessment Report and the aspects highlighted in the EA;
- Describe the level and type of competency required of the ECO;
- Determine the frequency of site visits to be carried out by the ECO;
- Make provision and call for the inclusion of the revised EMPr in all contract documentation for the Construction Phase of the proposed project;
- Define and allocated roles and responsibilities for all aspects of the EMPr;
- Define the code of conduct for engineers, contractors and sub-contractors, including all other parties operating on the site during construction and include penalties for non-conformance with the EA Conditions;
- Include Environmental Awareness and Training Programmes for all contractors, sub-contractors and labourers.

## **5 Pre-Construction Specifications**

### **5.1 Additional submissions to Competent Authority**

#### **5.1.1 Clanwilliam Dam and Bulshoek Weir Operating Procedures**

#### **5.1.2 Riverine Monitoring Programme**

#### **5.1.3 Olifants / Doring Water Management Area Catchment Management Plan**

#### **5.1.4 Environmental rehabilitation and restoration plan**

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## **6 Construction Phase environmental management and mitigation**

### **6.1 Management of Flora**

#### **6.1.1 Aspect**

Site preparation activities carried out to accommodate the required supporting infrastructure (e.g. concrete batching plants and offices etc.) will necessitate the clearing of vegetation within the footprint of the site camp.

#### **6.1.2 Impact**

Vegetation clearing within the development footprint carried out as part of site preparation will result in the loss of indigenous, Red Data Listed species and endangered vegetation types. Areas disturbed by vegetation clearing will create conditions conducive to the establishment of alien / invasive plant species.

#### **6.1.3 Objective**

Through the implementation of the management and mitigation measures, the loss of vegetation beyond the demarcated construction area must be prevented.

#### **6.1.4 Target**

Eradication of, and prevention of the establishment of alien plants and invasive species.  
No disturbance to or loss of protected flora species outside of construction footprint.

#### **6.1.5 Management and Mitigation Measures**

The implementation of the following management and mitigation measures are intended to prevent or reduce the significance of the anticipated impacts on the flora within the development area:

- All plants within the inundation area which are representative of the local species composition of the area (including bulbs and succulents) should be transplanted into similar soil conditions within the areas disturbed by construction activities. Where no suitable location for transplanting can be identified the removed plants must be used to enrich parts of the Ramskop Nature Reserve at Clanwilliam. Removing the plants, selected for transplantation, from the soil and re-planting it within the identified areas, will

be carried out once prior to the establishment of the site. The mitigation measure will therefore not be carried out repeatedly during the Construction Phase. A level of maintenance and monitoring the growth of the transplanted plants will be required for a minimum of one growing season;

- A plant nursery should be established during the construction phase, for the temporary storage of rescued plants that will be used during the Rehabilitation Phase to restore vegetation cover. Maintenance of all rescued plants kept in the nursery will continue for the duration of the Construction Phase up to completion of rehabilitation activities to the satisfaction of the ECO and WCDEADP;
- Vegetation cover should be retained for as long as possible, and vegetation clearance should occur in a phased manner from one side of the site to the other;
- The movement of construction vehicles and the use of equipment should only be permitted on predetermined access routes and predetermined area, respectively, thereby limiting the area disturbance and necessity for the removal of vegetation;
- The removal of vegetation, in particular protected and endangered species outside the construction footprint, or where it does not fall within the construction working area will not be permitted;
- All reasonable measures must be taken to control and eradicate any alien invasive species that has been listed in terms of Section 70(1) of the National Environmental Management Biodiversity Act (10 of 2004). The relevant Competent Authority must be notified of the occurrence of any listed invasive species occurring and be provided with an Alien Invasive Control and Management Plan;
- The reseedling of disturbed areas should be carried out at the end of the dry season to ensure optimum conditions for germination and rapid vegetation establishment.

The mitigation and management measures listed above must be implemented for the duration of the Construction Phase. The Contractor will assume responsibility for ensuring that the mitigation and management measures are executed. All management measures which relate to information being provided to the Competent Authority and the preparation of any additional management plans will be done by the ECO in consultation with the project proponent.

#### **6.1.6 Corresponding Environmental Authorisation Condition**

As per Condition 23.13.1, the Environmental Rehabilitation and Restoration Plan must provide details of the approach that will be adopted for “the search for, harvesting of and storage of bulbs, succulents and other suitable horticultural material from areas to be inundated and disturbed that can be used to re-vegetate disturbed areas. The requirement for ongoing alien plant species eradication and management is provided in Condition 23.12.17 of the EA.

## **6.2 Management of Fauna**

### **6.2.1 Aspect**

The increased human presence, movement of workers onsite, operation of equipment and nature of the construction activities (e.g. Drilling and Grouting) will constitute an intrusion in the natural habitat of the fauna found within the development footprint and adjacent areas.

### **6.2.2 Impact**

The movement of workers onsite, operation of equipment and nature of the construction activities (e.g. Drilling and Grouting) may give rise to the following:

- Disturbance to fauna resulting in mobile animals leaving their natural habitat for the duration of the Construction Phase;
- Injury and harm;
- Obstruction of movement; and
- Preventing access to watering points.

### **6.2.3 Objective**

Through the implementation of the management and mitigation measures, prevent any harm that may be caused to the animal life, by the execution of any construction and / or related activity.

### **6.2.4 Target**

No harm to any animal life resulting from the construction activities.

### **6.2.5 Management and Mitigation Measures**

The implementation of the following management and mitigation measures are intended to prevent or reduce the significance of the anticipated impacts on the animal life within the development area:

- Information provided in the Environmental Awareness Training must lay emphasis on the fact that no intentional harm inflicted on animals will be permitted;
- Any fauna that is found within the construction footprint shall be carefully and safely removed from site to an equivalent environment;

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- Snakes or dangerous wildlife that are found within the construction footprint may only be removed from site and relocated by a suitably qualified expert, under the supervision of the ECO;
  - The capturing and hunting of any animal as well as the placing of snares will under no circumstances be permitted; and
  - No domestic animals will be permitted on site.

The mitigation and management measures listed above must be implemented for the duration of the Construction Phase. The Contractor will assume responsibility for ensuring that the mitigation and management measures are executed.

### **6.2.6 Corresponding Environmental Authorisation Condition**

Condition 23.12.6 of the Environmental Authorisation explicitly calls for the revised EMPr (this document) to include provisions relating to the implementation of environmental controls and procedures aimed the management and protection of fauna.

## **6.3 Consultation and Public Relations, and Socio-Economic Environment**

### **6.3.1 Aspect**

The increase in areas of inundation is likely to result in the loss of land, built structures and infrastructure. The social dynamic of nearby town including the town of Ebenheaser may be altered by the influx of speculative job seekers employment during the Construction Phase.

### **6.3.2 Impact**

The influx of job seekers from surrounding areas may give rise to the following:

- Limited available land and resources as well as the additional pressure placed on basic service delivery may aggravate social unrest;
- Sexual exploitation of women and the rate of HIV infections may increase.

### **6.3.3 Objective**

Ensure that a system which provides a platform for Interested and Affected Parties (I&APs) to raise any concerns and queries relating to the Construction and associated activities is developed and put in place. The implementation of the communication system will facilitate

maintaining clear lines of communication between I&APs and the role players that are defined in Section 4 of this EMP.

#### **6.3.4 Target**

The following targets will be indicative of whether the set environmental objective has been reached:

- Provide I&APs with regular formal updates on the milestones reached with regards to the construction activities. The aforementioned updates should be provided in the form of a newsletter or be conveyed in formal written correspondence to the Community Consultative Forum;
- Acknowledge and respond to all complaints recorded in the Complaints and Comments Register within 7 working days; and
- Timeously inform I&APs of any disruptive activities which may result from the Construction Activities.

#### **6.3.5 Management and Mitigation Measures**

- A Public Consultative Forum must be established. The members of the Consultative Forum should include the ECO and representatives of the Ebenheaser community, Ward Councillors, and applicable Catchment Management Agency;
- The DWS in consultation with the Clanwilliam Municipality and Clanwilliam Aquatic Club must identify alternative sites to locate the facilities (i.e. Clanwilliam Municipal Resort) lost due the raising of the dam
- A Complaints and Comments Register must be kept onsite at all times and should be provided to any I&AP who wishes to report a complaint relating to the proposed project. The following information must be recorded in the Complaints and Comments Register:
  - Name and contact detail of the complainant;
  - Date, time and nature of the complaint;
  - Corrective measures that were implemented / manner in which the complaint or comment was addressed;
  - Summary and evidence of formal response provided to the I&AP by the Contractor in consultation with the ECO.
- A Workforce Recruitment Policy aimed at controlling the influx of speculative job seekers and ensuring that the local community benefit from employment opportunities that are generated during the Construction Phase, should be developed. The Workforce Recruitment Policy should be developed by the Contractor in consultation with the Public Consultative Forum and project proponent; and
- Where reasonably possible and practical the Contractor should provide onsite housing to workers which are not local. In consultation with, and providing that the surrounding communities are in agreement, workers may be housed in surrounding communities;

The mitigation and management measures listed above must be implemented for the duration of the Construction Phase. The Contractor will assume responsibility for ensuring that the mitigation and management measures are executed.

### **6.3.6 Corresponding Environmental Authorisation Condition**

Condition 23.10 and Condition 23.11 of the Environmental Authorisation explicitly calls for the revised EMPr (this document) to include a strategy to ensure ongoing communication between I&APs and the Project Team throughout the Construction Phase as well as provisions to address social impacts associated with the influx of workers to the area.

## **6.4 Storm water and Erosion Control**

### **6.4.1 Aspect**

All bare and exposed areas will be vulnerable to erosion. The construction of culvert inlets and outlets, side drains, and coffer dams are likely to leave these areas susceptible to soil erosion in the vicinity of the construction site, and lead to elevated turbidity levels in the river. Contaminated storm water from the batching plant may adversely impact on water resources in the area.

### **6.4.2 Impact**

Sediment laden runoff from construction areas will result in elevated levels suspended solids in the watercourse. The increased volume of suspended solids in the watercourse will reduce the clarity of the water and sunlight penetration. This will in turn adversely impact on the biota of a river, smothering and abrading plants and animals, blocking out light, and reducing the overall productivity of the system. Inadequate control of storm water runoff from the batching plant will result in the release of contaminated water into the receiving environment.

### **6.4.3 Objective**

It must be ensured that all reasonable measures are put in place to prevent erosion and the release of contaminated storm water and sediment laden into the receiving environment.

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#### 6.4.4 Target

The following targets will be indicative of whether the set environmental objective has been reached:

- No formation of erosion channels caused by construction activities; and
- No release of contaminated storm water into the receiving environment.

#### 6.4.5 Management and Mitigation Measures

The following management and mitigation measures relating to storm water runoff and erosion prevention must be implemented:

- The volume of water required for the operation of the batching plant must be regulated to maintain the required moisture content and wastage of water and additional runoff from these areas;
- The implementation of dust-control activities which entails dampening the surface through wetting may not result in run-off volumes that are large enough to result in erosion;
- All reasonable measures must be taken to avoid the concentration surface water or storm water to be concentrated (i.e. avoid ponding of water);
- Erosion control measures including the use of berms to direct runoff to settling ponds as well as the construction and maintenance of coffer dams to settle sediments must be employed. Settling ponds with accumulated sediments need to be cleared before the onset of winter rains, and the construction of roads and causeways should be confined to the period October to May;
- Monitoring of the sediment load within the watercourse should take place both upstream and downstream of the construction site and in accordance with the approved Riverine Monitoring Programme. The maximum turbidity must be determined by an aquatic ecosystem specialist prior to the commencement of construction activities; and
- Vegetation cover must be retained for as long as possible and only clear areas of the site where it is necessary for construction;
- Any erosion channels caused by construction activities must be suitably stabilised and rehabilitated to an acceptable condition.

Management measures relating specifically to the operation of the batching plant include:

- The release / discharge of contaminated water to the environment will not be permitted;
- Unused cement bags will be stored in a sealed container;
- Contaminated and wastewater generated by the cleaning of equipment and flushing of mixers will not be released into the environment;
- A wastewater collection system must be developed to store all contaminated wastewater prior to the appropriate disposal thereof to a registered waste disposal facility; and
- All visible remains of excess concrete will be physically removed from the batching plant area following the completion of the construction activities.

The mitigation and management measures listed above must be implemented for the duration of the Construction Phase. The Contractor will assume responsibility for ensuring that the mitigation and management measures are executed, unless otherwise indicated.

#### **6.4.6 Corresponding Environmental Authorisation Condition**

Condition 20 and Condition 23.12.3 of the Environmental Authorisation explicitly calls for the revised EMPr (this document) to include storm water control measures as well as for the development of a Riverine Monitoring Programme, respectively.

### **6.5 Construction site preparation**

#### **6.5.1 Aspect**

The establishment of the site will entail demarcating, preparation and clearing of the site as per the approved site plan, erecting site offices, and concrete aggregate stockpiles as well as material storage areas.

#### **6.5.2 Impact**

The establishment of the site will necessitate site preparation and clearing, which will result in a loss of vegetation within the demarcated site camp area.

#### **6.5.3 Objective**

Minimise environmental impacts associated with site establishment.

#### **6.5.4 Target**

Establishment of the in accordance with the approved Site Plan, thereby confining the associated environmental impacts to the predetermined area.

#### **6.5.5 Management and Mitigation Measures**

- Identify and demarcate the extent of the site camp as per the approved location described in Section I of the Environmental Authorisation; and
- The Contractor must provide a Site Plan for the approval of the ECO and the Engineer prior to the establishment of the site. The Site Plan must show the following:
  - Buildings and structures;
  - Contractors' accommodation;
  - Contractors' camp and lay down areas;
  - Site offices;

- Access Route;
- Site laboratories; and
- Batching plants.

### **6.5.6 Corresponding Environmental Authorisation Condition**

Condition 23 of the Environmental Authorisation calls for the revision and amendment of the EMPr to incorporate the final detailed designs, to update and refine DWS' Generic EMP that was submitted to the WCDEADEP as part of the final EIR submission.

## **6.6 Solid Waste Management**

### **6.6.1 Environmental Aspect**

The inherent nature of construction activities will generate domestic and solid waste.

### **6.6.2 Environmental Impact**

The inappropriate storage and disposal of solid waste will result in environmental pollution.

### **6.6.3 Environmental Objective**

The waste management hierarchy, which advocates that the disposal of waste as a last resort and only implemented in the event where the generation of waste cannot be avoided, nor reduced, will be applied to all construction activities

### **6.6.4 Environmental Target**

The adoption of the waste management hierarchy will result in continual reduced volumes of waste being generated and disposed of at an appropriate, registered landfill site.

### **6.6.5 Management and Mitigation Measures**

The following waste management measures relating specifically to solid waste must be implemented:

- All domestic waste must be placed in litter bins located as required on the Work Site and within the Contractors camp;
- Where possible, waste must be separated at source (e.g. containers for glass, paper, metals, plastics, organic waste and hazardous wastes);
- Litter bins must be equipped with a closing mechanism to prevent their contents from blowing out;
- Ensure that personnel make use of the litter bins provided. Keep all Work Sites and at the Contractors camp tidy and litter free at all times.

- All litter bins weekly (or as required before they reach capacity);
- Dedicated temporary waste storage area must identified within the construction footprint;
- A Safe Disposal Slip Register must be maintained by the Contractor;
- Ensure suitable housekeeping; and
- The Contractor will ensure that no burying, dumping or burning of waste materials, vegetation, litter or refuse occurs;
- All solid waste will be disposed of at suitable licensed disposal sites; and
- As far as reasonably possible wastes should be removed during off-peak periods to reduce the impact on the movement of local traffic.

### **6.6.6 Corresponding Environmental Authorisation Condition**

Condition 23 of the Environmental Authorisation calls for the revision and amendment of the EMPR to incorporate the final detailed designs, to update and refine DWS' Generic EMP that was submitted to the WCDEADep as part of the final EIR submission. The EA also refers to the adoption of the Waste Management Hierarchy.

## **6.7 Hazardous waste management**

### **6.7.1 Aspect**

Hazardous substances will be used and stored on site and will include diesel, curing compounds, shutter oil and cement.

The inappropriate handling or storage of any hazardous substance which is released into the receiving environment (i.e. through spillage) will result in the contamination of soil and immediate watercourses. A significant hazardous substance spills which enters the watercourse will adversely impact on the aquatic ecosystem and reduce the quality of water used by downstream farmers for irrigation.

### **6.7.2 Objective**

Ensure the protection of the receiving and sensitive environments through the correct management and handling of hazardous substances.

### **6.7.3 Target**

No environmental pollution caused by the handling and storage of hazardous substances.

#### 6.7.4 Management and Mitigation Measures

The following management and mitigation measures relating to the storage and handling of hazardous substances must be implemented:

- All hazardous substances (including paint and fuel) must be stored in secure, safe and weatherproof facilities, underlain by a bunded concrete slab to protect against soil and water pollution;
- Any accidental spills must be cleaned immediately, treating the spilled material using absorbent material. A spill kit must be kept on site to use in the event of a hazardous substance spillage;
- Unused cement bags will be stored in an area not exposed to the weather and packed neatly to prevent hardening or leakage of cement;
- Used cement bags will be stored so as to prevent windblown dust and potential water contamination and will be appropriately disposed of;
- Controlled loading / unloading areas must be underlain by impervious paving or PVC sheet to protect against soil and water pollution;
- Environmental Awareness Training must include the correct handling, use and disposal of any spilled hazardous substance;
- Material Safety Data Sheets which provides all information relating to the specific hazardous substances stored on site must be prepared and be readily accessible;
- Empty containers in which hazardous substances were kept are to be treated as hazardous waste and disposed of at a licenced hazardous waste disposal facility;
- All storage tanks containing hazardous materials must be placed in bunded areas with impermeable surfaces. The bunded area must be able to contain 110% of the total volume of the stored hazardous material.

The following management and mitigation relate specifically to the temporary storage of fuel onsite:

- The fuel tanks must be designated and installed in accordance with the relevant Oil Industry Standards and SANS codes where applicable for above ground storage tanks;
- Fuel storage tanks must be located within bund (110% of the tank's storage capacity);
- During fuel tanker delivery, the tanker driver must be present at all times during product offloading. Should an incident occur, an emergency cut-off switch must be used to immediately stop fuel delivery. Flexible hoses with dry-beak couplings and emergency isolation must be used;
- The project proponent must ensure that effective stock inventory monitoring, recording and regular auditing takes place for early identification of possible leaks and maintain a leak history for the site;
- The requirements of the Occupational Health and Safety Act (85 of 1993) must be adhered to;
- Crash barriers must be installed around the fuel tanks;
- An onsite emergency plan must be developed and implemented and must be drafted in consultation with the relevant Municipality's Emergency Services; and

- Within six months of the tanks ceasing to be functional for the purpose of temporary fuel storage, the tanks and associated infrastructure must be removed from site at the expense of the project proponent. The area associated with the fuel storage tanks and associated infrastructure must be rehabilitated to the satisfaction of the ECO and relevant local municipality.

#### **6.7.5 Corresponding Environmental Authorisation Condition**

Condition 17 of the EA provides management and mitigation measures specific to the temporary storage of fuel to be implemented. As per Condition 23.12.8 of the EA, the revised EMPr must include management and mitigation measures relating to the storage and management of hazardous materials and other construction materials such as cement, detergents and paints.

### **6.8 Aquatic ecosystems management**

#### **6.8.1 Aspect**

Water quality, especially turbidity and pH, in the Olifants River immediately downstream of the construction site may deteriorate due to construction related activities. Furthermore, pollutants may find their way into the river system. Typical sources of pollution include oils and fuels from construction vehicles and construction material such as cement, detergents, paints and other chemicals.

#### **6.8.2 Impact**

Any pollutants which find their way into the river system could damage to the riparian habitat, lead to increased siltation (water quality deterioration) and adversely affect aquatic biota (e.g. Clogging of gills, influence movement).

#### **6.8.3 Objective**

Ensure that all reasonable measures are taken to prevent any impacts on the characteristics of the watercourses associated with the development area.

#### **6.8.4 Target**

- The downstream flow regime must remain unchanged,
- The downstream water quality to remain within acceptable ranges, as prescribed by Resource Water Quality Objectives.

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### **6.8.5 Management and Mitigation Measures**

The following management and mitigation measures aimed at preventing any adverse impacts on the aquatic biota must be implemented:

- Silt traps during construction within the watercourse channel and along the riparian habitat should be installed and maintained.
- If silt traps are not deemed feasible, other suitable measures need to be taken to limit the suspension of unnaturally high sediment volumes in the stream;
- Implement site specific and suitable storm water measures during construction to prevent the ingress of runoff into watercourses; and
- Ensure proper storage and safe handling of hazardous substances.

### **6.8.6 Corresponding Environmental Authorisation Condition**

Condition 23.12.11 of the Environmental Authorisation stipulates that the revised EMPr must make provision for the management and rehabilitation of sedimentation of the riverine systems caused by construction activities.

## **6.9 Material sourcing, earthworks and stockpiles**

### **6.9.1 Environmental Objective**

Ensure that materials are sourced from authorised operations and that stockpiled material potential impacts the environment is limited.

### **6.9.2 Environmental Target**

A comprehensive record providing the source of all sourced material will be maintained. Stockpiled material must not exceeds heights that will create a visual intrusion nor generated dust pollution.

### **6.9.3 Management and Mitigation Measures**

The following management and mitigation measures should be implemented to achieve the set environmental target relating to material sourcing, earthworks and stockpiles:

- The Contractor will be required to prepare a source statement to indicate the sources of all construction materials and submit these to the Engineer for approval. The Source Statement must include sources from commercial suppliers;
- Stockpiles will not be allowed underneath trees or against the trunks of trees;
- Stockpiles will be constructed and maintained to avoid erosion of the material and contamination of the surrounding environment;

- Stockpiles will be kept free of all alien vegetation;
- The heights of stockpiles should be minimised as far as possible to reduce wind entrainment and stockpiles should be located as far away from sensitive receptors as possible; and
- Windbreaks should be erected around stockpiles where possible in order to reduce wind entrainment of dust emissions.

## **6.10 Topsoil management**

### **6.10.1 Aspect**

Prior to the commencement of the construction activities, the topsoil from the areas where construction activities will be undertaken, excluding the batching plant and construction site camp.

### **6.10.2 Impact**

The incorrect handling and storage of topsoil will reduce the re-growth potential of the topsoil to be used for rehabilitation of the construction footprint.

### **6.10.3 Objective**

Ensure that all reasonable management measures are implemented to maintain the re-growth potential of the topsoil to be used for rehabilitation of the construction footprint.

### **6.10.4 Target**

To retain the usefulness of topsoil for the rehabilitation of the site.

### **6.10.5 Management and Mitigation Measures**

Management and mitigation measures relating to the removal, storage and maintenance of topsoil includes the following:

- Prior to the commencement of the construction activities the topsoil layer must be removed and be stockpiled separately from overburden (subsoil and rocky material). In the absence of a recognizable topsoil layer, strip the upper most 300mm of soil;
- Co-ordinate works to limit unnecessarily prolonged exposure of stripped areas and stockpiles. Vegetation cover must be retained for as long as possible;
- Stripping of the topsoil must not be carried out when wet;
- Topsoil must be stored in a demarcated area;
- Stripping of the topsoil may not be carried out during wet / high rainfall periods;
- Stockpile topsoil stripped from different sites separately, as reapplication during rehabilitation must preferably be site specific. If necessary keep a stockpile register.

- Do not mix topsoil obtained from different sites.
- Topsoil is to be handled twice only – once to strip and stockpile, and once to replace and level.
- Position topsoil stockpiles on the higher side of a disturbed area, and above a 1:50 year flood line wherever possible.
- Ensure that all topsoil is stored in such a way and in such a place that it will not cause the damming up of water, erosion gullies, or wash away itself.
- Stockpiled material may not exceed a height of 2 meters;
- Protect topsoil stockpiles from erosion;
- Exotic / invasive plants and broad leaf weeds that emerge on topsoil stockpiles removed by hand;
- If topsoil is to be stockpiled for extended periods, especially during the wet season, stockpiles may be re-vegetated with indigenous grasses and covered with a protective material such as hessian mats;
- Ensure that topsoil is at no time buried, mixed with spoil (excavated subsoil), rubble or building material, or subjected to compaction or contamination by vehicles or machinery. This will render the topsoil unsuitable for use during rehabilitation; and
- The Contractor will be held liable for the replacement of any topsoil rendered unsuitable for use during rehabilitation, for reasons due to his negligence or mismanagement on site.

## **6.11 Visual and Aesthetics Management**

### **6.11.1 Aspect**

The establishment of the construction site, construction activities, establishment of site infrastructure and security lighting the construction area during the evening will alter the visual aesthetics of the immediate area.

### **6.11.2 Impact**

Safety and security lighting of the site camp area, batching plant and specific construction areas where such activities are carried out during the evening will create a visual intrusion on residences in close proximity to the site and by-passers. Dust generated by the construction activities can also result in a visual intrusion. The establishment of the construction site, construction activities and the visibility of the site infrastructure will constitute a visual intrusion.

### **6.11.3 Objective**

Ensure that all reasonable management measures are implemented to reduce the significance of the impact on the aesthetic character of the area.

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#### 6.11.4 Target

No complaints raised by I&APs relating specifically to the impacts to visual quality associated with the proposed project.

#### 6.11.5 Management and Mitigation Measures

- The visual impact of raising the dam wall by 15 m, by adding concrete on the downstream face of the overspill, cannot be significantly mitigated due to its scale in the landscape. Viewer related mitigation measures could however be implemented, including for example, the planting of trees at receptor sites (e.g. Cederview) to screen the raised wall and accordingly minimise the visual impact. In this regard, DWS could provide saplings for those who would like to plant and screen the raised wall as an exercise of goodwill, i.e. make trees available to landowners for planting during and at the end of construction;
- All reasonable measures must be taken to avoid the generation of dust as provided in Part 6.14 of this EMPr;
- The stockpiles may not exceed heights which will be visible beyond the demarcated stock area. Where practical stockpiles should also be located in areas which are not in the line of sight of surrounding land users;
- The movement of construction vehicles and workers must as far as reasonably possible be restricted to the immediate site and access roads;
- As far as reasonably possible construction activities should be confined to daylight hours;
- It must be ensured that rubble, litter and construction rubble are collected and appropriately stored until the collection and disposal thereof at an appropriate registered landfill site;
- Appropriately site the construction camp as well as other storage areas and consider screening through the erection of shade cloth; and
- The visual intrusion associated with lighting of the construction site must be managed through the implementation of the following (but not limited to):
  - The mounting height of light fixtures must be kept as low as possible; and
  - Making use of motion detectors on security lighting, to ensure that area remains dark until lighting is required for security purposes.

#### 6.11.6 Corresponding Environmental Authorisation Condition

Condition 23.12.10 of the Environmental Authorisation specifies that the revised EMPr must make provision for management measures aimed at mitigating the visual impacts associated with the proposed project, with specific reference to light pollution during the evening.

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## **6.12 Air Quality Management**

### **6.12.1 Aspect**

The movement of construction vehicles across bare soil surfaces and the exhaust fumes gaseous pollutants (e.g. sulphur dioxide) released from vehicle exhausts will alter the ambient air quality of the immediate area. High wind speeds is likely to generate dust particles from topsoil and spoil stockpiles.

### **6.12.2 Impact**

The release of pollutants generated by gaseous emissions and the release of particulate matter into the air, will reduce the quality of air in the immediate areas surrounding the construction footprint.

### **6.12.3 Objective**

It must be ensured that the volumes of dust generated by the construction and associated activities, do not exceed the National Ambient Air Quality Standards and Minimum Emissions Standards and may not result in any adverse impacts on human health.

### **6.12.4 Target**

The following will serve as indicators of the extent to which the environmental objectives relating to the management of air quality, have been reached:

- No complaints recorded by I&APs relating specifically to dust pollution and health concerns;

### **6.12.5 Management and Mitigation Measures**

- Appropriate dust suppression measures or temporary stabilising mechanisms must be used in instances where dust generation is unavoidable (e.g. dampening with water, chemical soil binders, straw, brush packs, chipping), particularly during prolonged periods of dry weather;
- Dust suppression to be undertaken for all bare areas, including construction servitude, access roads, borrow pits, site yard, etc.;
- Any dust control system (i.e. sprinkler or vacuum) that is installed must be maintained and controlled to prevent impacts associated with excessive runoff (e.g. soil erosion);
- Within the construction area, construction vehicle will not be permitted to travel at speeds exceeding 40 km/h; and

- The Contractor will take preventative measures to minimise complaints regarding dust nuisances (e.g. screening, dust control, timing, pre-notification of I&APs).

### **6.12.6 Corresponding Environmental Authorisation Condition**

Condition 23.12.7 of the EA stipulates that the revised EMPr must include management measures relating to dust control.

## **6.13 Noise control**

### **6.13.1 Aspect**

The movement of construction activities, construction vehicles and heavy machinery as well as construction personnel will alter the ambient noise levels in the area. The construction site would operate 24-hours per day, for a portion of the construction period, if not for the full duration.

### **6.13.2 Impact**

The increased noise levels caused by the movement of construction activities, construction vehicles and heavy machinery as well as construction personnel, and which is audible by the surrounding receptors may cause a nuisance and disturbance.

### **6.13.3 Objective**

Increased noise levels must be maintained below levels which will be audible by the surrounding receptors.

### **6.13.4 Target**

Noise levels at the boundary of the development footprint will not exceed 7 dB above ambient levels.

### **6.13.5 Management and Mitigation Measures**

The following management and mitigation measures relating to the control of noise generated during the Construction Phase must be implemented:

- Noise mufflers and/or soft explosives must be used during blasting to minimise the impact on humans and animals;
- No amplified music will be permitted on site and in construction camps;
- All noise levels must be controlled at the source;

- If the noise levels at the boundaries of the site exceed 7 dB above ambient levels, the local health authorities must be informed;
- All onsite workers must be provided with the necessary ear protection gear;
- I&APs must be informed of the excessive noise factors;
- Local municipal by-laws specific to noise must be adhered to;
- Blasting operations must be strictly controlled with regard to the size of explosive charge in order to minimise noise and air blast, and timings of explosions. The number of blasts per day should be limited, blasting should be undertaken at the same times each day and no blasting should be allowed at night;
- The SANS10103 (2008) should be applied to provides a guidance for determining the community's response to the increase in the general ambient noise level caused by the construction Phase;
- Blasting and noise intensive operations must be restricted to normal working hours (7 am to 5 pm);
- Amplified noise such as sirens and announcements limited to restricted hours other than cases of emergency;
- Ensure that employees and staff conduct themselves in an acceptable manner while on site, both during Work hours and after hours; and
- Respond to community complaints with regard to noise generation, taking reasonable action to ameliorate the impact. Where complaints cannot be addressed to the satisfaction of all parties, the Contractor will, upon instruction by the Project Manager, provide an independent and registered Noise Monitor to undertake a survey of the noise output levels.

#### **6.13.6 Corresponding Environmental Authorisation Condition**

Condition 23.12.7 of the EA stipulates that noise control measures must be provided in the updated EMPr.

### **6.14 Traffic and Roads Management**

#### **6.14.1 Aspect**

Construction vehicles would make use of the existing roads in the area, including the N7 to transport material to the dam site. In addition the construction site would operate on a 24-hour basis. A high volume of traffic currently travels on the N7 between Clanwilliam and Citrusdal, and the road is poor, in parts with no shoulders or passing lanes.

#### **6.14.2 Impact**

The increased traffic volumes caused by the travelling of construction vehicles to and from the construction area will impact negatively on the traffic flow, the structural integrity of the N7 and may exacerbate the risk of vehicular accidents, especially at night.

### 6.14.3 Objective

It must be ensured that the number of construction vehicles and trips undertaken by the construction vehicles to and from the construction area

### 6.14.4 Target

- No road accidents involving or caused by the construction vehicles travelling on public roads; and
- No complaints reported by I&APs relating to the traffic impacts associated with the travelling of construction vehicles on public roads.

### 6.14.5 Management and Mitigation Measures

The following management and mitigation measures relating to the management of the traffic impacts resulting from the movement of construction vehicles to and from site during the Construction Phase must be implemented:

- The phasing of the construction of the dam should be considered as a means of ensuring that access for traffic on the N7 is maintained, and conflicts between construction traffic hauling material between the quarry and the dam wall and the traffic on the N7 are reduced;
- The method of transporting concrete from the batching facility (west of the N7 and dam wall) to the dam wall, would need to be carefully considered to reduce the impact on traffic using the N7, i.e. a conveyor system across the existing N7 to the wall would not be desirable, as the risk of spillage over the N7 would pose a significant safety risk to road users. It would accordingly be preferable for concrete pipe/s to be jacked under the road fill to accommodate the conveyor system, thereby reducing the safety risk and traffic impacts; and
- Ensuring that all regulations relating to traffic management are observed and by notifying the local traffic officials of programmed construction activities. As far as possible, attempts should be made to ensure that high construction-related road usage coincides with low traffic flow periods.

### 6.14.6 Corresponding Environmental Authorisation Condition

Condition 23 of the Environmental Authorisation calls for the revision and amendment of the EMPr to incorporate the final detailed designs, to update and refine DWS' Generic EMP that was submitted to the WCDEADEP as part of the final EIR submission.

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## **6.15 Heritage Resource Management**

### **6.15.1 Aspect**

The Clan William Dam is located in an area where numerous sites containing rock art, Stone Age tool deposits and other culturally significant artefacts are found.

### **6.15.2 Impact**

The raising of the dam could result in the inundation of inter alia significant artefacts and rock paintings from the Early, Middle and Later Stone Ages, as well as historical structures, road infrastructure, industrial infrastructure, quarries and graves.

### **6.15.3 Objective**

Ensure that a documented record all heritage and paleontological artefacts within the development area is established. Prevent disturbance and damage of unmarked graves (e.g. Khoisan Graves).

### **6.15.4 Target**

No disturbance to sites of heritage importance and burial sites.

### **6.15.5 Management and Mitigation Measures**

The following management and mitigation measures relating to reduce the significance and / or damage to heritage and paleontological artefacts during the Construction Phase must be implemented:

- Any heritage or paleontological artefact (e.g. Early Stone Artefacts) uncovered / found during the Construction Phase should be fenced off for protection. The provincial Heritage Resource Agency must be notified of any found heritage or paleontological artefact. Furthermore a professional archaeologist must monitor such operations at a schedule agreed upon by the provincial Heritage Resource Agency;
- In the event where any remains be found on site that is potentially human remains, the South African Police Service must be informed thereof and all works surrounding the area should be halted. Following public consultation, the graves must be exhumed and re-interred either in a new cemetery or relocated to the Municipal Cemetery in Clanwilliam;
- The photographic record of the development footprint as specified in Condition 22 of the EA must be verified by a professional archaeologist prior to the onset of the construction activities; and

- No heritage material be destroyed or removed from site without a relevant permit issued by the Provincial Heritage Resources Authority.

### **6.15.6 Corresponding Environmental Authorisation Condition**

Condition 22 of the EA stipulates mitigation measures that must be implemented to reduce the significance / prevent impacts on heritage resources as well as management measures to be implemented in the event of any heritage remains being uncovered.

The proponent has appointed a heritage resources specialist that has commenced with the relocation of rock art within the inundation zone between the current water level and anticipated purchase line. The specialist expects to complete mitigation actions and relocations by end of 2015.

## **6.16 Health and Safety**

### **6.16.1 Aspect**

The nature of the construction activities and magnitude of the proposed project activities inherently have the potential to impact on the health of the construction workers and the community.

### **6.16.2 Impact**

Unsafe working conditions and the absence of a Health and Safety Plan may result in injury to workers and loss of life.

### **6.16.3 Objective**

Provision of a safe working environment to construction workers and the public.

### **6.16.4 Target**

Ensuring that safe working environment is provided will be dependent on the following:

- Implementation of an approved Health and Safety Plan
- No incidents, injury or loss of human life; and
- Compliance with the Occupational Health and Safety Act.

### **6.16.5 Management and Mitigation Measures**

The following mitigation and management measure aimed at ensuring the safety of working and preventing injury or loss of human life must be implemented:

- The safety of all construction and operational personnel, as well as any member of the public on the site is the responsibility of the Contractor.
- Control access onto and off the site by means of a register system;
- Ensure that first aid / emergency facilities / procedures are in place;
- Ensure that all personnel are trained in basic site safety procedures;
- A register with contact numbers of all people employed and one emergency contact person for each employee;
- Keep a list of all relevant emergency numbers in an easily accessible location on site.
- Maintain a record of all incidents, accidents and illnesses on site and make the information available at meetings;
- Ensure that proper footwear is worn by employees at all times;
- Ensure that employees are issued with and make use of the necessary safety equipment when working in dusty, noisy and / or dangerous situations. Such equipment may include, but is not necessarily limited to hardhats, goggles, masks, earplugs, gloves, safety footwear and safety ropes as required.
- Ensure that adequate drinking water, wash water and sanitary facilities are available at all times and on all work sites.
- A designated area for food storage, preparation and consumption must be provided on site;
- Ensure that all vehicle and machine operators are qualified and licensed to operate their vehicles / machines;
- The Contractor will prepare and submit a Health and Safety Plan, prepared in accordance with the Health and Safety Specification, for approval by a Health and Safety Officer prior to the commencement of the construction activities;
- Fencing and barriers must be put in place in accordance with the Occupational Health and Safety Act (Act No. 85 of 1993).
- Applicable notice boards and hazard warning notices will be put in place and secured.
- All construction personnel must be clearly identifiable and provided with employee cards for identification purposes.
- All workers will be supplied with the required Personal Protective Equipment as per the Occupational Health and Safety Act (Act No. 85 of 1993); and
- Cordon off dangerous excavations or Works that may pose a hazard to humans and animals.

## **6.17 Site rehabilitation**

### **6.17.1 Aspect**

The rehabilitation works carried out following the completion of all construction activities will include the following:

- Removal of structures and infrastructure;
- Inert waste and rubble;
- Hazardous waste and pollution control;

- Final shaping;
- Topsoil replacement and soil amelioration;
- Ripping and scarifying;
- Planting;
- Grassing; and
- Maintenance of the rehabilitated areas.

#### **6.17.2 Objective**

Reinstatement and rehabilitation of construction site to the Satisfaction of the ECO and WCDEADP.

#### **6.17.3 Target**

The rehabilitation and remediation activities will ensure that a complete site clean-up is carried out and that the entire construction site is reinstated and rehabilitated.

#### **6.17.4 Management and Mitigation Measures**

##### Removal of structures and infrastructure

Following the completion of the construction activities, the area must be rehabilitated by appropriate landscaping, levelling, topsoil dressing, land preparation, alien plant eradication and vegetation establishment. All construction plant, equipment, storage containers and temporary fencing must be removed from site;

##### Inert waste and rubble

- Rubble, including surplus rock, foundations and batching plant aggregates will be removed from the construction site and disposed of at a registered landfill site; and
- All waste storage containers will be removed from site.

##### Hazardous waste and pollution control

- All portable sanitation facilities will be removed by a certified contractor. It must be ensured that no leaks or spillage from sanitation facilities occurs during the removal thereof; and
- All hazardous waste which is temporary stored on site, including the storage containers must be removed from site and disposed of at a registered hazardous landfill site.

##### Final Shaping

- Where possible all disturbed areas must shaped so as to blend in with the surrounding landscape;

- Where possible, programme the backfill of excavations so that subsoil is deposited first, followed by the topsoil. Compact in layers for best results;
- Monitor backfilled areas for subsidence (as the backfill settles) and fill depressions using available material; and
- Ensure that no excavated material or stockpiles are left on site and that all material remaining after backfill is smoothed over to blend in with the surrounding landscape.

#### Grassing

- Grassing must be undertaken by a suitably qualified Contractor;
- Grass areas using the method specified on the plant plans;
- Sodding may be done at any time of the year, but seeding must be done during the summer when the germination rate is higher; and
- Hydro-seeding with a winter mix will only be specified where re-grassing is urgent, and cannot be postponed until summer.

#### Ripping and Scarifying

- Rip and / or scarify all areas following the application of topsoil to facilitate mixing of the upper most layers. The ECO will specify whether ripping and / or scarifying is necessary, based on the site conditions immediately before these works begin;
- Rip and / or scarify all disturbed (and other specified) areas of the construction site, including temporary access routes and roads, compacted during the execution of the works;
- Rip and / or scarify along the contour to prevent the creation of down-slope channels;
- Rip and / or scarify all areas at 300mm intervals (but not more than 400mm intervals), ensuring that the lines overlap; and
- Areas may not be ripped / scarified under wet conditions, as the soil will not break up.

#### Topsoil replacement and soil amelioration

- The principle of Progressive Reinstatement must be followed wherever possible. This includes the reinstatement of disturbed areas on an ongoing basis, immediately after the specified construction activities for that area are concluded;
- Execute top soiling activity prior to the rainy season or any expected wet weather conditions;
- Execute topsoil placement concurrently with construction where possible, or as soon as construction in an area has ceased;
- Replace and redistribute stockpiled topsoil together with herbaceous vegetation, overlying grass and other fine organic matter in all disturbed areas of the construction site, including temporary access routes and roads. Replace topsoil to the original depth. These areas will be quantified by the ECO;
- Place topsoil in the same area from where it was stripped. If there is insufficient topsoil available from a particular soil zone to produce the minimum specified depth, topsoil of similar quality may be brought from other areas of similar quality;

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- The suitability of substitute material will be determined by means of a soil analysis addressing soil fraction, fertility, pH and drainage, and approved by the ECO; and
  - Do not use topsoil suspected to be contaminated with the seed of alien vegetation.

#### Maintenance of rehabilitated areas

- Allow for a maintenance period of one year following practical completion;
- Landscape maintenance must be undertaken by a suitably qualified professional landscape architect;
- Cordon off areas that are under rehabilitation as no-go areas using danger tape and steel droppers. If necessary, these areas should be fenced off to prevent vehicular, pedestrian and livestock access.
- Re-vegetation must match the vegetation type which previously existed, unless otherwise indicated in the Contract or specified by the EO / ECO.
- Water all transplanted, planted and grassed areas;
- For planted areas that have failed to establish, replace plants with the same species as originally specified. The same species as originally specified must be used unless otherwise specified by the EO / ECO; and
- A minimum grass cover of 80% is required, and individual plants must be strong and healthy growers at the end of the Maintenance Period.

## **7 Resource Impact Monitoring**

This section deals with monitoring of local resources as specified during the Environmental Impact Assessment phase and specialist studies. No specific monitoring measures were provided and the following were extracted from specialist studies:

### **7.1 Ecological**

In order to ensure that the Reserve, Ecological Flow and riverine health requirements are met, a detailed riverine monitoring programme must be developed and submitted together with the Clanwilliam Dam and Bulshoek Weir operating rules.

### **7.2 Heritage**

Early Stone Age artifacts and/or fossilized bones might be exposed during earth moving operations. A professional archaeologist must monitor any such operations at a schedule agreed upon by Heritage Western Cape and the applicant.

### **7.3 Groundwater**

Appropriate measures to mitigate the impacts on groundwater resources must be determined, designed and implemented, with extensive groundwater monitoring to be done to inform these measures.

The development of an effective monitoring framework must include the following aspects:

#### **7.3.1 Development of a monitoring framework**

- Aerial photo interpretation (1:50 000 to 1:10 000 orthophoto scale) and field mapping of boundaries in Nardouw Subgroup (bottom and top of Skurweberg Aquifer, possible aquitard zone between Skurweberg and Rietvlei hydrostratigraphic units) around Clanwilliam Dam site and town must be undertaken;
- Conceptual formulation, spatial planning of monitoring sites and technical design of a groundwater monitoring network appropriate in location and scale to the anticipated problem of aquifer-related impacts must be considered.
- Incorporation of local seismographic monitoring for the detection and hypocentral location of micro-earthquakes possibly related to groundwater movement along major and/or minor hydrotect structures.

### 7.3.2 Field investigation

- Preliminary fracture mapping at a scale of 1:50 000, to supplement structural information on a 1:10 000 scale would be needed;
- Siting of monitoring wells and borehole design adjacent upstream of the Clanwilliam Dam;
- Siting of monitoring wells and borehole design in low lying locations within the town of Clanwilliam;
- Preparation of contractor specifications and tender documents for drilling and pump-testing of further new monitoring wells;
- Drilling supervision and logging of new monitoring wells;
- Installation of continuous automatic data loggers in monitoring boreholes;
- Aquifer pump-testing and hydraulic interpretation of selected monitoring wells for aquifer-characteristic parameters.
- Tracer testing in the vicinity of the springs to estimated groundwater flow rates and other transport parameters

### 7.3.3 Numerical modelling and cost-benefit analysis

- Predictive hydrogeological modelling of groundwater levels, groundwater flow rates and volumes related to different full supply level (FSL) scenarios for the raised Clanwilliam Dam, using software appropriate to fractured-rock systems and sensible far-field and near-field boundary conditions;
- Modelling Report;
- Hydrogeological input to engineering cost-benefit analysis and viability evaluation of dam-wall reconstruction options;
- Final Summary Report

## 7.4 Description of the monitoring programme

When developing a monitoring programme, the following should be addressed. The monitoring programme should consist of three main aspects:

- **Baseline assessment.** This must occur prior to the start of the project or activity in order to determine the level and status of the environmental parameters prior to any impacts associated with the project or activity;
- **Impact (or performance) monitoring.** This monitoring should be ongoing throughout the project life-cycle and must be implemented to ensure that environmental impacts are within the predicted levels; and
- **Compliance monitoring.** This monitoring must be implemented to ensure that the prescribed mitigation measures are having the predicted and desired effect. This monitoring would be conducted periodically, the timing of which will vary from project to

project. It must be used to check that the levels of specific environmental parameters are compliant with laws, regulations, standards or guidelines, as applicable. The programme must make provision for remedial measures to be effectively implemented in the event of non-compliance, i.e. when mitigation measures are inadequate or when impacts have been underestimated in the impact assessment study.

## **8 Monitoring Compliance With Empr**

### **8.1 Environmental Awareness Plan**

In keeping with Regulation 33(j) of the NEMA EIA Regulations 2010 (Government Notice R.543) this part of the EMPr provides an account of the approach that will be adopted for Environmental Awareness Plan during the Construction Phase of the proposed project. The Environmental Awareness Plan is intended to describe the method that will be adopted by the DWS to inform any person acting on their behalf, including an agent, sub-contractor, employee or any person rendering a service, of any environmental risk which may result from the implementation of the project activities and the manner in which risks must be managed in order to avoid adverse environmental consequences. Providing Environmental Awareness Training is fundamental for ensuring that the onsite personnel understand how they can play a role in achieving the objectives specified in the EMPr.

The Environmental Officer, in conjunction with the employer, should develop an environmental awareness plan in order to address the following:

- Training needs of site and project personnel
- Training material to be used
- Language of training
- General environmental awareness i.e posters, toolbox talks etc
- Include site-specific findings as per the EIA
- Health and Safety aspects
- HIV/Aids Awareness
- Environmental Reports
- Environmental Terminology

Once the awareness plan and training material are available, the entire workforce and project management team should undergo an environmental awareness training course. Environmental awareness training is critical for the workforce to understand how they can play a role in achieving the objectives specified in the EMP.

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## 8.2 Method Statements

A Method Statement must be compiled for every activity undertaken by the Contractor which poses a risk to the environment (natural, biophysical and social), and includes the following:

- The Method Statement should be submitted at least 7 working days prior to the commencement of work to the ECO.
- A method statement describes the scope of the intended work in a step by step description to ensure that the ECO/EO understands the Contractors intentions. This will enable them to assist in devising any mitigation measures which would minimise environmental impact during these tasks.
- The ECO may require changes to a Method Statement if it does not comply with the specification or if, in the reasonable opinion of the ECO, the proposal may result in, or carries a greater than reasonable risk of damage to the environment in excess of that permitted by the EMPr or any legislation.
- The Contractor shall carry out the activities in accordance with the approved Method Statement.
- Approved Method Statements shall be readily available on the site and shall be communicated to all relevant personnel.
- Approval of the Method Statement shall not absolve the Contractor from any of his obligations or responsibilities in terms of the contract.
- No claim for delay or additional cost incurred by the Contractor shall be entertained due to inadequacy of a Method Statement.
- For each instance where it is requested that the Contractor submit a method statement to the satisfaction of the ECO, the format should clearly indicate as a minimum the following:
  - Responsible person (name and ID number) and an alternative (name and ID number);
  - Legal Requirements;
  - Training Requirements;
  - Timing of activities;
  - Materials to be used;
  - Proposed construction procedure designed to implement the relevant environmental specifications;
  - The system to be implemented to ensure compliance with the above;
  - 
  - PPE required;
  - A detailed description of the process of work, methods and materials;
  - Emergency Procedures;
  - Response in the case of a non-compliance; and
  - Other information deemed necessary by the ECO.
- All Method Statements must be signed by the Engineer

- Work may not commence until the method statement has been approved by the ECO. All method statements will form part of the EMPr documentation and are subject to all terms and conditions contained within the EMPr main document.

### 8.3 The following Method Statements shall be prepared by the Contractor for approval:

- **Contractor's SHE Officer and Fire Officer.** The name and letter of appointment of the Contractor's SHE Officer and Fire Officer must be given to the ECO and the terms of reference for the work to be undertaken must be detailed including time on site, roles and responsibility, interaction with the Contractor and environmental offices, etc.
- **Site layout.** The graphical representation with detailed notes of the location, layout and method of establishment of the construction camp must be provided and must include the following:
  - All Contractor's buildings, and/or offices;
  - Lay down areas;
  - Vehicle and plant storage areas, including wash areas;
  - Workshops, if required and approved by ECO;
  - Fuel storage and dispensing areas, if required and approved by ECO;
  - Cement/concrete batching areas, if required and approved by ECO (including the methods employed for the mixing of concrete and particularly the containment of runoff water from such areas and the method of transportation of concrete);
  - Other infrastructure required for the running of the project.
- **Access Routes.** Details, including a drawing, showing where and how the access points and routes will be located and managed must be provided in a Method Statement. Final locations of planned new access roads will be subject to successful negotiations with landowners. Details of fences and gates affected or used during the construction activities, including a drawing showing the location of fences and access gates must be provided.
- **Pollution control.** Expected solid waste types, quantities, methods and frequency of collection and disposal as well as location of disposal sites must be identified and stated in a Method Statement. The Method Statement shall further include methods of minimising, controlling, collecting and disposing of contaminated water, and details of any hazardous substances/materials to be used, together with the transport, storage, handling and disposal procedures for the substances.
- **Safety considerations.** The Contractor shall provide details identifying what safety precautions will be implemented to ensure the safety of all staff, and the general public at large, on site during the life of the project. This will include protective clothing requirements for all types of construction activities on site, including protection against dust, noise, falling objects, work associated with electricity and work at heights.
- **Emergency procedures.** The Contractor shall provide details regarding all relevant emergency procedures that will be implemented for fire control and accidental leaks and spillages of hazardous substances (including fuel and oil). The Contractor shall further

include details of risk reduction measures to be implemented including firefighting equipment, fire prevention procedures and spill kits.

- **Waste management control.** The Contractor shall provide details regarding how solid and liquid waste generated on the construction site and site camp will be collected, stored, transported and disposed of. Details of any service provider(s) appointed to manage this task must also be provided.
- **Storm water and erosion control.** The Contractor shall provide details of how storm water emanating within or adjacent to the construction site may impact on construction activities. Details on how the Contractor will deal with storm water runoff and potential erosion within the construction footprint and servitude must be provided. Details of any service provider(s) appointed to manage this task must also be provided.

#### **8.4 Compliance auditing and reporting**

The independent Environmental Control Officer will be responsible for compliance monitoring, auditing and reporting throughout the life of the proposed development. The required compliance monitoring for the Clanwilliam Dam raising project should include the following:

The ECO and EO shall be responsible for the day-to-day management and implementation of the EMPr. They should ensure that day-to-day activities are captured in a site diary and a photographic record is kept as evidence.

The EO shall be responsible to report any non-conformities to the ECO within 24 hours of the incident and an investigation report within 5 days. Bi-weekly reports to the ECO should be submitted and should include all activities and aspects of the last two weeks.

The EO and ECO shall schedule compliance audits at least once a month to check full compliance to the EMPr and the audit report to be made available to the Department and management.

## **8.5 Implementation of corrective measures**

Checking and corrective action forms part of the environmental management function and is aimed at ensuring that the necessary environmental management activities are being implemented and that the desired outcomes are achieved.

When non-conformities do occur that have a negative impact on the environment, these should be rectified by the implementation of corrective actions issued by the ECO and Project Manager within a reasonable or agreed period of time. All corrective actions need to be documented and the outcome photographed and included in the next report.

## **8.6 Penalties Structure**

Section 30 of Chapter five of NEMA proposes penalties for non-compliance with the provisions of Chapter five. Any person who contravenes the regulations set out here or commits an offence as described in this section is liable for a fine or jail term. The responsible person or even the minister within the DWS who is undertaking an activity that contravenes these regulations, will be liable for these penalties. Fines and penalties shall be managed in accordance with the Public Management Finance Act.

A penalties and fines system shall be developed for this project and shall take the following in consideration:

- Penalties will be issued for the transgressions and non-compliances where the Contractor inflicts non-repairable damage upon the environment or fails to comply with any of the environmental specifications. The Contractor shall be liable to pay a penalty over and above any other contractual consequence.
- Penalties may be issued per incident at the discretion of the PM and ECO. The exact value of the penalty imposed shall be at the discretion of the PM and ECO and enforcement shall be at the discretion of the Developer. The Contractor will also be responsible for remediation costs.
- Such fines will be issued in addition to any remedial costs incurred as a result of non-compliance with the EMPr. The PM will inform the Contractor of the contravention and the amount of the penalty, and will deduct the amount from monies due under the Contract.
- The PM and ECO shall be the judge as to what constitutes a transgression in terms of this clause subject to the provisions of the General Conditions of Contract.
- For each subsequent similar offence, the penalty may, at the discretion of the PM and ECO be doubled in value to a maximum value to be determined.
- Payment of any penalty in terms of the contract shall not absolve the offender from being liable from prosecution in terms of any law.

A guideline of minimum fine values is provided for minor, moderate and serious offences in Table 8-1 below.

**Table 8-1: Guideline to fines for minor, moderate and serious offences**

Offences	Fine
<b><u>Minor offences</u></b> <ul style="list-style-type: none"> <li>• Littering</li> <li>• Possession of intoxication substances on site.</li> <li>• Failure to use ablutions.</li> <li>• Moving on areas recently landscaped.</li> <li>• Disturbing grassed areas.</li> <li>• Not parking in demarcated areas.</li> <li>• Not using safety equipment</li> <li>• Wasting of water and electricity.</li> <li>• Not removing domestic waste off site.</li> <li>• Not stockpiling topsoil adequately.</li> </ul>	R 1500 - 00
<b><u>Moderate offences</u></b> <ul style="list-style-type: none"> <li>• Oil spills</li> <li>• Persistent oil leaks on vehicles.</li> <li>• Generation of excessive dust and noise.</li> <li>• Transgression of the speed limit.</li> <li>• Illegal fires.</li> <li>• Burying of waste.</li> <li>• Use of intoxicate substances on site.</li> <li>• Lack of erosion control.</li> <li>• Entering non-demarcated areas.</li> <li>• Hunting and snaring.</li> <li>• Damaging of pre- identified trees.</li> </ul>	R 5000-00
<b><u>Serious offences</u></b> <ul style="list-style-type: none"> <li>• Large oil/ hazardous waste spill.</li> <li>• Removal of pre-identified trees.</li> <li>• Damage of pre- identified heritage sites or objects.</li> <li>• Continually exceed noise limits.</li> <li>• Transgression of legal requirements.</li> <li>• Sanitation facilities not adequate.</li> <li>• Pollution of groundwater.</li> <li>• Removal of any protected plant or other species.</li> <li>• Damage or pollution of wetlands.</li> </ul>	R15 000.00

## 8.7 Documentation and Record Keeping

All records related to the implementation of this EMPr (e.g. method statements, audit inspection protocols, incident reports, etc.) must be filed together by the ECO in a safe place where it can be easily retrieved. These records should be kept for two years and should, at

any time, be available for scrutiny by relevant authorities. It is also recommended that photographs be taken of the site prior to, during and immediately after construction/installation, as a visual reference. These photographs should be stored with other records related to this EMPr.

## **9 Management Review And Revision Of The Emp**

This EMPr should not be considered as a stagnant document, but rather as a tool to manage project activities which may result in adverse environmental impacts and to prevent such impacts from happening. In the event where any of the mitigation and management measures provided in this revised EMPr have proven to be less effective due to unforeseen significant changes in the conditions of the receiving environment, the amendment of the EMPr should be initiated by the project proponent in consultation with the WCDEADP.

This EMPr must be revised and amended in any instance where the following provisions are applicable:

- To prevent deterioration or further deterioration of the environment;
- To achieve prescribed environmental standards;
- Where deemed necessary to accommodate demands brought about by impacts on socio-economic circumstances and it is in the public interest to meet those demands;
- To ensure compliance with the conditions of the EA;
- Ensure the continued suitability and adequacy of the EMPr; or
- When this EMPr is in conflict with the principles set out in the NEMA or any act governing the activities associated with the proposed project.

Furthermore this EMPr must be revised in the case where amendments to the current environmental legislation governing the project activities necessitates a revision of the document in order to conform to environmental legislative requirements. The site specific circumstances which warrant an amendment and revision of this EMPr should be led by the findings of the site inspection / audits against documented Monthly Environmental Compliance Audit Reports. Although the EIA Process for the proposed project was initiated in terms of the now repealed ECA, any amendments which are made to this EMPr should be done in accordance with the prescribe process provided in Regulation 46 of the NEMA EIA Regulations (Government Notice R.543).

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## 10 Conclusion

This EMPr has been revised to include not only the conditions provided in the EMPr, specialist recommendations and EIR, but also conform to the environmental legislative requirements and environmental best practice principles. It is the opinion of the EAP that the implementation of the management and mitigation measures provided in the EMPr is sufficient to prevent the environmental impacts associated with the proposed project, thereby facilitating conformance with Condition 23.12.18 of the EA. This EMPr will furthermore contribute the realising the following over-arching objectives set out to be reached by the use of the document as an environmental management tool:

- Ensure that sufficient monetary provision, aligned with the significance of the environmental impact and scale of the project, is made to remediate and rehabilitate the environment impacted on by the construction activities;
- Verifying environmental performance through information on impacts as they occur;
- Responding to changes in project implementation not considered in the EIA;
- Responding to unforeseen events and environmental incidents; and
- Providing feedback to drive continual improvement in environmental performance.

The effectiveness of this EMPr will to a large degree rest on adherence to and fulfilling the roles and responsibilities of each role player and stakeholder provided in Part 4, which clearly defines the responsibilities for management actions contained in the EMPr and arrangements for coordination among the role players.

## 11 References

Department of Water Affairs and Forestry, February 2005 Environmental Best Practice Specifications: Construction Integrated Environmental Management Sub-Series No. IEMS 1.6. Third Edition. Pretoria.

Lochner, P. 2005. Guideline for Environmental Management Plans. CSIR Report No ENV-SC 2005-053 H. Republic of South Africa, Provincial Government of the Western Cape, Department of Environmental Affairs & Development Planning, Cape Town.

Ninham Shand Consulting Services. Proposed Raising of Clanwilliam Dam and associated realignment of affected roads Final Environmental Impact Report. 2007.

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**C3: PRICING DATA**

**CONTENTS**

**C3.1 PRICING INSTRUCTIONS**

**C3.2 BILL OF QUANTITIES**

## **C3.1 PRICING INSTRUCTIONS**

### **1. GENERAL**

The Schedule of Quantities forms part of the Contract Documents and must be read and priced in conjunction with all the other documents comprising the Contract Documents which include the Conditions of Tender, Conditions of Contract, the Specifications (including the Project Specification) and the Drawings.

### **2. DESCRIPTION OF ITEMS IN THE SCHEDULE**

The Schedule of Quantities has been drawn up generally in accordance with Civil Engineering Quantities 1990 issued by the SA Institution of Civil Engineers.

The short descriptions of the items in the Schedule of Quantities are for identification purposes only and the measurement and payment clause of the Standardised Specifications and each Particular Specification, read together with the relevant clauses of the Project Specification and directives on the drawings, set out what ancillary or associated work and activities are included in the rates for the operations specified.

### **3. QUANTITIES REFLECTED IN THE SCHEDULE**

The quantities given in the Schedule of Quantities are estimates only, and subject to remeasuring during the execution of the work. Where quantities or sums are indicated as "Provisional", the Employer reserves the right to adjust the quantity or sum upwards or downwards as necessary, or the item can be omitted altogether. The Contractor shall obtain the Engineer's detailed instructions for all work before ordering any materials or executing work or making arrangements for it.

The Works as finally completed in accordance with the Contract shall be measured and paid for as specified in the Schedule of Quantities and in accordance with the General and Special Conditions of Contract, the Specifications and Project Specifications and the Drawings. Unless otherwise stated, items are measured net in accordance with the Drawings, and no allowance has been made for waste.

The validity of the contract will in no way be affected by differences between the quantities in the Schedule of Quantities and the quantities finally certified for payment.

### **4. PRICING OF THE SCHEDULE**

The prices and rates to be inserted in the Schedule of Quantities shall be the full inclusive prices to be paid by the Employer for the work described under the several items, and shall include full compensation for all costs and expenses that may be required in and for the completion and maintenance during the defects liability period of all the work described and as shown on the drawings as well as all overheads, profits, incidentals and the cost of all general risks, liabilities and obligations set forth or implied in the documents on which the Tender is based.

Each item shall be priced and extended to the "Total" column by the Tenderer. If the Contractor omits to price any items in the Schedule of Quantities, then these items will be Considered to have a nil rate or price.

All items for which terminology such as "inclusive" or "not applicable" have been added by the Tenderer will be regarded as having a nil rate which shall be valid irrespective of any change in quantities during the execution of the Contract.

All rates and amounts quoted in the Schedule of Quantities shall be in Rand and shall include all levies and taxes (other than VAT). VAT will be added in the summary of the Schedule of Quantities.

### **5. CORRECTION OF ENTRIES**

Incorrect entries shall not be erased or obliterated with correction fluid but must be crossed out neatly. The correct figures must be entered above or adjacent to the deleted entry, and the alteration must be initialled by the Tenderer.

## **6. MONTHLY PAYMENTS**

Unless otherwise specified in the Specifications and Project Specifications, progress payments in Interim Certificates, referred to in Clause 6.10 of the General Conditions of Contract 2015 (Third edition), in respect of "sum" items in the Schedule of Quantities shall be by means of interim progress instalments assessed by the Employers Agent and based on the measure in which the work actually carried out relates to the extent of the work to be done by the Contractor.

## **7. UNITS OF MEASUREMENT**

The units of measurement described in the Schedule of Quantities are metric units for which the standard international abbreviations are used. Non-standard abbreviations which may appear in the Schedule of Quantities are as follows:

No.	=	number
Sum	=	Lump sum

## **8. ARITHMETICAL ERRORS**

As per SANS 294:2004:

### **F.3.9 Arithmetical errors**

**F.3.9.1** Check responsive tender offers for arithmetical errors, correcting them in the following manner:

a) Where there is a discrepancy between the amounts in figures and in words, the amount in words shall govern.

b) If a bill of quantities (or schedule of quantities or schedule of rates) applies and there is an error in the line item total resulting from the product of the unit rate and the quantity, the line item total shall govern and the rate shall be corrected. Where there is an obviously gross misplacement of the decimal point in the unit rate, the line item total as quoted shall govern, and the unit rate shall be corrected.

c) Where there is an error in the total of the prices, either as a result of other corrections required by this checking process or in the tenderer's addition of prices, the total of the prices shall govern and the tenderer will be asked to revise selected item prices (and their rates if a bill of quantities applies) to achieve the tendered total of the prices.

**F.3.9.2** Consider the rejection of a tender offer if the tenderer does not correct or accept the correction of his arithmetical errors in the manner described in F.3.9.1.

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### C3.2 BILL OF QUANTITIES

ITEM NO	PAY REF	SHORT DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>SECTION A : PRELIMINARY AND GENERAL</b>						
A1	CWD01SC	<b>FIXED-CHARGE ITEMS</b>				
A1.1	3.3.1	Establishment of Facilities for Contractor on site	Sum	1		
A1.2	3.3.2	De-establishment of Facilities	Sum	1		
A1.3	3.3.3	Temporary De-establishment	Sum	4		
A1.4	3.3.4	Re-establishment after temporary De-establishment	Sum	4		
A2	CWD01SC	<b>TIME RELATED ITEMS</b>				
A2.1	3.4.1	Supervision for Duration of Construction	Sum	1		
A2.2	3.4.2	Health and Safety and Environmental	Sum	1		
Carried forward to summary - <b>Sub Total A1 &amp; A2</b>						
<b>SECTION B : TEST SECTION FOR CONCRETE SURFACE REMOVAL</b>						
B1	CWD01SC	<b>TEST SECTION</b>				
B1.1	3.5.1.1	Removal of concrete surface material to 5mm deep	Sum	1		
B1.2	3.5.2.1	Waste Removal from 5mm deep surface removal	Sum	1		
B1.3	3.5.1.2	Removal concrete of surface material to 100mm deep	Sum	1		
B1.4	3.5.2.2	Waste Removal from 100mm deep surface removal	Sum	1		
Carried forward to summary - <b>Sub Total B1</b>						
<b>SECTION C : CONCRETE SURFACE REMOVAL</b>						
C1		<b>C1 – DIRECT WORKS</b>				
C1.1	3.5.3.1	Removal of concrete surface material to 5mm deep	m²	1800		
C1.2	3.5.4.1	Waste Removal from 5mm deep surface removal	m²	1800		
C1.3	3.5.3.2	Removal concrete of surface material to 100mm deep	m²	4000		
C1.4	3.5.4.2	Waste Removal from 100mm deep surface removal	m²	4000		
Carried forward to summary - <b>Sub Total C1</b>						

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C3.2 SUMMARY OF BILL OF QUANTITIES		
SECTION	DESCRIPTION	AMOUNT
A1 & A2	FIXED CHARGES	
	SUB TOTAL A1 & A2	
B1	TEST SECTION	
	SUB TOTAL B1	
C1	DIRECT WORKS – CONCRETE SURFACE REMOVAL	
	SUB TOTAL C1	
	SUB TOTAL (A1 & A2 + B1 + C1)	
	15 % VAT	
	TOTAL	

## PRICE ADJUSTMENTS

### A. NON-FIRM PRICES SUBJECT TO ESCALATION

1. IN CASES OF PERIOD CONTRACTS, NON FIRM PRICES WILL BE ADJUSTED (LOADED) WITH THE ASSESSED CONTRACT PRICE ADJUSTMENTS IMPLICIT IN NON FIRM PRICES WHEN CALCULATING THE COMPARATIVE PRICES
2. IN THIS CATEGORY PRICE ESCALATIONS WILL ONLY BE CONSIDERED IN TERMS OF THE FOLLOWING FORMULA:

$$Pa = (1-V)Pt \left( D1 \frac{R1t}{R1o} + D2 \frac{R2t}{R2o} + D3 \frac{R3t}{R3o} + D4 \frac{D4t}{D4o} \right) + VPt$$

**Where:**

Pa	=	The new escalated price to be calculated.
(1-V)Pt	=	85% of the original bid price.
D1, D2..	=	<b>Note that Pt must always be the original bid price and not an escalated price.</b> Each factor of the bid price e.g. Labour, transport, clothing, footwear, etc. The total of the various factors D1, D2...etc. must add up to 100%.
R1t, R2t.....	=	Index figure obtained from new index (depends on the number of factors used).
R1o, R2o	=	Index figure at time of bidding.
VPt	=	15% of the original bid price. This portion of the bid price remains firm i.e. it is not subject to any price escalations.

3. The following index/indices must be used to calculate your bid price:

Index..... Dated.....	Index..... Dated.....	Index..... Dated.....
Index..... Dated.....	Index..... Dated.....	Index..... Dated.....

4. FURNISH A BREAKDOWN OF YOUR PRICE IN TERMS OF ABOVE-MENTIONED FORMULA. THE TOTAL OF THE VARIOUS FACTORS MUST ADD UP TO 100%.

FACTOR (D1, D2 etc. e.g. Labour, transport etc.)	PERCENTAGE OF BID PRICE

**FAILURE TO COMPLETE THE ABOVE OR INDICATE A FORMULA FOR PRICE INCREASES WILL RESULT IN NO PRICE INCREASES ON A NON-FIRM PRICE**

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**C4. DRAWINGS AND PHOTOS**

**CONTENTS**

- C4.1 TENDER DRAWINGS
- C4.2 TENDER PHOTOS
- C4.3 SCHEMATIC LAYOUT
- C4.4 SPECIFICATION ON DRAWINGS
- C4.5 SECTION THROUGH SPILLWAY
- C4.6 SECTION THROUGH NOC

#### **C4.1 TENDER DRAWINGS AND PHOTOS**

The drawings issued to the tenders as part of the tender documents must be regarded as provisional and preliminary for the tenderer's benefit to generally assess the scope of work.

The work shall be carried out in accordance with the latest available revision of the drawings approved for construction (AFC)

At commencement of the contract, the Engineer shall deliver to the Contractor copies of the AFC drawings and any instructions required for the commencement of the works. From time to time there after during progress of the works, the Engineer may issue further drawings for construction purposes as may be necessary for adequate construction, completion and defects correction of the works.

All drawings and specifications and copies thereof remain the property of the Employer, and the Contractor shall return all drawings and copies thereof to the Employer at the completion of the contract.

#### **LIST OF DRAWINGS**

<b>DRAWING NR</b>	<b>TITLE</b>
<b>CWD 0102</b>	<b>Dam Layout</b>
<b>CWD 2151</b>	<b>Detail of Spillway</b>
<b>CWD 2153</b>	<b>Detail of Spillway, Gallery and Construction Joints</b>
<b>CWD 2154</b>	<b>Detail of Spillway, Fixed Joint Surface Preparation</b>
<b>CWD 2302</b>	<b>NOC and Drainage Gallery detail</b>

#### **C4.2 TENDER PHOTOS**

**Photo of the Existing Clanwilliam dam with view from down-stream**



## Specification on Drawing for the Raising of Clanwilliam Dam

### 7. SLIDING JOINT AS SPECIFIED ON DRAWING:

7.1 DESIGN ENGINEER TO SPECIFY LEVELS OF JOINT ON SITE.

7.2 5 MM OF DOWNSTREAM FACE TO BE REMOVED BY SANDBLASTING OR SIMILAR METHOD.

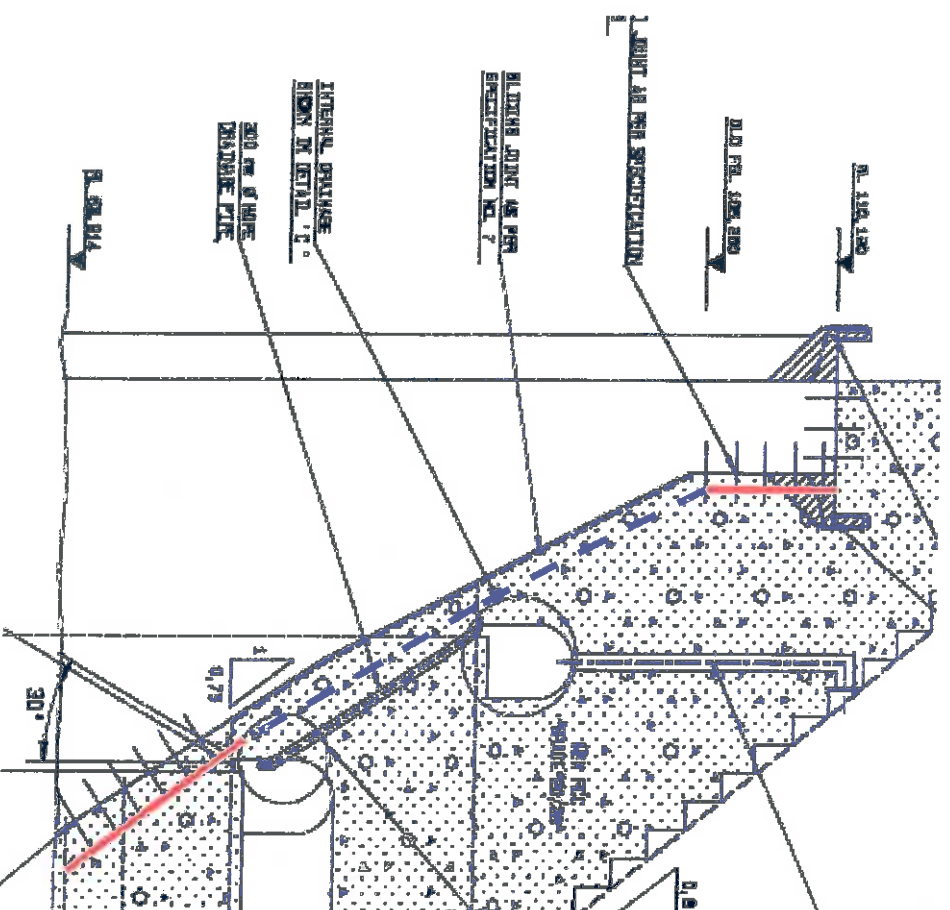
### 8. FIXED JOINTS AS SPECIFIED ON DRAWING:

8.1 DESIGN ENGINEER TO SPECIFY LEVELS OF JOINT ON SITE.

8.2 100 MM OF DOWNSTREAM FACE TO BE REMOVED BY JET BLASTING OR SIMILAR METHOD.

8.3 STAINLESS STEEL DOWELS 2 M LONG TO BE ANCHORED 1M DEEP INTO DOWNSTREAM FACE @ 1M C/C.

## Non Overspill Crest sections

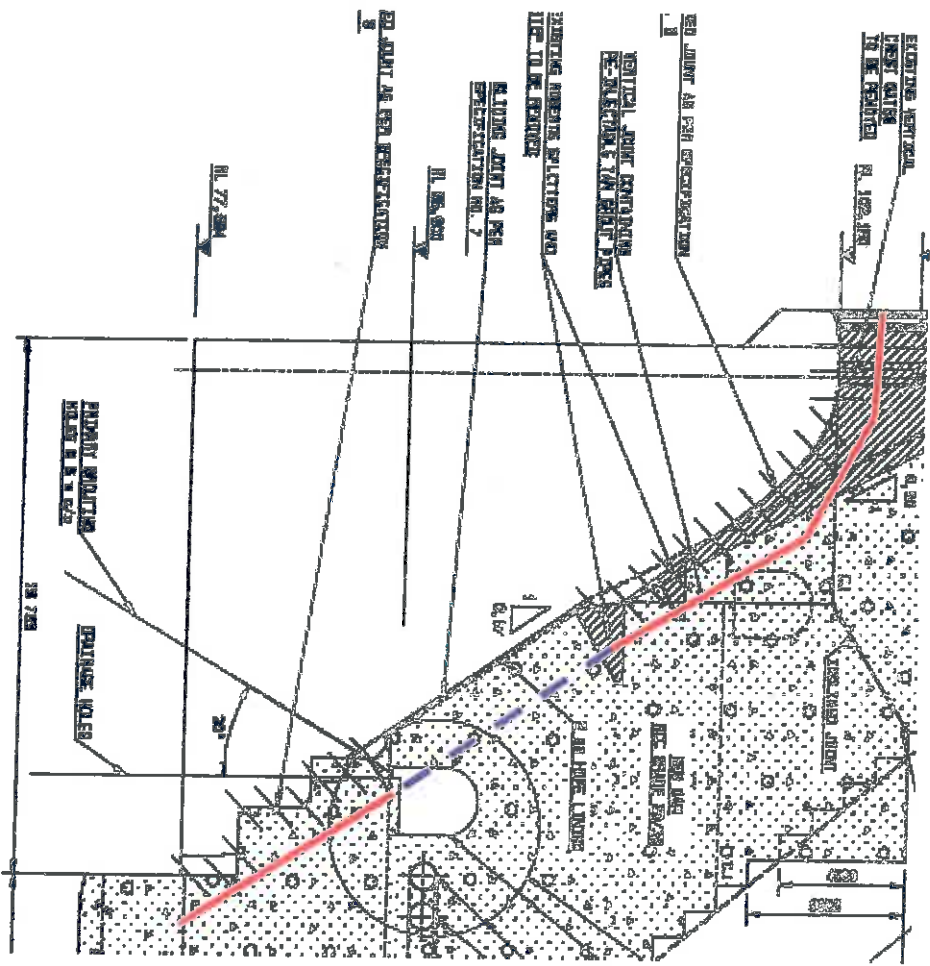


Purple =  $\leq 5\text{mm}$  removal at sliding joint

1. *Journal of the American Medical Association*, 1997; 277: 1001-1005.

Red =  $\leq 100\text{mm}$  at removal at fixed joint

Concrete Surface removal at Existing Spillway



SECTION 01-0

SCALE 1:150

Purple =  $\leq 5\text{mm}$  removal at Sliding joint

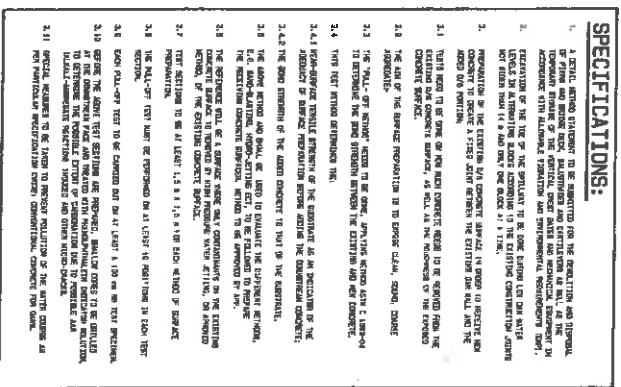
Red =  $\leq 100\text{mm}$  removal at fixed joint











1. SUBSTRATE TO BE SPILLED AT ONE OF THE SPOTS AND ON AN INDICATOR BY THE CHIEF OF SPILLAGE BLOCK TO CONTROL THE SPILLAGE FLOWLINE LEVEL OF CRITERIAL DATA.
2. FLOOD AFTER SUBSTRATE, INDICATE THE RATE OF FLOODING SPILLAGE FROM THE SPILLAGE LINE SUBSTRATE TO THE FLOODLINE OF THE CURRENT SPILLAGE SPILLAGE THAT NEED TO BE CONTAINED AND DOWNSIDE SPILLAGE OF SPILLAGE SPILLAGE OF THE LEVEL OF SPILLAGE SPILLAGE SPILLAGE.

177	LEVER OF BALANCE	CHARGE	148 57/15
182	RECEIPT	CHARGE	149 58/15
L.I.C. OF FARMERS		CHARGE	150 59/15
OLIFANTS-DOORN RIVER WATER RESOURCES PROJECT			
RAISING OF CLANNILLIAM DAM			
STILLWAT			
FIXED JOINT SURFACE PUMP/STATION			
PROJECT MANAGER MR. J. C. J. VAN DER MERWE 1972/01/01 - 1972/01/01			
PROJECT MANAGER MR. J. C. J. VAN DER MERWE 1972/01/01 - 1972/01/01			
148	168 71/15	CHARGE	151 00/15



SCALE 1:150 (CH 170) ■

1

3. OPERATIONS TO BE INITIATED AT 015 HRS. AND END OF INDICATORS OF THE DOWNBURN SPILLWAY SHOULD BE CONSIDERED THE AS-BUILD PROTECTION LEVEL OF EXISTING DAM.
2. FILED WITH SUBJECTS: DOWNBURN SLAKE OF EXISTING SPILLWAY FROM THE DOWNBURN LINE DOWNWARDS TO THE POSITION OF THE DOWNBURN SPILLWAY. DURING THAT IN THE DOWNBURN AND DOWNBURN SLAKE OF EXISTING SPILLWAY BECAUSE THE LEVEL OF PROPOSED DRAINAGE FLOOD

