



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

**DUE AT 11:00 ON**

**(06 JUNE 2019)**

**DWS03-0419 (WTE)**

**THE SUPPLY AND DELIVERY OF FINE AGGREGATE, COARSE AGGREGATE,  
CRUSHER RUN AND RIP RAP TO THE DEPARTMENT OF WATER AND  
SANITATION, CLANWILLIAM DAM**

**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:** 14 May 2019

**Time:** 09:30

**Venue:** Clanwilliam dam site office

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

**COMPILED BY: CONSTRUCTION**

# DEPARTMENT OF WATER AND SANITATION

## DWS03-0419 (WTE)

### THE SUPPLY AND DELIVERY OF FINE AGGREGATE, COARSE AGGREGATE, CRUSHER RUN AND RIP RAP TO THE DEPARTMENT OF WATER AND SANITATION, CLANWILLIAM DAM

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Declaration of Bidders Past Supply Chain Management Practices (SBD 8)  
Certificate of Independent Bid Determination (SBD 9)  
Certificate of Attendance at Site Meeting

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

- (a) Schedules to be submitted:
  - Schedule of plant and equipment
  - Schedule of similar work undertaken (**Supply and delivery of fine aggregates**)
  - 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 / Valid Sworn Affidavit
  - Pro-forma sub-contracting agreement signed by both parties
- (c) Contractors Certificate of Registration with CIDB 9CE
- (d) Additional Documentation to be submitted
  - A layout of proposed crushing facilities must be submitted with tender.(PS4.1)
  - The dimensions and capacity of the Weigh bridge must be submitted with tender.(PS5.9)
  - Preliminary Method statements will full details concerning the methods, equipment and materials will be required for the following at tender stage; (PS9.2).
    - The Drilling and Blasting of the material.
    - The Crushing of the materials
    - The acquirement, processing, stockpiling and transport of fine aggregate.
  - Tendered contract program (PS 8.1)
  - A Pro Forma Quality Management system with intended Inspection and test plans for the aggregates and the intended standard forms for test result reporting must be submitted with the tender.(PS11)
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RIP RAP TO THE DEPARTMENT OF WATER AND SANITATION, CLANWILLIAM DAM**

**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:	DWS03-0419 (WTE)	CLOSING DATE:	06 JUNE 2019	CLOSING TIME:	11:00		
DESCRIPTION	THE SUPPLY AND DELIVERY OF FINE AGGREGATE, COARSE AGGREGATE, CRUSHER RUN AND RIP RAP TO THE DEPARTMENT OF WATER AND SANITATION, CLANWILLIAM DAM						
<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	I Arendse		
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	Arendsei@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		[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 /WORKSOFFERED?	<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)?				<input type="checkbox"/> YES <input type="checkbox"/> NO			
DOES THE ENTITY HAVE A BRANCH IN THE RSA?				<input type="checkbox"/> YES <input type="checkbox"/> NO			
DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA?				<input type="checkbox"/> YES <input type="checkbox"/> NO			
DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA?				<input type="checkbox"/> YES <input type="checkbox"/> NO			
IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION?				<input type="checkbox"/> YES <input type="checkbox"/> NO			
IF THE ANSWER IS "NO" TO ALL OF THE ABOVE, THEN IT IS NOT A REQUIREMENT TO REGISTER FOR A TAX COMPLIANCE STATUS SYSTEM PIN CODE FROM THE SOUTH AFRICAN REVENUE SERVICE (SARS) AND IF NOT REGISTER AS PER 2.3 BELOW.							

## 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**

**DWS03-0419 (WTE)**

**THE SUPPLY AND DELIVERY OF FINE AGGREGATE, COARSE AGGREGATE, CRUSHER RUN AND RIP RAP TO THE DEPARTMENT OF WATER AND SANITATION, CLANWILLIAM DAM**

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

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1. Bid Documents
2. Communication and Department's Contact Person
3. Eligibility
4. Completion of Bids
5. Submission of Bids
6. Telegraphic Bids
7. Signature on 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 I Arendse, 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 DWS03-0419 (WTE) FOR BID:THE SUPPLY AND DELIVERY OF FINE AGGREGATE, COARSE AGGREGATE, CRUSHER RUN AND RIP RAP TO THE DEPARTMENT OF WATER AND SANITATION, CLANWILLIAM DAM**

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 DEPARTMENTS 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 90/10 preference points system as prescribed in the Preferential Procurement Policy Framework Act (PPPFA, Act 5 of 2000). The lowest acceptable bid will score 90 points for price and a maximum of 10 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.

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

Bidders are required to comply with the following listed below

No	Criteria	Yes	No
1	Companies must be registered with National Treasury's Central Supplier Database. Provide 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		

**Mandatory requirements**

Failure to submit any of the documents listed below will render your bid non-responsive and will 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 9CE 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 fails to achieve a minimum score of 57 will not be considered for phase 4 of the evaluation.

NO.	CRITERIA	DELIVERABLES	WEIGHTING/ JUDGEMENT PER CRITERIA	MAXIMUM POINTS												
1.	<b>Schedule of Plant and Equipment</b>	<p>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:</p> <ul style="list-style-type: none"><li>• Item description</li><li>• Type and size</li><li>• Capacity</li><li>• Quantity</li><li>• Year of manufacture</li><li>• Present financial liability</li></ul> <p>2. Provide the locations where the Plants may be inspected related to contactable references</p>	<p>Max 10 Min 5 5</p>	<b>Total for criteria 10</b>												
2.	<b>Past Experience</b>	<p>1. Contactable reference (description of the project, period of the contract, contract amount and project manager for reference)</p> <p>2. Provide a minimum of 3 contactable references of clients</p> <p>3. Bidders must submit signed reference letter(s) from previous clients/employer.</p> <p>4. Note that only completed projects will be accepted for evaluation.</p> <p>5. Relevant work experience in supplying aggregates to dam projects.</p> <p>Reference letter(s) must indicate any of the above listed projects completed by the bidder. Points allocation will be as follow: Contactable reference (description of the project, period of the contract, contract amount and project manager for reference)</p> <p>Reference letter(s) must indicate any of the above listed projects completed by the bidder. Points allocation will be as follow:</p> <table><tr><td>10 or more completed projects</td><td>15</td></tr><tr><td>8-9 Completed projects</td><td>12</td></tr><tr><td>6-7 Completed projects</td><td>9</td></tr><tr><td>4-5 Completed projects</td><td>6</td></tr><tr><td>2-3 Completed projects</td><td>3</td></tr><tr><td>Less than 2 completed projects</td><td>0</td></tr></table>	10 or more completed projects	15	8-9 Completed projects	12	6-7 Completed projects	9	4-5 Completed projects	6	2-3 Completed projects	3	Less than 2 completed projects	0	<p>Max 15 Min 7</p>	<b>Total for criteria 15</b>
10 or more completed projects	15															
8-9 Completed projects	12															
6-7 Completed projects	9															
4-5 Completed projects	6															
2-3 Completed projects	3															
Less than 2 completed projects	0															

NO.	CRITERIA	DELIVERABLES	WEIGHTING/ JUDGEMENT PER CRITERIA	MAXIMUM POINTS
3.	<b>Method Statement for Quarry</b>	<b>It is a requirement that the Contractor will submit a preliminary Method Statement for the section of work to be undertaken:</b>		<b>Total for criteria 40</b>
		• Drilling and blasting of the material;	Max 10 Points Min 5	
		• Crushing of materials ;	Max 10 Points Min 5	
		• The acquirement, processing, stockpiling and transport of fine aggregate.	Max 10 Points Min 5	
		Highlight all the risks and the treatments of the risks that may be encountered during the supply of the required material.	Max 10 Points Min 5	
4.	<b>Quality Management System</b>	Provide a Project Quality plan with Pro forma sheets for: <ul style="list-style-type: none"> <li>• Notice to blast</li> <li>• Quality test plan for each product indicating the frequency and type of tests to be done.</li> <li>• The report sheets of the tests to be done</li> </ul> <b>Points will be allocated as follow: Values: 2= Poor; 4=Average; 6=Good; 8=Very Good; 10=Excellent, where bidder omitted to attach the required document no points will be allocated, therefore the bidder will obtain 0 or zero.</b>	Max 10 Points Min 5	<b>Total for criteria 10</b>
5.	<b>Health and Safety Plan</b>	Provide Pro Forma Health and Safety Management System in terms of Mine Health and Safety Act and regulations (Act 29 of 1996) for all the work to be carried out with specific reference to: <ul style="list-style-type: none"> <li>• Organogram &amp; legal appointments</li> <li>• Baseline Risk assessment and;</li> <li>• File structure of documentation</li> </ul>	Max 10 Points Min 5	<b>Total for criteria 10</b>
6.	<b>Ability and Capability</b>	Demonstrated skills and experience of each key personnel for this project by submission of organization and staffing proposals with a 1 page resume of each key project team member indicating qualifications, experience, accreditation / affiliation) Proof of qualifications, experience, accreditation / affiliation are required for: <ul style="list-style-type: none"> <li>• Construction Manager</li> <li>• Blaster</li> <li>• Crusher Operators</li> <li>• Drill rig operators</li> </ul>	Max 10 Points Min 5	<b>Total for criteria 30</b>
		<b>Construction Manager</b>	<b>Max 5 Points</b>	
		6 Years or more experience	5	
		5 Years or more experience	4	
		4 Years or more experience	3	
		3 Years or more experience	2	
		2 Years or more experience	1	
		<b>Blaster(s)</b>	<b>Max 5 Points</b>	
		6 Years or more experience	5	
		5 Years or more experience	4	
		4 Years or more experience	3	
		3 Years or more experience	2	
		2 Years or more experience	1	

NO.	CRITERIA	DELIVERABLES	WEIGHTING/ JUDGEMENT PER CRITERIA	MAXIMUM POINTS
		<b>Crusher Operators</b>	<b>Max 5 Points</b>	
		6 Years or more experience	5	
		5 Years or more experience	4	
		4 Years or more experience	3	
		3 Years or more experience	2	
		2 Year or more experience	1	
		<b>Drill rig operators</b>	<b>Max 5 Points</b>	
		5 Years or more experience	5	
		4 Years or more experience	4	
		3 Years or more experience	3	
		2 Years or more experience	2	
		1 Year or more experience	1	
	<b>TOTAL</b>		<b>Max 115 Min 57</b>	

#### Phase 4:

#### Evaluation of Price and Preference Points Claimed:

During this phase, bid proposals that passed the phase 3 will be further evaluated based on the 90/10 preference points system in accordance with the PPPFA Act, where 90 points will be attained in respect of price and 10 points will be awarded to a bidder for attaining the B-BBEE Status Level of Contribution.

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

### DWS03-0419 (WTE)

## THE SUPPLY AND DELIVERY OF FINE AGGREGATE, COARSE AGGREGATE, CRUSHER RUN AND RIP RAP TO THE DEPARTMENT OF WATER AND SANITATION, CLANWILLIAM DAM

### 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)  
Certificate of Attendance at Site Meeting

#### T2.2 DOCUMENTS TO BE SUBMITTED

(a) Schedules to be submitted:

- Schedule of plant and equipment
- Schedule of similar work undertaken (**Supply and delivery of fine aggregates**)
- 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 / Valid Sworn Affidavit
- Pro-forma sub-contracting agreement signed by both parties

(c) Contractors Certificate of Registration with CIDB 9 CE

(d) Additional Documentation to be submitted

1. A layout of proposed crushing facilities must be submitted with tender.(PS4.1)
2. The dimensions and capacity of the Weigh bridge must be submitted with tender.(PS5.9)
3. Preliminary Method statements with full details concerning the methods, equipment and materials will be required for the following at tender stage; (PS9.2).
  - a. The Drilling and Blasting of the material.
  - b. The Crushing of the materials
  - c. The acquirement, processing, stockpiling and transport of fine aggregate.
4. Tendered contract program (PS 8.1)
5. A Pro Forma Quality Management system with intended Inspection and test plans for the aggregates and the intended standard forms for test result reporting must be submitted with the tender.(PS11)
6. A Pro-Forma Health and Safety Policy with Codes of Practices must be submitted with the Tender.(PS12)



**T2.1 FORMS TO BE COMPLETED**



## water & sanitation

Department:  
Water and Sanitation  
REPUBLIC OF SOUTH AFRICA

### 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:

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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

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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:

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

Full Name	Identity Number	Personal Income Tax Reference Number	State Employee Number/Persal 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"/>
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- 7.1.1 If yes, indicate:

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

(Tick applicable box)

YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
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- 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		
<b>OR</b>		
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** .....

.....

.....



## 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:

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(Bid Number and Description)

in response to the invitation for the bid made by:

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(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>2</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.

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<sup>2</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



## **CERTIFICATE OF ATTENDANCE AT SITE MEETING**

This is to certify that *(tenderer)* .....  
of *(address)* .....  
..... was represented by the person  
named below at the compulsory meeting held for all tenderers at *(location)* .....  
..... on *(date)* ..... starting at *(time)* .....

I acknowledge that the purpose of the meeting was to acquaint myself with the site of the works and / or matters incidental to doing the work specified in the tender documents in order for me to take account of everything necessary when compiling our rates and prices included in the tender.

### **Particulars of person attending the meeting:**

Name: ..... Signature: .....

Capacity: .....

### **Attendance of the above person at the meeting is confirmed by the Employer's representative, namely:**

Name: .. Signature: .....

Capacity: ..... Date and Time: .....

## 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 (Supply and delivery fine aggregates)**

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 (At least 30%)**

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.

[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: .....

## **VERIFICATION DOCUMENTATION**

The Tenderer shall attach the following documentation in support of the pre-qualification specification of this bid:

original and valid B-BBEE Status Level Verification Certificate or an originally certified copy thereof, issued by accredited Verification Agency/s by SANAS or 11.2.3.2 Registered Auditor approved by Independent Regulatory Board of Auditor (IRBA), together with their bid to substantiate their B-BBEE rating claims.

A trust, consortium or joint venture (including unincorporated consortia and joint ventures) must submit a consolidated B-BBEE Status Level Verification certificate to substantiate their B-BBEE rating claims.

An EME is required to submit a sworn affidavit confirming their annual total revenue of R10 million or less and level of black ownership to substantiate their EME rating claims.

An EME that is regarded as a Specialized Enterprise is required to submit a sworn affidavit confirming their annual turnover/allocated budget/ gross receipt of R10 million or less and level of percentage of black beneficiaries to substantiate their EME rating claims.

A QSE is required to submit a sworn affidavit confirming their annual total revenue of between R10 million and R50 million and level of black ownership or a B-BBEE level verification certificate to substantiate their QSE rating claims.

**NOTE:** It is a requirement of this contract that the verification documentation of the names of proposed subcontractors for the work 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 9CE is 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: .....

## **TENDERED CONTRACT PROGRAMME**

The Tenderer shall attach a preliminary programme reflecting the proposed sequence and tempo of execution of the various activities comprising the work for this Contract. The programme shall be in accordance with the information supplied in the Contract, requirements of the Project Specifications and with all other aspects of his Tender.

**[Notes:**

- (1) A works program must be submitted with the tender indicating the source and equipment to be used and the minimum and maximum rate that is envisaged.**
- (2) The programme must be based on the specified minimum and maximum production rates.**

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

DATE: .....

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

This contract falls under the Mine Health and Safety Act ( Act 29 of 1996) and the Regulations. For this contract the Contractor will be regarded as the Employer and responsible for the implementation of all the requirements as per the Mine Health and Safety Act ( Act 29 of 1996) and the Regulations with specific reference to:

Section 3: Employer must appoint Manager

Section 8: Employer must establish health and safety policy

Section 9: Codes of Practice

Section 10: Employer to provide health and safety training.

Section 11: Employer to assess and respond to risk

Section 12 Employer to conduct occupational hygiene measures

Section 15: Record of medical surveillance

Section 17 Exit certificates

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 Mine Health and Safety Act ( Act 29 of 1996) and the Regulations.
2. I hereby declare that my company / enterprise has the competence and the necessary resources to safely carry out the work under this contract in compliance with the Mine Health and Safety Act ( Act 29 of 1996) and the Regulations.
3. I hereby undertake, if my tender is accepted, to provide a sufficiently documented Health and Safety Policy complying with reference to section 3,8,9,10,11,12,15 and 17 for approval , before I will be allowed to commence with 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 and appointments, 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, and inspectors of Mines.
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 Mine Health and Safety Act ( Act 29 of 1996) and the Regulations, 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.
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 Mine Health and Safety Act ( Act 29 of 1996) and the Regulations 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 Section 2A (6), in the Mine Health and Safety Act ( Act 29 of 1996) and the Regulations before I will be allowed to proceed with any work under the contract.

### **ADDITIONAL INFORMATION**

The following documentation to be included after this page:

- A Pro-Forma Health and Safety Policy with Codes of Practices must be submitted with the Tender. (PS12)

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

DATE: .....



## **DEPARTMENT OF WATER AND SANITATION**

### **DWS03-0419 (WTE)**

**THE SUPPLY AND DELIVERY OF FINE AGGREGATE, COARSE AGGREGATE, CRUSHER RUN AND RIP RAP TO THE DEPARTMENT OF WATER AND SANITATION, CLANWILLIAM DAM**

#### **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.

(3rd Edition 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:  
**"THE SUPPLY AND DELIVERY OF FINE AGGREGATE, COARSE AGGREGATE, CRUSHER RUN AND RIP RAP TO THE DEPARTMENT OF WATER AND SANITATION, CLANWILLIAM DAM"**  
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

SCC 10.1.1 No claims for rainfall will be entertained.



**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 of the conditions of the contract or order.
  - 1.9** "Delivery ex stock" means immediate delivery directly from stock actually on hand.
  - 1.10** "Delivery into consignees store or to his site" means delivered and unloaded in the specified store or depot or on the specified site in compliance with the conditions of the contract or order, the supplier bearing all risks and charges involved until the supplies are so delivered and a valid receipt is obtained.
  - 1.11** "Dumping" occurs when a private enterprise abroad markets 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)



<b>4</b>	<b>Standards</b>	<b>4.1</b>	The goods supplied shall conform to the standards mentioned in the bidding documents and specifications.
<b>5</b>	<b>Use of contract documents and Information; inspection.</b>	<b>5.1</b>	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.
		<b>5.2</b>	The supplier shall not, without the purchaser's prior written consent, make use of any document or information mentioned in GCC clause
		<b>5.1</b>	except for purposes of performing the contract.
		<b>5.3</b>	Any document, other than the contract itself mentioned in GCC clause
		<b>5.1</b>	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.
		<b>5.4</b>	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</b>	<b>Patent rights</b>	<b>6.1</b>	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</b>	<b>Performance security</b>	<b>7.1</b>	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.
		<b>7.2</b>	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.
		<b>7.3</b>	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
		<b>7.4</b>	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.

- |   |  |
|---|--|
| <b>24 Anti-dumping and countervailing duties and rights</b> | <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> |
| <b>25 Force Majeure</b>                                     | <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>  |
| <b>26 Termination for insolvency</b>                        | <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>  |
| <b>27 Settlement of Disputes</b>                            | <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 Limitation of liability</b>	28.1	Except in cases of criminal negligence or wilful 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 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 Applicable law</b>	30.1	The contract shall be interpreted in accordance with South African laws, unless otherwise specified in SCC.
<b>31 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 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.



- |  |   |
|--|---|
| <p><b>33 National Industrial Participation (NIP) Programme</b></p> | <p>33.1 The NIP Programme administered by the Department of Trade and Industry shall be applicable to all contracts that are subject to the NIP obligation.</p>   |
| <p><b>34 Prohibition of Restrictive practices</b></p>              | <p>34.1 In terms of section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, an agreement between, or concerted practice by, firms, or a decision by an association of firms, is prohibited if it is between parties in a horizontal relationship and if a bidder (s) is/ are or a contractor(s) was/were involved in collusive bidding (or bid rigging).</p> <p>34.2 If a bidder(s) or contractor(s), based on reasonable grounds or evidence obtained by the purchaser, has/have engaged in the restrictive practice referred to above, the purchaser may refer the matter to the Competition Commission for investigation and possible imposition of administrative penalties as contemplated in the Competition Act No. 89 of 1998.</p> <p>34.3 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.</p> |

**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	36 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) Security (Clause 6.2) 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 drilling and grouting records of scheduled work
5.16.3	The latent defect period	10 years

Clause	Description	Information
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	<b>5%</b> 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**

Clause	Description	Information
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"	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

Clause	Description	Information															
	"F" is the Fuel Index	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	<table> <tr> <th>Special Material(s)</th><th>Unit</th><th>Rate</th></tr> <tr> <td>.....</td><td>.....</td><td>.....</td></tr> <tr> <td>.....</td><td>.....</td><td>.....</td></tr> <tr> <td>.....</td><td>.....</td><td>.....</td></tr> <tr> <td>.....</td><td>.....</td><td>.....</td></tr> </table>	Special Material(s)	Unit	Rate	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Special Material(s)	Unit	Rate															
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(End of Section C1)

# **DEPARTMENT OF WATER AND SANITATION**

**DWS03-0419 (WTE)**

**THE SUPPLY AND DELIVERY OF FINE AGGREGATE, COARSE AGGREGATE,  
CRUSHER RUN AND RIP RAP TO THE DEPARTMENT OF WATER AND SANITATION,  
CLANWILLIAM DAM**

## **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>

## **C2.1 STANDARD SPECIFICATION**

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

In the event of any discrepancy between a part or parts of the Standardised or Particular Specifications and the Project Specifications, the Project Specifications and Particular Specifications shall take precedence. In the event of a discrepancy between the Specifications, (including the Project Specifications) and the drawings and / or the Bill of Quantities, the discrepancy shall be resolved by the Engineer before the execution of the work under the relevant item

The applicable standard specifications are mentioned in the Project Specification and Particular specification

## **C2.2 PROJECT SPECIFICATION**

### **CONTENT**

#### **PS 1 DESCRIPTION OF THE PROJECT**

#### **PS 2 SCOPE OF THE WORK**

PS2.1 General

PS2.2 Acquisition of Material Sources

#### **PS 3 LOCATION AND ACCESS TO SITE**

#### **PS 4 FACILITIES PROVIDED BY MAIN CONTRACTOR to CONTRACTOR**

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#### **PS 11 QUALITY MANAGEMENT**

#### **PS 12 HEALTH AND SAFETY**

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PS 12.3 Works Health and Safety Committee

PS 12.4 Health and Safety Officers

PS 12.5 First Aid Provisions

PS 12.6 Accident Reporting

PS 12.7 Workman's Compensation Act

#### **PS 13 ENVIRONMENTAL REQUIREMENTS**

PS 13.1 General

PS 13.2 Designated Quarry Rehabilitation

PS 13.3 Fine aggregate borrow areas





## **C2.2 PROJECT SPECIFICATION**

### **PS 1 DESCRIPTION OF THE PROJECT**

The raising of Clanwilliam dam, which will be the first phase of the Olifants-Doorn River Water Resources Project (ODRWRP), will increase the yield of the dam by about 70 Mm<sup>3</sup> per annum to augment the water supplies to the Olifants river irrigation scheme situated in the north-western part of the Western Cape province, as well as to assist in the development of resource-poor farmers.

Clanwilliam dam is located on the Olifants river, in the Western Cape, approximately 2 km south west of the town of Clanwilliam. The original dam was constructed in 1932-1935 (38m high from the base). The existing structure is a concrete gravity dam, consisting of a controlled ogee gravity spillway with 13 vertical crest gates. The length of the wall is 255 m. The total spillway length is 117,58 m, including the piers between the gates. The dam was raised in 1964 with vertical crest gates. Tensioned cables were supplied to ensure stability of the dam wall.

Currently water is released downstream via the Olifants river to Bulshoek weir from where the water is diverted into the dilapidated irrigation canal situated on the left bank. Water is also released from the existing outlet works situated on the right bank into an irrigation canal situated on the right bank, to the pump station on the right bank supplying water to the town of Clanwilliam, and to the hydropower plant situated downstream on the right bank.

The feasibility investigation for raising the dam was completed at the end of 2007 and the Record of Decision (ROD) was issued on 12 May 2009 by the Department of Environmental Affairs. Approval by the Minister for raising the dam by 13 m was issued on 18 August 2010.

In order to comply with current dam safety standards, the Department of Water and Sanitation is also required to implement remedial measures with the raising in the height of the dam wall.

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 SCOPE OF THE WORK**

#### **PS 2.1 General**

The Department of Water and Sanitation Construction South (DWS: CS) is the Main Contractor for the Raising of Clanwilliam dam. For this Contract, DWS: CS will be the Employer and the successful bidder will be the Contractor.

The contract is for the supply and delivery of the following aggregates and materials according to specification to Clanwilliam dam designated stockpile area:

Aggregate Concrete Fine (IVRCC)	(P07.3.2)
Aggregate Concrete Fine (CVC)	(P07.3.3)
Aggregate Concrete Coarse (38mm)	(P07.3.4)
Aggregate Concrete Coarse (19mm)	(P07.3.4)
Aggregate Concrete Coarse (13.2mm)	(P07.3.4)
Crusher Run.	(P07.3.5)
Rip – Rap	(P07.3.6)
G5 Road layer material	(P07.3.7)

These materials can be sourced from designated area indicated on the drawings through an onsite quarry operation.

Irrespective of the source the supply of the following is required on site:

Crushing of Concrete with and without reinforcing	(P07.3.8)
Crushing of hard excavation material supplied by others to stockpile	(P07.3.9)

Screening of already crushed materials on stockpile/floors (P07.3.10)  
Install, commission and maintain weighbridge with software and computer (PS 5.9)

The following is requirements, but not limited to, if designated areas will be used as source of material:

- The designated quarry site as indicated on drawing CWD 0101 will be handed to the Contractor for his use according to the stipulated regulations. For any other required areas by the contractor he shall adhere to all legal requirements to obtain the necessary approval to obtain the required materials.
- Transport, erect, maintain, and operate all the required plant for the quarry and crushing operations to deliver the required products and removal at contract completion.
- To provide and operate explosives magazines if required for the execution of this contract.
- The Contractor shall be responsible for preparation and levelling of the crushing plant site(s) and foundations where required.
- Open and operate a quarry, including all drilling and blasting work on the selected site(s).
- The Contractor shall be responsible for overburden removal.
- The Contractor shall be responsible for the removal of all unsuitable material occurrences in the process of quarrying
- The Contractor shall stockpile and or dump all overburden and unsuitable material on sites approved by the Employer and according to specification
- The Contractor shall be responsible for drainage of the quarry and crusher sites and his stockpile sites
- Transport blasted quarry material from quarry to crusher.
- Crush, screen, wash and blend quarry material, as required including natural sand and crusher sand where applicable, and in accordance with these specifications.
- Supply concrete sand, concrete stone, rip-rap and crusher run in accordance with this specification.
- Deliver such products to the designated stockpiles.
- Arrange for and pay for the supply of electrical power and water for all operations performed under this contract.
- The fencing off of the work area.
- Adherence to the environmental documentation attached hereto.
- Liaison with other Contractors to conduct trials in the quarry. (Tunnelling and Drilling and Grouting for dam foundations)
- All work shall be done in accordance with the specifications listed in the Project Specification, the Particular Specifications and Drawings

**The Department reserves the right to:**

1. **Purchase only one or more items as required; and/or**
2. **Purchase from the Clanwilliam dam Quarry.**

## **PS2.2 Acquisition of Material Sources**

The Employer has identified one site as a possible source for coarse aggregates. It is shown in the attached Drawing CWD 0101 and investigated in :  
"CLANWILLIAM DAM QUARRY REPORT (December 2006)" and  
"CLANWILLIAM DAM SECOND ENGINEERING GEOLOGICAL REPORT FOR QUARRY FINAL (29 MAY 2015)" and is hereafter referred to as the designated quarry site.

The following was extracted from the (December 2006) report:

A possible extension to the existing quarry located some 250 m upstream of the dam wall on the left bank was mooted. Initial, unconvincing results also led to brief investigations of an alternative site. A total of twenty one exploratory boreholes were drilled at the proposed quarry extension, and three boreholes at the alternative site. In addition, a petrographic study was conducted, and crushed cores were also subjected to tests to determine whether the aggregate conforms to standard specifications. Petrographic analyses confirmed the rock is suitable for use as aggregate. Minor, trace amounts of deleterious minerals (mica, sheet silicates) are present, however. These sandstones are likely to be susceptible to alkali-aggregate reactions.

Tests on crushed core samples indicate the unweather or slightly weathered rock is suitable for use, but the slightly too moderately weathered rock is unsuitable.

The information and interpretations made in the above mentioned reports are provided to assist tenderers. 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.

The designated quarry site is expropriated and occupied by the Employer at his expense. The application for the development of the quarry was approved by the Department of Mineral Affairs. This area will be made available to the contractor at no cost, provided that the designated site is chosen and the required rehabilitation is done according to the environmental requirements. For all other sources the Contractor will be responsible for obtaining the necessary legal authorizations and mining rights and any payments for such rights.

The availability of concrete sand was not addressed in the 2006 report. A report named "Sources of Concrete Sand" dated November 2010 stated that adequate sources of concrete sand is available within 100 km of the dam. The cheapest option will be to crush the rock to yield sand for concrete production.

The Contractor is at liberty to make use of river sand deposits if considered desirable to achieve compliance with specified requirements. The location of suitable deposits or supplies of natural sand shall be determined by the Contractor and suitable arrangements shall be at his expense. Possible sources of natural sand are indicated in the "Report on Sources of Concrete Sand".

The Contractor is responsible for identifying the sources and for supply of quarry material. The Contractor shall be responsible for complying with all legal requirements including obtaining a mining permit from the Department of Mineral Resources. Such responsibilities include obtaining a closure permit, which shall be forwarded to the Engineer after the Contractor has rehabilitated the quarry in accordance with prescribed conditions.

A complete set of documentation for quarry operations as approved by the relevant authorities shall be submitted to the Engineer prior to commencement of operations. Payment for this item will be done on receipt of the documentation.

A copy of the closure permit shall be submitted to the Engineer prior to payment for rehabilitation.

The intended quarry site(s) shall be indicated in the tender offer.

The decision regarding which offer to accept will be made on an economic basis. Accordingly, no additional or subsequent claims for any difficulties or expenses incurred in the procurement, extraction and/or delivery of quarry material will be entertained at any stage. It is incumbent on Tenders to assess all risks pertaining to quarrying during tender stage. Payment according to rates quoted shall be the only payment made under this Contract.

### **PS 3 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 4 FACILITIES PROVIDED BY MAIN CONTRACTOR to CONTRACTOR**

#### **PS 4.1 Contractors Yard and Site Facilities**

The contractor must establish his yard and works within the boundary of the demarcated quarry.

## **PS 5 FACILITIES TO BE PROVIDED BY CONTRACTOR FOR OWN WORKS**

### **PS 5.1 Electrical Power and Distribution**

The Contractor shall make his own arrangements concerning the supply of electrical power, water and all other services. No direct payment will be made for provision of electricity, water and other services. The cost thereof shall be deemed to be included in the rates and amounts tendered for the various items of work for which the services are required.

The Contractor shall be responsible for all costs related to metering points supplied by Eskom including the monthly account and advance payments.

The Contractor is at liberty to utilise generator sets instead of Eskom power.

No claim will be entertained in the case of temporary failure of electricity by Eskom or by generator.

### **PS 5.2 Water Supplies**

If raw water from the dam is required it will have to be metered and paid for by the Contractor after obtaining an abstraction point from DWS: Western Cape Water Use in terms of National Water Act Section 21(a). A record of abstraction must be kept on a daily basis and must be submitted on a monthly basis with the Contractor's returns.

Failure or interruption of any source of water shall not relieve the Contractor of any of his obligations under the Contract.

### **PS 5.3 Communications**

The Contractor shall make his own arrangement with regards to his required communication requirements.

### **PS 5.4 Accommodations of Employees**

No accommodation is allowed on the site in terms of the Environmental EMP. The Contractor shall make his own arrangements to house his employees and to transport them to site.

No informal housing or squatting will be allowed on site.

### **PS 5.5 Laboratory**

The Contractor must provide for his own site testing facilities for grading analysis.

### **PS 5.6 Resting and eating areas**

The contractor shall provide sufficient and suitably positioned areas for use by his workers on site during resting and eating periods. Sufficient refuse bins, tables and seating must be provided. Existing and new permanent structures for the raised dam wall may not be used as resting and eating areas.

### **PS 5.7 Sanitation and cleaning**

The Contractor shall provide at or within 200m of each work place chemical toilet facilities with toilet paper, potable water, soap and towels together with industrial soaps and barrier creams as appropriate. He shall maintain them in a clean and sanitary condition and shall take all necessary precautions to prevent pollution of the Site. The sewage will be disposed of at a registered disposal facility and the disposal certificate will be kept on record.

The Contractor shall ensure that there are adequate and sufficient refuse bins in and around the working area and that these shall be emptied frequently. All refuse bins shall be placed on a concrete base, which shall, from time to time, be sprayed with insecticide. All refuse collection, removal and disposal on site shall be the responsibility of the Contractor. All refuse shall be disposed of at a licenced landfill site only, and certificates of receipt shall be kept on record.

The Contractor shall clear away and remove all traces of the toilets and restore the sites to their original condition as soon as the toilets are no longer required

#### **PS 5.8 Access control and security**

The Contractor will be responsible for access control and security for the Quarry site and the designated material stockpile areas. The Contractor will abide by the Client's access control measures.

The Contractor is responsible for the safe guarding and protection of his own contractor's yard and his equipment and plant on site. The Client does not take any liability for the Contractor in terms of security what so ever.

#### **PS 5.9 Weighbridge**

The Contractor will supply, install, commission (including certification) and maintain a weigh bridge for the duration of the main contract. The weighbridge will also be used to weigh other products for the Employer at no extra cost for the duration of the main contract where after it must be removed.

The weighbridge will have an accuracy of at least 50kg at full load. It will be long enough to accommodate a Cement tanker with a bogey or the longest delivery vehicle of the crusher products, whichever is the longest. It will be at least 3m wide and able to weigh up to 70 Tons. The weighbridge shall be installed at ground level (not below).

A suitable cabin with the software, computer, printer and operator will be supplied and maintained for the duration of the main contract. A six monthly (at least) certification by an accredited firm will be done for the weigh bridge and the documentation provided to the Main Contractor.

**The Contractor must supply the dimensions and capacity of the Weighbridge he will supply at tender stage.**

#### **PS 5.10 Anti-intruders Fencing**

The contractor will be required to erect 650m of 1.8m high anti intruder fence. The fence will consist of normal straining and corner posts as well as intermediaries. It will have a diamond mesh tied to 6 strand fence and a three strand barbed wire overhang around the Quarry area that will depict your area of jurisdiction and under your control. An appropriate access gate must also be installed at the entrance to the area.

### **PS 6 WORKING TIMES**

#### **PS 6.1 Work at Night**

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. No drilling will be permitted at night.

#### **PS 6.2 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 Engineer.

#### **PS 6.3 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 CLIMATIC CONDITIONS

### PS 7.1 Rainfall data

The rainfall data to be taken into consideration in program is presented in the table.

**Table: Rainfall Record** Rainfall Station No:00846710 Clanwilliam Period: 1992-2012

Month	AVE	STD DEV	N DAY RAIN	NUM MON	MAX DAY R	MAX RAIN DATE
January	0,0	0.26	0,05	19	13,8	5/1/2004
February	0,25	0.53	0.11	20	10,8	23/2/2010
March	0,45	0.89	0.14	20	29	26/3/1997
April	0,85	1.38	0.33	20	21.4	26/4/2007
May	2,05	3.05	0.76	19	25	8/5/1998
June	3,03	3.98	1.35	18	54.5	8/6/1997
July	2,67	3.23	1.05	18	29.4	26/7/2007
August	2,03	2.80	0.58	18	27.8	18/8/2003
September	0,95	1.35	0.37	18	11.5	12/9/1996
October	0,52	0.91	0.22	18	12.6	19/10/2011
November	0,67	1.16	0.21	18	29.4	8/11/2009
December	0,52	1.11	0.21	18	19.6	24/12/2007

Explanation of headings:

'AVE' represents the average rainfall for the month =  $R_n$

'STD DEV' represents the standard deviation from the normal

'N DAY RAIN' represents the average number of rain days per month exceeding 10 mm =  $N_n$

'NUM MON' represents the number of months used in the calculation

'MAX R DAY' represents the maximum rainfall that occurred over a 24-hour period (08:00-08:00)

'MAX RAIN DATE' represents the date on which the maximum 24 hour rainfall occurred

### PS 7.2 Extension of time arising from abnormal rainfall

No extension of time will be entertained for rainfall.

## PS 8 PROGRAMMING REQUIREMENTS

### PS 8.1 Tendered Contract Programme

Production of aggregates and sand shall commence on approval of all samples submitted and in any case not later than eight weeks after award of this tender.

The required production quantities and rates shall be binding. Note that higher peak rates may be required.

The Contractor shall be deemed to have allowed fully, in his tendered rates and prices as well as in his programme, for all possible delays due to abnormal and adverse weather conditions and special non-working days.

The quantities given below represent substantially the total construction requirement. Actual quantities required will vary. The Contractor will not be entitled to claim any form of compensation over and above the rates, for any requirement variations in total quantities or specific product quantities whatsoever.

Production rates given below represent specific contractual requirements and are binding on the Contractor. Note that quantities given shall be added together to obtain the total required output and total monthly output. Monthly requirements shall be graded in the same proportions according to size as given for total quantities unless otherwise determined by the Employer.

Stockpiles which are reduced to below the minimum quantities given below shall be replenished at the specified peak rates applicable.

Actual monthly requirements within the limits set below, shall be as instructed by the Employer at least 7 days prior to the beginning of each calendar month.

Product	Total Tons	Peak rate Tons/month	Minimum rate Tons/month	Minimum Stockpile Tons
Aggregates fine (RCC)	155 000	6 000	500	6 000
Aggregates fine (CVC)	150 000	2 000	500	2 000
38mm	240 000	5 000	500	5 000
19mm	320 000	10 000	500	10 000
13.2mm	1 200	-	-	-
Crusher run	1 500	200	100	200
Rip Rap	9 500	200	100 0	200
G5	67 500	2500	0	

**It is a requirement that a works program must be submitted with the tender indicating the source and equipment to be used and the minimum and maximum rate that is envisaged.**

## **PS8.2 Contract Programme Maintenance and Progress Monitoring**

A detail Contract Programme shall be developed using the latest version of Construction Computer Software for Windows or Microsoft Project for Windows or equal. Five working days before the monthly progress meeting the Contractor shall submit to the Engineer a programme update that reflects the actual progress against current programmes and the effect on future activities.

The Contractor shall also submit a narrative report with each monthly update including a description of current and anticipated programme related problem areas, current and anticipated delaying factors and their impact, and an explanation of corrective actions taken or proposed.

All variances from the Contract Programme shall be promptly reported and the future impact of such variations shall be determined and analysed by the Sub-Contractor and necessary corrective measures established, subject to the approval of the Employer.

## **PS 8.3 Progress Meetings**

The Contractor will be required to attend regular site meetings with the Engineer where the progress of construction will be reviewed. Such meetings will normally be held monthly. The Contractor shall also attend weekly meetings with the Engineer and provide, prior to each meeting as required by the Engineer, detailed programmes showing separately the various activities of the Contractor anticipated over the forthcoming two week period.

## **PS 9 CONSTRUCTION MATTERS**

### **PS 9.1 General Responsibilities**

The Site and all services are under the control of the Main Dam Contractor and therefore the Employer expects the Contractor to liaise regularly with the Main Dam Contractor in order to ensure smooth execution and integration of activities with the Main Dam Contractor's activities.

Non-performance of the Main Dam Contractor shall not relieve the Contractor of any of his obligations under the Contract.

### **PS 9.2 Contractors Methods and Materials**

It is a requirement of this contract that final work procedures must be approved before commencement of work. Method statements will full details concerning the methods, equipment and materials will be required for the following but not limited to:

- The Quarry area mining plan based on the information provided by the Engineer.
- The Drilling and Blasting of the material.
- The Crushing of the materials
- The acquirement, processing, stockpiling and transport of fine aggregate

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

### **PS 9.3 The Use of Explosives**

The Contractor shall comply with the requirements of the relevant legislation inter alia, the Explosives Act, 2003 (Act 5 of 2003) and with the Mine Health and Safety Act (Act 29 of 1996), as applicable involving the use of explosives for the Works.

### **PS 9.4 Competence of Workmen**

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 Engineer 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 that work.

### **PS 9.5 Contractor's Returns**

Records and returns shall be reported to the Engineer in an agreed format:

#### **(a) Daily Dairy**

The Contractor shall keep accurate daily records detailing work carried out on the Works and shall submit them to the Engineer on the first work day after completed work day, or at such other times as the Engineer 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.

The Contractor shall also provide such further information as may be requested by the Engineer.

#### **(b) Day work and Similar Records**

Records shall be kept daily of labour, materials and equipment where there is an agreement to pay by day works. Such records shall be valid only when signed by both parties.

In cases where there is any dispute or uncertainty on payment procedure, sheets shall be signed daily by both parties as an agreed record of work done but shall not imply any commitment concerning payment. These sheets shall be annotated "For record purposes only".

## **PS 10 RECRUITMENT**

The Contractor shall employ local labour according to the procedures agreed upon with the local community through the relevant labour desk established by the Employer.

This information will be supplied to the successful Bidder once the Bid is awarded.

The Contractor is required to maximise job creation and to make use of locally available labour resources. The following words and expressions shall have the meanings hereby assigned:

- a) Local labour means labour employed through the Labour Desk.
- b) Local Subcontractor means subcontractors within the project area.
- c) Skilled labour means an employee who received in service or formal training in his trade and usually obtained a diploma, certificate or license.



- d) Semi-skilled labour means an employee who is in the process of being trained as a skilled labourer and acts as an assistant to a skilled labourer or artisan.
- e) Unskilled labour means an employee performing normal tasks under the supervision of a skilled or semi-skilled labourer.

The Contractor shall pursue a programme of recruitment of persons from the Project Area in the order of priority as set out below:

This shall comply with the following requirements:

- a) Subject to paragraph (b) hereof, wherever practicable and consistent with the Contract Price and his obligations to complete the Works on time, the Contractor shall give preference to the employment of Historically Disadvantaged Individuals (HDI's) from the defined Project Area and the Western Cape Province who, provided that they perform in accordance with their contracts of employment and shall be continuously employed by the Contractor for as long as the Contractor requires persons in the positions held by such employees.
- b) All semi-skilled and unskilled personnel shall be of South African nationality, and shall wherever possible be recruited from among HDI's.
- c) Skilled personnel shall wherever possible be recruited from among HDI's or from among other South African nationals who have the experience and required skills or who prove to be trainable, where available and otherwise suitable.
- d) The Contractor shall notify the Employer in writing when his continuing needs for skilled, semi-skilled or unskilled personnel cannot be met from the above requirements by training.
- e) The Contractor shall pay his employees 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 Contractor of his obligations under the Contract. The Contractor shall also practice a policy of equal remuneration, conditions of employment and benefits for people of equal skills and productivity.  
Provided that any rate or part of a rate of remuneration, fringe benefits or conditions of employment which are shown separately in the Tender which are attributable to allowances being made by the Contractor to persons employed by them in the Country who come from outside the Country shall be disregarded for the purpose of determining the performance by the Contractor of the obligations contained herein.
- f) As and when required by the Employer, the Contractor shall allow the Employer to audit or to arrange an audit of the Contractor's records as the case may be and thereby monitor the performance by the Contractor of the obligations he has undertaken under paragraphs (d), (e), (g), (h) and (i) hereof.
- g) Notwithstanding anything elsewhere contained in the Contract the Contractor shall recognise the right and freedom of his respective employees to be members of trade unions of the employee's choice as may be permitted by legislation and the rights of such unions to bargain for improvement in the terms and conditions of employment of their members. The Contractor shall ensure that he do not recruit nor attempt to recruit employees from among persons in the service of the Employer, the Resident Engineer or any other person in contract with the Employer or any person in contract with such other person.
- i) The Contractor shall be deemed to be acquainted with and shall comply with all relevant and applicable legislation in as far as Industrial Relations and Labour goes including the Basic Conditions of Employment Act 3 of 1983, the Labour relations Act 66 of 1995, the Employment Equity Act 55 of 1998 as they apply to the admission of personnel into and their employment in the Republic of South Africa.

The Contractor shall make available his Recruitment and Training Policy to the Employer for evaluation in line with this specification. Upon acceptance of the Contractor's Employment Policy, it will become part of the Conditions of Contract.

The Labour Desk will be established by the Employer:

- a) 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.
- b) The Contractor shall make his selection of workers from amongst the candidates submitted to him by the Labour Desk taking due cognisance of his requirements for the workforce. Including aptitude tests and medical fitness.
- c) The Contractor shall pay all the temporary workers engaged at the project not less than the minimum rate of remuneration, as specified in the Sectorial Wage Determination for workers in the Civil Engineering Sector, applicable to the area of the works.

The Contractor shall compile a comprehensive description of his initial labour requirements broken down into the number of persons required in each labour category e.g. Unskilled, Semi-skilled, Skilled, drivers, operators, clerks etc. This list will be used by the Labour Desk to identify suitable persons from within the Project Area, if applicable, as per the above definition. At regular intervals and as required, the Contractor must provide the Labour Desk with their possible future labour requirements. With such information the Employment Information Desk will compile and keep updated an Employment Opportunity Register that will be able to interface with the Skill Register Database.

The Labour Desk will compile and submit to the Contractor a list of suitably qualified Project Area employment candidates for interview purposes (only skilled labour). The Contractor should be mindful, that the responsibility to verify the skills training claimed by the prospective candidates rests with the Contractor. No validation and verification of skills and training levels will be conducted during the Skill Audit process. Upon final selection of employment candidates from the candidate list, the Contractor will inform the Labour Desk in writing of who the successful employment applicants were.

## **Training**

The Contractor shall carry out a training programme for the duration of the construction process for personnel employed or to be employed by him. The programme shall comprise the following:

- a) Satisfying the immediate requirements of the Works; and
- b) The long-term development of a viable engineering and construction skills base to support future projects; and shall include the following activities:
  - Introducing unskilled HDI's to the constraints and requirements of an organised working environment, and to the use of basic tools and equipment;
  - Training HDI's in semi-skilled occupations, where sufficient semi-skilled employees are not already available from among the HDI's;
  - Where sufficient skilled persons are not already available either from the Skills Register Database, among the HDI's or from among other South African citizens, providing training to supplement such skills as are available; and
  - Selectively upgrading the skills of available semi-skilled and skilled personnel to meet the Contractor's requirements

## **PS 11 QUALITY MANAGEMENT**

The Contractor's quality control or management shall be carried out in accordance with ISO 9000 Series of Codes of Practice for Quality Systems. Prior to the commencement of any activity the Contractor shall submit to the Engineer for his approval details of the quality control procedures he intends to follow for that particular activity.

The Contractor shall be responsible under the Contract for the quality and testing of materials, workmanship and production processes in fulfilment of the Contract. The Contractor shall have a Quality Management system in place which details the following in order to satisfy the Specification relevant to each operation to the Works in accordance with the Contract

- Quality control procedures;
- Personnel responsibilities;
- Testing procedures, both on and off-site;
- Equipment and calibration;

- Frequency of testing, calibration, etc.;
- Hold points in production for inspection;
- Rejection and rectification procedures;
- Documentation and communication;
- Standard forms of test result reporting

As much of the testing as is practicable shall be carried out on Site, including trial, acceptance and routine testing which is the responsibility of the Contractor during the course of the Contract.

The contractor shall be required to have miscellaneous material properties testing done at an accredited laboratory at the initial stage to confirm acceptability of the products and when there is a change in the material source.

**A Pro Forma Quality Management system with intended Inspection and test plans for the aggregates and the intended standard forms for test result reporting must be submitted with the tender.**

## **PS 12 HEALTH AND SAFETY**

### **PS 12.1 General**

This contract falls under the Mine Health and Safety Act ( Act 29 of 1996) and the Regulations. For this contract the Contractor will be regarded as the Employer and responsible for the implementation of all the requirements as per the Mine Health and Safety Act ( Act 29 of 1996) and the Regulations.

The Contractors area of responsibility will be within the boundary of the quarry and sand mining areas.

In accordance with the provisions of the Mine Health and Safety Act, the Contractor as Employer is specifically made aware of the following sections:

Section 3: Employer must appoint Manager

Section 8: Employer must establish health and safety policy

Section 9: Codes of Practice

Section 10: Employer to provide health and safety training.

Section 11: Employer to assess and respond to risk

Section 12 Employer to conduct occupational hygiene measures

Section 15: Record of medical surveillance

Section 17 Exit certificates:

The Contractor must identify the hazards, assess the risks and record the hazards and risks to health and safety to which employees may be exposed while they are at work; and

To the extent that is reasonable practicable, you must ensure that every employee is properly trained:

- in the measures necessary to eliminate, control and minimise those risks to health or safety
- in the procedure to be followed to perform that employee's work

To the extent that is reasonable practicable, you must:

- Ensure that every employee becomes familiar with work-related hazards and risks and the measures that must be taken to eliminate, control and minimize those hazards and risks.

To the extent that is reasonable practicable, you must:

- ensure that every employee under your control complies with the requirements of the Act
- institute the measures necessary to secure, maintain and enhance health and safety
- consider an employee's training and capabilities in respect of health and safety before assigning a task to that employee
- ensure that work is performed under the general supervision of a person trained to understand the hazard associated with the work and who has the authority to ensure that the precautionary measures laid down by the manager are implemented.

The Contractor must take responsible measures to ensure that the functions entrusted or delegated to you and your responsibilities in terms of the regulations are complied with in so far as it concerns employees and contractors under your control. You are to report to the Employer without undue delay, any condition and activity in conflict with the Act and Regulations with which you cannot properly deal.

The Contractor is to report all accidents to me immediately and you must visit the scene of the accident without delay.

In addition to the already mentioned duties the Contractor must also perform the following:

- Carry out monthly safety inspections in your area and report any shortcoming and way forward to deal with it.
- At least hold safety meeting once a month with your subordinates.
- Make sure that all accidents, which occurred in your area, are investigated within 3 working days.
- Take sure that all persons working under your supervision, who are responsible for the operation and working of machinery are properly trained and authorised.
- Take all reasonable steps in relation to the health and hygiene of all persons under your control.

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 Employer 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 Employer (Client) to confirm his status as Employer for the contract under consideration.
2. Submit a Health and Safety Policy to the Employer 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.

The Contractor is required to keep health and safety records (which shall include audit reports) on site 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 Employer 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

**A Pro-Forma Health and Safety Policy with Codes of Practices must be submitted with the Tender.**

## **PS 12.2      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 Employer within the first week of the next month.

The Employer 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 Employer combined audits with the Contractor's auditor) will be carried out as considered necessary by the Employer.

#### **PS 12.3      Works Health and Safety Committee**

For the purpose of implementing and monitoring the Health and Safety Plan the Contractor shall put in place a Health and Safety Committee.

The Committee shall meet at least at monthly intervals. Minutes of the meeting shall be kept by the Contractor and copied to Employer within 7 days of the meeting.

#### **PS 12.4      Health and Safety Officers**

The Contractor shall appoint a full time permanent Health and Safety Officer on the commencement of the Works. On the commencement of shift working he shall appoint at least one deputy with the same duties. The Health and Safety Officer and his deputy (or deputies) shall be employed exclusively on health and safety matters, and at least one of them shall always be available on Site so that Health and Safety matters receive 24 hour coverage for the full duration of the Contract. The Health and Safety Officer, or his deputy shall carry out regular and random checks of all parts of the Site where work is taking place.

#### **PS 12.5      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 12.6      Accident Reporting**

The Contractor, through the Health and Safety Officer or his deputy, 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 Employer at the end of each month reports and statistics in spreadsheet format approved by the Employer on all accidents involving any person employed on or visiting the Works.

#### **PS 12.7      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 13   ENVIRONMENTAL REQUIREMENTS**

#### **PS 13.1      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.

#### **PS 13.2      Designated Quarry Rehabilitation**

The application for the development of the designated quarry was approved by the Department of Mineral Affairs with the following conditions that will be the responsibility of the Contractor:

- I.    Progressive mining must take place to allow for concurrent vegetation;
- II.   Soil erosion measures must be in place until such time the vegetation is established;
- III.  All runnels and erosion channels must be backfilled and stabilized;

- IV. Trees and shrubs must be planted around the borrow pit area to aid in screening the borrow pit area;
- V. Ensure the adequate fencing or demarcation is in place until such time the desired rehabilitated state is reached. In this case fences can be removed once the appropriate sloping and re-vegetation has been completed;
- VI. The eradication and prevention of the establishment of alien plants and invasive species through the application of reasonable measures to control and eradicate any alien invasive species;
- VII. The site clean-up must be done regularly during mining. All domestic waste must be placed in litter bins and as such waste must be disposed of at registered landfill site;
- VIII. At least 300 mm topsoil (including rocky material) must be stored for re-use during rehabilitation;
- IX. All hazardous substances (such as fuel and contaminated soils) must be stored in secure, safe and weatherproof facilities, underlain by a bunded area;
- X. The borrow pit side walls slope should have an overall batter of 1V:1H with 2m wide benches every 5m of vertical height with subvertical faces; and
- XI. The final surface level must be shaped to facilitate free draining areas and prevent ponding of surface runoff.

#### **PS 13.3          Fine aggregate borrow areas**

The Contractor will be responsible for obtaining a mining permit, getting environmental approval, implementation of the Environmental Management plan as approved by the relevant Authority and getting a closure certificate on completion of the work.

#### **PS 14              INFORMATION TO BE SUBMITTED WITH BID**

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

1. A layout of proposed crushing facilities must be submitted with tender.(PS4.1)
2. The dimensions and capacity of the Weigh bridge must be submitted with tender.(PS5.9)
3. Preliminary Method statements with full details concerning the methods, equipment and materials will be required for the following at tender stage; (PS9.2).
  - a. The Drilling and Blasting of the material.
  - b. The Crushing of the materials
  - c. The acquirement, processing, stockpiling and transport of fine aggregate.
4. Tendered contract program (PS 8.1) (Tendered construction rates
5. A Pro Forma Quality Management system with intended Inspection and test plans for the aggregates and the intended standard forms for test result reporting must be submitted with the tender.(PS11)
6. A Pro-Forma Health and Safety Policy with Codes of Practices must be submitted with the Tender.(PS12)

### **C2.3 PARTICULAR SPECIFICATIONS**

In addition to the Standard Specifications the following particular Specifications shall apply to this contract and are bound in hereafter:

CWD 01SC	GENERAL
PO6 -	QUARRY FOR NATURAL MATERIALS
PO7 -	SPECIFICATION FOR NATURAL MATERIALS FROM QUARRY

**PARTICULAR SPECIFICATION CWD01 SC**

**GENERAL**



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

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# 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 and Value-related 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 discontinuing 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.

CWD01SC3.3.5 Acquisition of material sources according to legal requirements Unit Sum  
This sum will cover all the costs incurred to get a mining permit from the Department of Mineral Resources and to comply to all other legal requirements in order to use the material. It will also include all royalties and or compensation to be paid to landowners according to an agreement reached between the parties. Payment will only be done on receipt of a copy of the mining permit and the agreement with the landowner.

CWD01SC03.3.6 Rehabilitation of designated rock quarry Unit: Sum  
This sum will cover all the costs incurred to rehabilitate the area according to the specification as per PS13.2. Payment will only be done on completion of all the work.

CWD01SC 3.3 7 Rehabilitation of Fine aggregate (sand) borrow pits. Unit: Sum  
This sum will cover all costs incurred to rehabilitate the area according to the approved standard by the relevant authority. Payment will be done on receipt of closure permit from relevant authority.

CWD01SC.3.3.8 Establish Weighbridge Unit: Sum  
The sum will cover all the costs to deliver install and commission the weighbridge with the required cabin and electronic equipment. Payment will be done on receipt of the certification of an accredited Authority

CWD01SC 3.3.9 Access Control and Security Unit: Sum  
The sum will cover all costs to take control of access to and cover security features for the quarry area and the designated material stockpile areas

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

**CWD01SC 3.4.3 Weigh Bridge Maintenance** Unit: Sum

The sum will cover the cost of a weigh bridge operator and to maintain the electronic equipment, to provide paper and ink as required by the printer and routine reparation as required to keep the weigh bridge operational.

**CWD01SC 3.3.9 Access Control and Security** Unit: Sum

The sum will cover all costs to take control of access to and cover security features for the quarry area and the designated material stockpile areas and to keep these functions into operation.

**CWD01SC 3.5 Site Facilities**

**CWD01SC 3.5.1 Anti Intruder Fencing** Unit : Meter

The rates shall include full compensation for providing all the materials, including all concrete, tying wire, bolts, washers and nuts, for excavating holes for posts, for erecting the posts, standards and droppers and the complete putting up of the fence as specified and as shown on the Drawings. The drilling of holes for standards and the blasting or drilling of holes for posts shall be included for payment. One access gate will also be allowed for.

**PARTICULAR SPECIFICATION P06**  
**QUARRY FOR NATURAL MATERIALS**

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## PARTICULAR SPECIFICATION P06: QUARRY FOR NATURAL MATERIALS

### P06.1 SCOPE

This specification covers the requirements for opening up, operating and reinstating the quarries designated on the Drawings or any other quarries as directed or approved by the Engineer for the procurement of materials required for construction.

### P06.2 INTERPRETATIONS

#### P06.2.1 Supporting Specifications and Standards

This specification is supported by the specification and standards of SABS 1200C and SABS 1083 in the form of their latest editions and subject to the variations to SABS 1200C given in Part B.

#### P06.2.2 Definition and Abbreviations

For the purpose of this specification the definitions and abbreviations given in the specifications and standards and the following definitions shall apply.

**Quarry Material:** This is material, which after processing, if necessary, satisfies the specified requirements for incorporation into the required products. For the purposes of this specification, natural sand shall be classified as quarry material. It may be supplied from any area as determined by the Contractor or purchased locally.

**Unsuitable overburden:** This is material overlying Quarry Material which cannot be incorporated into the required products as Quarry Material.

Subdivisions of this material type are unsuitable overburden, soft and blasted which constitute material overlying Quarry Material which do and do not require blasting before removal. The Engineer shall determine which material is classified as unsuitable overburden, blasted.

**Unsuitable material:** This is material other than overburden which can occur as layers or lenses between layers of Quarry Material and which cannot be incorporated into the required products as Quarry Material.

### P06.3 MATERIALS

#### P06.3.1 Quarry Material

Quarry Material shall be material approved by the Engineer and meeting the specified requirements of Particular Specification 1.07.

Quarry Material shall include all quarried rock used in the construction of the dam embankments or any particular embankment zone, used for concrete aggregates, crushed aggregate filters and drains, stone pitching, crusher run base course or for any other purpose in the Permanent Works.

Quarry Material shall be obtained from approved sources of supply or from such other sources as may from time to time be approved by the Engineer.

#### P06.3.2 Unsuitable Overburden

Overburden which is unsuitable or which is not required for any construction purpose in the Permanent Works shall be classified and paid for as unsuitable overburden. Unsuitable overburden may either be Soft or Blasted, and shall be deemed to be material overlying approved Quarry Material.

**P06.3.3 Unsuitable Material**

Material other than overburden, encountered in the quarries and which is unsuitable or which is not required for any construction purpose in the Permanent Works shall be classified as unsuitable material. No payment will be made for such material and this cost must be taken into account in the unit price of the required products.

**P06.4 PLANT**

The Contractor shall utilise such plant and explosives as are necessary to efficiently dislodge and remove all materials in the quarry and load and transport either to stockpile or directly to the crusher or other processing plant. Where necessary the Contractor shall also provide grislies and rock loading buckets to ensure that the desired grading of quarry material is achieved.

The Contractor shall, in addition, supply and operate such crushing, screening, washing and blending plant as is required to provide the specified product.

The capacity of the plant should be such that it can meet the Contractor's peak performance and with due regard to the quantities and required rate of production of specified products.

**P06.5 CONSTRUCTION****P06.5.1 General**

The Contractor shall submit to the Engineer 14days' written notice of his intention to commence operations at any particular quarry or Borrow Area, together with full details of his proposed method of working, which must be approved by the Engineer before operations commence.

The Contractor shall use only such quarries as have been specifically approved by the Engineer for use in the Works. The Contractor shall make allowance for moving his plant from one location to another at any of the individual sources named or subsequently approved by the Engineer.

The Contractor shall ensure that these operations do not create undue dust and noise and shall take adequate precautions to prevent his operations from becoming a nuisance for the local population.

**P06.5.2 Cofferdams**

Quarries or borrow areas adjacent to a river or stream may be prone to flooding and in such cases protection shall be provided by means of cofferdams, if so deemed necessary by the Contractor. The Contractor shall be responsible for the design and construction of these cofferdams. The cost of the cofferdams, will be included in the unit prices of the required products.

The proposed method of working in the quarries or borrow areas shall take notice of the river flow levels, during the course of a year.

**P06.5.3 Clearing and Grubbing**

Where unsuitable overburden is to be used elsewhere in the Works or in rehabilitation, either directly or after stockpiling, the necessary portions of the site of the quarry shall be cleared and grubbed in accordance with the requirements of SABS 1200C, to the limits approved or indicated by the Engineer, before any quarry operations are commenced.



**P06.5.4 Unsuitable Overburden and Unsuitable Material**

Before any work at any particular quarry or borrow area is commenced a survey shall be made for the purpose of computing the quantity of unsuitable overburden and unsuitable material, if any, to be removed. Surveys shall be conducted prior to and after removal of unsuitable overburden and unsuitable material and it shall be the duty of the Contractor to inform the Engineer whenever such surveys can be made.

The Contractor shall only excavate unsuitable overburden or unsuitable material that is necessary for the working of the quarry as directed by the Engineer. Excavation shall not extend beyond these limits. Excavation shall proceed in such a manner that the approved Quarry Material is not contaminated. Any approved Quarry Material, which is rejected due to the Contractor's noncompliance with this requirement, will be for the account of the Contractor.

Unsuitable overburden and unsuitable material shall be loaded and transported to spoil dumps or stockpiles indicated on the Drawings or indicated or approved by the Engineer. The location and extent of the spoil dumps or stockpiles shall have due regard of the safety requirements of operations in the quarry and avoid obstructions in the rivers or streams in such a way that undue flooding can occur due to the backwater effects or breaching of the cofferdams.

The Contractor shall ensure that subsequent operations involving the removal of unsuitable overburden or unsuitable material or overbreak during blasting will not cause contamination of Quarry Material. No blasting in a particular portion of a quarry shall perform until the Engineer has approved the Contractor's precaution to prevent contamination of the Quarry Material.

Lenses and layers of unsuitable material encountered in quarries will be included in the measurement for payment by suitable quarrying techniques in the case of filter materials or aggregates the material can be made to comply with the specified requirements for the particular use.

**P06.5.5 Drainage of Quarry**

The Contractor shall keep the quarry drained at all times and shall make such provisions as are necessary to divert surface runoff away from the quarry.

In event of the quarry floor extending below the level of the water table, the Contractor shall install the necessary pumps and piping in order to keep the quarry dry.

The costs of these provisions, including the provision of cofferdams referred to in Clause P06.5.2, shall be allowed for by the Contractor and no extension of time will be granted for delays incurred by the Contractor's failure to comply.

The employer will not compensate for damage to or loss of any mobile equipment or machines caused by flooding in any way. In the event of flooding of the quarry caused by overtopping or breaching of the river diversion works, the Employer shall be responsible for dewatering of the quarry area and removal of sediment, silt and debris.

The Contractor shall at all times maintain a stockpile of blasted quarry material suitable for crusher feed. The stockpile shall be situated outside any potential flooding area and shall have a minimum size of 10 000 tons.

**P06.5.6 Quarrying**

Quarry Material shall be quarried within the limits approved or instructed by the Engineer.

Where the quarry contains different types of materials in separate lenses or layers which require to be mixed in order to produce a suitable product for a particular application, the materials shall be quarried over the full depth of approved face in one operation without separation of different types of materials.

Where the quarry contains different types of material in separate lenses or layers which by virtue of their grading after blasting or their physical or chemical properties must be kept separate in order to ensure a suitable product for a particular application, the method of working shall ensure there is no intermixing, to the approval of the Engineer.

Approval by the Engineer of the methods adopted by the Contractor shall in no way relieve the Contractor of his responsibilities to produce a material, which complies with the appropriate specification. The Contractor shall therefore be required to adapt his methods to meet the specified requirements. However, the Engineer shall be kept fully informed of any changes together with the reasons for doing so.

The quarry floor shall at all times be kept clear of fines of other material, which may contaminate the approved material. The Contractor shall bear the cost of any material, which is rejected due to his non-compliance with this provision.

**P06.5.7 Explosives**

Should blasting be necessary, the Contractor shall take every precaution to protect the Works and persons, animals and property in the vicinity of the Site. The Contractor will be held responsible for any injury or damage caused by any blasting operations and shall, at his own expense, make good such damage.

The transportation, storage and use of explosives shall comply with the requirements of the Explosives Act, 2003 (Act 5 of 2003) and with the Mine Health and Safety Act (Act 29 of 1996), as applicable.

A copy of each blasting permit issued to workmen, and of each permit issued to the Contractor to cover purchase, storage and transportation of explosives, shall be handed to the Engineer. The Contractor shall grant the Engineer access to all records maintained for the Chief Inspector of Explosives or the Principal Inspector of Mines, as the case may be.

The Contractor shall provide and erect his own explosives magazines on an approved site and shall provide the Engineer with copies of legally required licensing and certification if a magazine is required.

When blasting to specified profiles, the Contractor shall so arrange the holes and charges that the resulting exposed surfaces are as sound as the nature of the material permits. The Contractor shall make good at his own expense any additional excavation necessitated by the shattering of rock in excess of any overbreak allowance specified. In deep excavations the Contractor shall generally perform the excavation in two or more stages, reducing the depths of and the distances between holes and the charge levels in the final stage.

The Contractor shall at all times provide full facilities for the Engineer or his Representatives to check all stages of the drilling and blasting operations.

**P06.5.8      Blasting****P06.5.8.1      General**

The Contractor shall submit to the Engineer for his approval full details of his proposed methods for blasting and excavating. This submission shall include full details of the plant, materials proposed hole sizes, depths and layouts, detonating sequences and delays, and charge levels together with a clear statement of his planned procedures. These details shall be submitted 14 days prior to the Contractor's intended start date for blasting a particular section.

All accidents, injury to persons or damage to property or the Works shall be reported in detail and in writing to the Department of Labour in accordance with the Mine Health and Safety Act and a copy shall be sent to the Engineer as soon as possible after the event.

**P06.5.8.2      Preparation**

The Contractor shall completely remove all overburden and weathered rock from above the area to be blasted for a suitable distance beyond the drilling limits.

This area shall be kept clear of all loose material until after the blast.

**P06.5.8.3      Notice to Blast**

The Contractor shall submit to the Engineer 24 hours' written notice of his intention of carrying out a particular blast. This notice shall contain details of the volume to be dislodged, the burden, spacing and diameter of the drill holes, the type and quantity of explosives to be used, the method of detonation including delay times and sequences, the estimated yield and ultimate purpose of the material. If between the submission of the notice and the time of the actual blast, the Contractor is forced to modify any of the details, the Contractor shall advise the Engineer accordingly together with the reasons for the change. In the case of blasting for quarry run materials such as riprap the Contractor shall in addition submit the details to the Engineer for approval at least 48 hours prior to his intention to commence drilling.

The Contractor shall keep a full up-to-date record of all the above information and any additional information, which the Engineer may request from time to time. Copies of these records shall be submitted to the Engineer's Representative daily.

**P06.5.8.4      Care of the Works**

The design of the blast shall ensure that there is no unnecessary shattering of the rock and the Contractor shall accept full responsibility for the quality of the remaining rock after a blast and shall make good at his own expense and as directed by the Engineer, any over-excavation necessitated by such fracturing or displacement of the rock.

**P06.5.8.5      Control of Blasting**

The explosives shall be of such quality and power and shall be used in a manner, which will achieve the desired result. The layout, depths and sizes of the holes and the magnitude, distribution and delays and detonation sequences of the charges shall be such as to ensure that there is no damage to the rock at or below the final or founding level and that there is no excessive overbreak. The firing systems shall be controlled by the use of delay detonators except when used for presplitting or smooth blasting. All charges shall be accurately made up and inserted into the holes at the correct spacing. All holes shall be properly stemmed and wired in the correct sequence to ensure the stated blast pattern and to eliminate the possibility of live charges remaining after detonation.

If, in the opinion of the Engineer, the Contractor's method of drilling and blasting is considered or proved to be inappropriate to produce the results required, the Engineer reserves the right to order the Contractor to modify his procedures.

#### **P06.5.8.6 Safety Measures**

The Contractor shall in accordance with all the statutory requirements agree with the Engineer his proposed method of warnings, and movement of personnel on Site prior to commencing the first blast. The Contractor shall use mats or other types of cover to ensure that flying rock fragments are kept to an absolute minimum at all times.

#### **P06.5.8.7 Monitoring and Designing for Blasting Vibrations**

The Contractor shall supply and operate two approved recording tri-axial particle velocity meters, which shall be used as and where directed by the Engineer. The Contractor shall design his blasting operations such as to ensure that the peak particle velocity does not exceed 50 mm/sec. or potentially damaging values in any permanent structure.

#### **P06.5.8.8 Blasting Adjacent or Near to Structures**

The Contractor shall take due cognizance of all the existing buildings in the surrounding area of the blasting. He shall at all times ensure that his blasts are designed so as not to cause damaging ground vibrations or air blast. **The Contractor will be held responsible for any damage caused by any of his blasting operations, and shall at his own expense, make good such damage. All alleged claims due to blasting from local communities will be directed to the Contractor for his attention.** The Contractor will be responsible to immaculately resolve the matter(s) accordingly.

Blasting to be carried out within 100m of any concrete and/or grouting regardless of age shall be done by means of Gas-induced Fracture Technology (GIFT) using Nonex, or by means of Controlled Blasting techniques, to the approval of the Design Engineer. All such blasting shall be designed to keep the peak particle velocities (PPV) to below 12.7mm/s and the frequency above 10 Hz.

During blasting in the main quarry, way-leave approval shall be obtained for control of the traffic on the N7 for blasting. Due to the close proximity to the N7, the road will have to be closed for each blast and the Contractor will be responsible for clearing blasted rock off the road where necessary.

#### **P06.5.8.9 Haul Roads and Quarry Access**

The Contractor shall submit to the Engineer for his approval, details of the routes and form of construction of the haul roads associated with the quarries and access roads into the quarries. Such roads shall preferable be along existing routes or future permanent roads required for later utilisation.

#### **P06.5.8.10 Reinstatement of Quarries and Associated Haul Roads**

In any particular portion of a quarry the final blast shall be so designed as to ensure that the face of the Intermediate and Hard Rock overburden and the face of Quarry Material has been excavated to the final profiles approved in the Employer. On completion of the quarrying operations, the quarry spoil dumps and the slopes of Soft overburden shall be trimmed in accordance with the requirements of the Employer. Any stockpiled materials adjacent to the quarry shall be placed back into the excavation, and material shall be graded to an even slope not exceeding 1 (vertical) to 3 (horizontal). Haul roads shall be reinstated in accordance with the requirements of Employer.

Where quarries are outside the reservoir area of the dam or extend above the full supply level topsoil shall be placed and spread to a uniform thickness over the exposed area of the quarry that is likely to erode.

The construction of the stormwater mounds to prevent erosion of the exposed erodible portions of the quarry as well as grassing of the topsoil as specified in the employer shall be performed.

## **P06.6 MEASUREMENT AND PAYMENT**

The measurement and payment for the unsuitable material, soft and blasted shall be measured by survey by the Engineer in the bank state.

### **P06.6.1 Schedule Items Excavation of Unsuitable overburden soft -----Unit m3**

The rate shall include all the costs to remove the material to a temporary stockpile and to re-use it to rehabilitate the quarry.

### **P06.6.2 Excavation of Unsuitable overburden hard -----Unit m3**

The rate shall include all the costs to blast and remove the material to a temporary stockpile and to re-use it to rehabilitate the quarry.

**PARTICULAR SPECIFICATION P07**

**SPECIFICATION OF NATURAL MATERIALS FROM QUARRIES**

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## PARTICULAR SPECIFICATION PO7: SPECIFICATION FOR NATURAL MATERIALS FROM QUARRIES

### PO7.1 SCOPE

This specification covers the requirements for the natural materials from the quarries and borrowpits.

### PO7.2 INTERPRETATION

#### PO7.2.1 Supporting Specifications and standards

This specification is supported by the specifications and standards of SABS 1083 in the form of their latest edition and subject to variations specified per product.

### PO7.3 MATERIAL SPECIFICATION

#### PO7.3.1 Stockpiles

The Contractor shall maintain the stockpiles in order to -

1. Provide adequate capacity to ensure no interruption to the construction or his own quarrying or crushing operations.
2. Ensure separate storage areas for different types and sizes of material such that no contamination between sizes occurs.
3. Ensure that there is no intermixing or contamination by deleterious matter.
4. Ensure that there is no segregation.
5. Restrict the height of stockpiles to less than 3m.

#### PO7.3.2 Fine Aggregate (Sand) for Immersion Vibrated Roller Compacted Concrete (IVRCC)

The Fine Aggregate (Sand) for IVRCC shall meet the requirements for concrete in SANS 1083, except the grading which shall meet the requirements of table 1 below and shall have no property which in the opinion of the Engineer, could adversely affect the concrete.

The sand may either be derived from natural sources (ie. Dune Sand etc) that have been suitably selected and washed to remove organic material and clay etc. may be blended with a manufactured sand (ie. Crusher dust) to achieve a combined sand which conforms to the specification.

The acceptable limits for each property in each size fraction shall be as follow:

**Table 1: Fine Aggregate (sand) grading for IVRCC**

Sieve size	Mass (%) passing		Test Method
	Upper Limit	Lower Limit	
9,5 mm	100	100	SANS 201
4,75 mm	100	90	
2,36 mm	86	66	
1,18 mm	69	42	
0,600 mm	51	25	
0,300 mm	35	16	
0,150 mm	25	10	
0,075 mm	18	5	

The fineness modulus shall be between 2,34 and 3,51 and if necessary, shall be achieved by the blending of at most two types of sand. Different types and classes of sand shall be separately stockpiled.

The Contractor shall submit for approval the fineness modulus that he proposes to adopt for the sand and after approval the actual value of the fineness modulus shall not differ from the approved value by more than 0,2.

In addition all the non-soluble deleterious materials including materials of low density in any size fraction shall not exceed 2% by mass. The aggregate shall meet the requirements for a structure where shrinkage is important.



The sand shall be tested for the following properties:

**Table 2: Fine Aggregate (sand) properties for IVRCC**

Property	Value	Test Method
Methylene Blue adsorption Value (MBV) (max)	0,7	SANS 6243
Clay content material < 5 micron (mass, % max)	2,0	SANS 6241
Chloride content, expressed as Cl (mass, % max)	0,03	SANS 202
Organic impurities	< 3	SANS 5832
Presence of sugar	0	SANS 5833
Non-soluble deleterious material including material of low density in each size fraction (% max)	2	SANS 5837
Water absorption	2,0	SANS 5843

The bidder may also offer sand that does not comply with the grading specification, to be blended with the sand of another bidder that also does not comply with the grading specification, in order to obtain sand that does comply with the specification, and all other specifications. In this case the Department reserves the right to award the supply of the two sands to two different bidders in amounts that will be decided by the Department.

### **P07.3.3 Fine Aggregate (Sand) for Conventionally Vibrated Concrete (CVC)**

The Fine Aggregate (Sand) for IVRCC shall meet the requirements for concrete in SANS 1083, except the grading which shall meet the requirements of table 1 below and shall have no property which in the opinion of the Engineer, could adversely affect the concrete.

The sand may either be derived from natural sources (ie. Dune Sand etc) that have been suitably selected and washed to remove organic material and clay etc. may be blended with a manufactured sand (ie. Crusherdust ) to achieve a combined sand which conforms to the specification.

The acceptable limits for each property in each size fraction shall be as follow:

**Table 3: Fine Aggregate (sand) grading for CVC**

Sieve size	Mass (%) passing		Test Method
	Upper Limit	Lower Limit	
9,5 mm	100	98	SANS 201
4,75 mm	100	95	
2,36 mm	95	80	
1,18 mm	90	60	
0,600 mm	70	40	
0,300 mm	35	15	
0,150 mm	10	5	
0,075 mm	5	0	

The fineness modulus shall be between 2,34 and 3,51 and if necessary, shall be achieved by the blending of at most two types of sand. Different types and classes of sand shall be separately stockpiled.

The Contractor shall submit for approval the fineness modulus that he proposes to adopt for the sand and after approval the actual value of the fineness modulus shall not differ from the approved value by more than 0,2.

In addition all the non-soluble deleterious materials including materials of low density in any size fraction shall not exceed 2% by mass. The aggregate shall meet the requirements for a structure where shrinkage is important.

The sand shall be tested for the following properties:

**Table 4: Fine Aggregate (sand) properties for CVC**

Property	Value	Test Method
Methylene Blue adsorption Value (MBV) (max)	0,7	SANS 6243
Clay content material < 5 micron (mass, % max)	2,0	SANS 6241
Chloride content, expressed as Cl (mass, % max)	0,03	SANS 202
Organic impurities	< 3	SANS 5832
Presence of sugar	0	SANS 5833
Non-soluble deleterious material including material of low density in each size fraction (% max)	2	SANS 5837
Water absorption	1.0	SANS 5843

The bidder may also offer sand that does not comply with the grading specification, to be blended with the sand of another bidder that also does not comply with the grading specification, in order to obtain sand that does comply with the specification, and all other specifications. In this case the Department reserves the right to award the supply of the two sands to two different bidders in amounts that will be decided by the Department.

#### **PO7.3.4 CoarseAggregate (Stone) for Concrete**

The coarse aggregates shall meet the requirements of stone for concrete in SANS 1083, except the grading which shall meet the requirements of the table below and shall not have any property, which in the opinion of the Employer, could adversely affect the concrete.

**Table 5: Coarse Aggregate (stone) grading**

Table 5: Coarse Aggregate (stone) grading				
Sieve size (mm)	Mass (%) passing			Test Method
	Size Class			
	37,5	19,0	13.2	
75	100	100	100	SANS 201
53	100	100	100	
37,5	85-100	100	100	
26,5	20-45	100	100	
19	0-10	90-100	100	
13,2	0-7	60-77	85-100	
9,5	0-5	30-55	0-55	
4,75		0-5	0-5	
Dust content, material that passes a 75 micron sieve. (mass %, max)			2	SANS 201

The stone shall be tested for the following properties:

**Table 6: Coarse Aggregate (stone) properties**

Property	Value	Test Method
10% FACT value of less than 13,2mm and more than 9,5mm fraction (dry), kN (min)	110	SANS 5842
Shape (voids content, % max)	48	SANS 5845
Soundness and durability (loss in mass, % max) (sodium and magnesium sulphate method)	8	ASTM C88
Abrasion resistance (% max)	48	SANS 5846
Content of material of low density (each size fraction, % max)	2	SANS 5837
Water absorption (% max)	1.0	SANS 5843
The sum of the Flakiness Index and the Elongation Index (% max)	24,0	
Flakiness Index		SANS Method 5847
Elongation Index		BS 812:

Property	Value	Test Method
		Section 105.2

The coarse aggregate shall be separated and separately stockpiled in 37,5mm, 19,0mm and 13,2mm nominal sizes of stone or sizes as directed by the Employer.

In addition all the non-soluble deleterious materials including materials of low density in any size fraction shall not exceed 2% by mass. The aggregate shall meet the requirements for a structure where shrinkage is important.

A spherical particle shape is preferred.

### P07.3.5 Crusher run

The aggregate shall meet the quality requirement of stone for concrete in SABS 1083.

The stone shall be tested for all the properties listed in Table 2 of SABS 1083.

The acceptable limits for each property in each size fraction shall be as follow:

**Table 7: Crusher Run grading envelope**

Grading	Mass (%) passing		Test Method
Sieve size (mm)	Upper Limit	Lower Limit	
75	100	89	SANS Method 201
53	86	72	
37.5	69	47	
26.5	47	30	
19	33	18	
13.2	24	10.5	
9.5	18	0	
6.7	14	0	
4.75	10	0	
Dust content, material that passes a 75 micron sieve, mass %,max		2	
10% FACT value, of the less than 13,2mm and more than 9,5mm fraction (dry), kN, min		110	SANS Method 5842
Flakiness Index		35	SANS Method 5847

In addition all the non-soluble deleterious materials including materials of low density in any size fraction shall not exceed 3% by mass.

The crusher run shall be separately stockpiled.

### P07.3.6 Rip - rap

All stone for rip-rap shall be rock of a petrographic type approved by the Engineer and shall be quarry or excavation run processed only to remove excess fines or to remove or degrade oversize particles and shall meet the following requirements:

1. Be hard, dense, durable quarried rock that is free from weathering, cracks, seams and other defects that will cause rapid or excessive deterioration or degradation during service.
2. Contain not more than 5% by mass in total impurities (undesirable material) such as individual pieces of rip- rap which do not meet the quality requirements as specified and which can be visually differentiated from satisfactory pieces, plus dirt, sand, clay, rock fines and material of low density.
3. The specific gravity of the individual particles shall be greater than 2,6.
4. The dry 10% FACT value determined in accordance with SABS Method 842 shall be not less than 110Kn.
5. The wet 10% FACT value determined in accordance with SABS Method 842 shall be not less than 75% of the determined dry value.
6. The loss after 5 cycles measured by the modified magnesium sulphate soundness test shall not be greater than 8%.

7. The shape of the individual particles shall be such that the minimum dimension is not less than 65% of the dimension of the smallest square mesh or sizing square through which the particle will pass and is also not less than 40% of the maximum dimension of the particle.

The rip rap shall be a D50 = 400 class and the required grading is:

**Table 8: Rip Rap grading envelope:**

Grading Sieve size (mm)	Mass (%) passing	
	Lower Limit	Upper Limit
1000	100	100
800	73	100
600	57	100
500	46	100
300	15	60
200	3	38
100	0	8

### **P07.3.7 Road building G5 Material**

The G5 Material must comply with all specifications as per COLTO Table 3402/

### **P07.3.8 Demolished Concrete (Reinforced/Mass)**

All demolished concrete removed from the permanent works are to be crushed.

Concrete will be transported, by the Employer/Others, to a stockpile for crushing. Maximum particle size will be 900mm. These stockpiles will be within 2km (freehaul) of the quarry.

There are two types of concrete – reinforced and mass. Separate rates are to be supplied for each type. Reinforcing will consist of conventional high and low yield reinforcing as well as pre- and post-tensioning cables.

The amount of the reinforcing steel remaining in the final product (on which payment is based) shall not exceed 2% by mass. Maximum reinforcing particle size shall not exceed 25mm.

The material produced by crushing concrete is to be stockpiled separately.

Removed reinforcing shall be separately stockpiled and remains the property of the Employer.

The percentage by mass of the crushed material passing the 2.00mm sieve shall not be less than 20% or more than 70%. The nominal maximum size of material must be 38mm.

### **P07.3.9 Crushing of Excavated Material**

Rock material produced during hard excavation for the dam raising may also be crushed. It is expected that  $40\,000\text{m}^3 \pm 25\%$  of suitable excavated material will be available from essential excavations for use in this manner.

Excavated rock will be transported, by the Employer/Others, to a stockpile for crushing. Maximum particle size will be 900mm. These stockpiles will be within 2km (free haul) of the quarry.

A negative extra over rate is to be provided by Bidders for tons of raw material weighed over the weighbridge (going to the crusher for further processing).

This raw material shall be crushed to products depending on the characteristics of the excavated material as well as site requirements.

### **P07.3.10 Screening of already crushed materials on stockpile/floors**

The material left on the stockpile floors will be collected before rehabilitation and screened into the respective specified grading of the respective products.

#### **P07.4 PLANT**

Plant shall be suitable for the production and delivery of the end result under the conditions applicable to the material.

#### **P07.5 CONSTRUCTION**

The materials shall be obtained by means of controlled blasting techniques, crushing, screening, blending, washing or by such other methods as the Employer may from time to time approve. Where materials are blended, the Contractor shall provide means to the Employer for such blending. The blending techniques and proportions used from time to time shall take due account of the effects of moisture in the materials. The methods and duration of mixing of the material shall all be subject to the approval of the Employer prior to commencing and during the execution of the work. The Contractor shall perform at his own expense, such tests as the Employer may approve or subsequently order to develop a satisfactory blending technique and such additional routine tests to ensure that the desired uniformity of quality is maintained.

The water used in washing materials shall be free from silt or other suspensions that might impair the sluicing efficiency or detrimentally affect the material properties. Sluicing on the embankments shall not be permitted. Disposal of washing water shall be by means as approved by the Employer.

The quality of the materials used for construction and the methods of procuring and processing the materials shall at all times be subject to the approval of the Employer who shall be at liberty to order the Contractor to operate from any of the approved sources of supply.

#### **P07.6 ACCEPTANCE CRITERIA FOR DELIVERED MATERIAL**

The delivered material will be accepted and regarded as being similar to the reference sample and in accordance with the grading specification if it fulfils the requirements given below.

##### **Fine Aggregate (Sand) for Immersion Vibrated Roller Compacted Concrete (IVRCC)**

The fineness modulus of 90 % of samples taken from the consignment or load shall not differ by more than 0.20 from the fineness of the standard sample and all quality requirements shall meet the specification.

##### **Fine Aggregate (Sand) for Conventionally Vibrated Concrete (CVC)**

The fineness modulus of 90 % of samples taken from the consignment or load shall not differ by more than 0.20 from the fineness of the standard sample and all quality requirements shall meet the specification.

##### **Coarse Aggregate (Stone) for Concrete**

The coarse aggregate shall meet the specification

##### **Crusher run**

The crusher run shall meet the specification

##### **Rip - rap**

The rip-rap shall meet the specification.

#### **P07.7 TESTING**

The Contractor will be solely responsible for the production of work that complies with the Specifications to the satisfaction of the Engineer. To this end it will be the full responsibility of the Contractor to undertake appropriate quality control tests and quality assurance measures on-site.

Testing of all material shall be in accordance with the particular requirements for its use as specified in the appropriate specification.

The Contractor shall at least conduct the tests specified in SANS 201 on all materials to ensure that the quality of the materials will comply with the specified requirements at any given time.

The Engineer will audit the Contractor's quality assurance system on a regular basis to verify that adequate independent checks and tests are being carried out and to verify that the Contractor's own control is sufficient to identify any possible quality problems which could cause a delay or failure.

If there is any doubt concerning the quality of the quarry material being quarried at any time, the contractor shall notify the engineer immediately. The results of all tests conducted by the Contractor shall be submitted to the Engineer. The Engineer will, after further testing, or inspection if necessary, instruct the Contractor regarding the use of the material in the quarry, or he may order the quarry or a particular portion of the quarry to be finished off and abandoned.

The testing of the various materials shall be in accordance with the relevant SABS Methods specified in PO7.3. The grading tests (SANS 201) is regarded as routine inspections and deemed to be included in the relevant material unit cost. The material property tests are regarded as specialized tests to be done by an accredited laboratory.

A copy of all test results, as per the specifications above, from an accredited laboratory must be submitted for all materials before production commences.

#### **PO7.8 SAMPLES**

The supply, at no cost, of representative samples complying to the specification for grading and properties is a condition of the contract and a separate sample shall be submitted for each and every item and shall be delivered to:

Construction South  
Department of Water and Sanitation  
Laboratory  
Clanwilliam Dam

In the case where commercial sources are used the samples for coarse and fine aggregate must be submitted to the Materials Laboratory at Clanwilliam Dam within 2 weeks of award of the bid.

In the case where designated sources are used the samples for coarse and fine aggregate must be submitted to the Materials Laboratory at Clanwilliam Dam within 8 weeks of award of the bid.

Samples shall be packed in sealed sample bags in order to avoid the loss of fines in transit. Bags shall be clearly marked showing the item number, name of contractor and nature of sample.

The sample supplied and accepted for each item shall serve as the standard to which the contractor's deliveries will be tested and any consignment by the contractor which is not up to the standard of the sample will not be accepted by the Department and no claim for compensation for any railage, labour and/or transport costs which may have been incurred in respect of such consignment will be entertained.

No sample will be required for Rip-Rap. A sample (of minimum 20m<sup>3</sup>) of the rip rap will be made available at the source for evaluation and grading analysis if and when required.

#### **PO7.9 MEASUREMENT AND PAYMENT**

Measurement under this specification covers the delivery of the required materials as specified.

The rates shall include, delays due to normal weather conditions and special non working days, housing and transport of workers, electrical power water and all other services, drilling and blasting, processing plant, loading and transport of product, routine testing of materials, security, unsuitable material, cofferdams and drainage of works, and royalties

## Schedule Items

**PO7.9.1      Fine Aggregate (Sand) for (IVRCC)-----Unit Ton**

The rate shall include all the costs to source, process and deliver the material to designated point of delivery, according to specification. Dry volume will be paid. Moisture contends will be determined and subtracted from weigh bridge mass. Measurement will be by means of an approved weigh bridge with a weigh bridge ticket.

**PO7.9.2      Fine Aggregate (Sand) for (CVC)-----Unit Ton**

The rate shall include all the costs tosource, process and deliver the material to designated point of delivery, according to specification. Dry volume will be paid. Moisture contends will be determined and subtracted from weigh bridge mass. Measurement will be by means of an approved weigh bridge with a weigh bridge ticket.

**PO7.9.3      Aggregate Concrete Coarse (38 mm)-----Unit Ton**

The rate shall include all the costs to source, process and deliver the material to designated point of delivery, according to specification.Dry volume will be paid. Moisture contends will be determined and subtracted from weighbridge mass Measurement will be by means of an approved weigh bridge with a weigh bridge ticket.

**PO7.9.4      Aggregate Concrete Coarse (19 mm)-----Unit Ton**

The rate shall include all the costs to source, process and deliver the material to designated point of delivery, according to specification. Dry volume will be paid. Moisture contends will be determined and subtracted from weighbridge mass Measurement will be by means of an approved weigh bridge with a weigh bridge ticket.

**PO7.9.5      Aggregate Concrete Coarse (13.2 mm)-----Unit Ton**

The rate shall include all the costs to source, process and deliver the material to designated point of delivery, according to specification. Dry volume will be paid. Moisture contends will be determined and subtracted from weighbridge mass Measurement will be by means of an approved weigh bridge with a weigh bridge ticket.

**PO7.9.6      Crusher run-----Unit Ton**

The rate shall include all the costs to source, process and deliver the material to designated point of delivery, according to specification. Measurement will be by means of an approved weigh bridge with a weigh bridge ticket.

**PO7.9.7      Rip-rap-----Unit Ton**

The rate shall include all the costs to source, process and deliver the material to designated point of delivery, according to specification. Measurement will be by means of an approved weigh bridge with a weigh bridge ticket.

**PO7.9.8      Road Building Material G5-----Unit Ton**

The rate shall include all the costs to source, process and deliver the material to designated point of delivery, according to specification. Measurement will be by means of an approved weigh bridge with a weigh bridge ticket.

**PO7.9.9      Crushed Mass Concrete-----Unit Ton**

The rate shall include all the cost to haul and crush mass concrete blocks (900mm maximum) from a stockpile within a 2km free haul radius and deliver to point of delivery, according to specification.

**PO7.9.10      Crushed Reinforced Concrete-----Unit Ton**

The rate shall include all the cost to haul and crush reinforced concrete blocks (900mm maximum) from a stockpile within a 2km free haul radius and deliver to point of delivery, according to specification

**PO7.9.11      Crushing of hard excavation material supplied by others to stockpile-----Unit Ton**

The rate shall be the rate that the contractor is prepared to pay for suitable material received in his stockpile prior to crushing. It will be regarded as a credit to the employer. The crushed material will be paid according to the rate of the final delivered product.

**PO7.9.12      Screening of already crushed materials on stockpile/floors-----Unit Ton**

The rate shall include all the cost to collect the material, to screen the material and deliver to point of delivery, according to specification.



# **DEPARTMENT OF WATER AND SANITATION**

**DWS03-0419 (WTE)**

**THE SUPPLY AND DELIVERY OF FINE AGGREGATE, COARSE AGGREGATE, CRUSHER RUN AND  
RIP RAP TO THE DEPARTMENT OF WATER AND SANITATION, CLANWILLIAM DAM**

## **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

**PRICING SCHEDULE  
(Non-Firm Price)  
DWS03-0419 (WTE)**

**THE SUPPLY AND DELIVERY OF FINE AGGREGATE, COARSE AGGREGATE, CRUSHER RUN AND RIP RAP TO THE DEPARTMENT OF WATER AND SANITATION, CLANWILLIAM DAM**

**THIS PRICING SCHEDULE MUST BE COMPLETED IN FULL – FAILURE TO COMPLY WILL INVALIDATE YOUR BID**

**NOTE: PRICE ADJUSTMENTS WILL ONLY BE ALLOWED AT THE PERIODS AND TIMES AS SPECIFIED IN THE BIDDING DOCUMENT**

**CLOSING TIME 11:00 ON: 06 JUNE 2019.....BID NO.: DWS03-0419(WTE)**

**NAME OF BIDDER: .....**

**OFFER TO BE VALID FOR 120 DAYS FROM CLOSING DATE OF BID**

### C3.2 SCHEDULE OF QUANTITIES

#### Supply and delivery from Clanwilliam Quarry

ITEM No	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R c	
	CWD01SC	FIXED CHARGE OVERHEADS					
1.1	3.3.1	Establishment of Facilities for Contractor on Site	Sum				
1.2	3.3.2	Removal of Site Establishment	Sum				
1.3	3.3.3	Temporary de-establishment	Sum				
1.4	3.3.4	Re-establishment after temporary de-establishment	Sum				
1.5	3.3.5	Acquisition of material sources according to legal requirements	Sum				
1.6	3.3.6	Rehabilitation of designated rock quarry	Sum				
1.7	3.3.7	Rehabilitation of Fine aggregate (sand) borrow pits	Sum				
1.8	3.3.8	Establish Weighbridge	Sum				
1.9	3.3.9	Access control and security to quarry site and designated stockpile areas	Sum				
	CWD01SC	TIME RELATED OVERHEADS					
1.10	3.4.1	Supervision for Duration of Construction	Sum				
1.11	3.4.2	Health and Safety	Sum				
1.12	3.4.3	Weigh Bridge Maintenance	Sum				
1.13	3.4.4	Access control and security to quarry site and designated stockpile areas	Sum				
	CWD01SC	SITE FACILITIES					
1.14	3.5.1	Anti-Intruder fencing	m	650			
	PO6 & PO7	QUARRY MATERIAL					
1.15	PO6.6.1	Excavation of unsuitable overburden (soft)	m <sup>3</sup>	50 000			
1.16	PO6.6.2	Excavation of unsuitable overburden (hard)	m <sup>3</sup>	50 000			
1.17	PO7.9.1	Aggregate Concrete Fine (IVRCC)	Ton	155 000			
1.18	PO7.9.2	Aggregate Concrete Fine (CVC)	Ton	150 000			
1.19	PO7.9.3	Aggregate Concrete Coarse (38mm)	Ton	240 000			
1.20	PO7.9.4	Aggregate Concrete Coarse (19mm)	Ton	320 000			
1.21	PO7.9.5	Aggregate Concrete Coarse (13.2mm)	Ton	1 200			
1.20	PO7.9.6	Crusher Run.	Ton	1 500			
1.22	PO7.9.7	Rip – Rap	Ton	9 500			
1.23	PO7.9.8	G5	ton	67 500			
1.24	PO7.9.9	Crushed Mass Concrete	Ton	500			
1.25	PO7.9.10	Crushed Reinforced Concrete	Ton	2 500			
1.26	PO7.9.11	Crushing of hard excavation material supplied by others to stockpile	Ton	Rate Only			
1.26	PO7.9.12	Screening of already crushed materials on stockpile/floors	Ton	5 000			
					<b>SUB-TOTAL</b>		
					<b>VAT @ 15%</b>		
					<b>GRAND TOTAL</b>		

## **DEPARTMENT OF WATER AND SANITATION**

### **DWS03-0419 (WTE)**

#### **THE SUPPLY AND DELIVERY OF FINE AGGREGATE, COARSE AGGREGATE, CRUSHER RUN AND RIP RAP TO THE DEPARTMENT OF WATER AND SANITATION, CLANWILLIAM DAM**

#### **C4. DRAWINGS**

##### **C4.1 TENDER DRAWINGS**

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 0101</b>	<b>Quarry Area Layout and Designated stockpile areas</b>
<b>CWD 0501</b>	<b>Sheet 1 of 16 Quarry development Layout</b>
<b>CWD 0502</b>	<b>Sheet 2 of 16 Quarry development section 07-07 Sheet 1 of 2</b>
<b>CWD 0503</b>	<b>Sheet 3 of 16 Quarry development section 07-07 Sheet 2 of 2</b>
<b>CWD 0504</b>	<b>Sheet 4 of 16 Quarry development section 06-06 Sheet 1 of 2</b>
<b>CWD 0505</b>	<b>Sheet 5 of 16 Quarry development section 06-06 Sheet 2 of 2</b>
<b>CWD 0506</b>	<b>Sheet 6 of 16 Quarry development section 05-05 Sheet 1 of 2</b>
<b>CWD 0507</b>	<b>Sheet 7 of 16 Quarry development section 05-05 Sheet 2 of 2</b>
<b>CWD 0508</b>	<b>Sheet 8 of 16 Quarry development section 04-04 Sheet 1 of 2</b>
<b>CWD 0509</b>	<b>Sheet 9 of 16 Quarry development section 04-04 Sheet 2 of 2</b>
<b>CWD 0510</b>	<b>Sheet 10 of 16 Quarry development section 03-03 Sheet 1 of 2</b>
<b>CWD 0511</b>	<b>Sheet 11 of 16 Quarry development section 03-03 Sheet 2 of 2</b>
<b>CWD 0512</b>	<b>Sheet 12 of 16 Quarry development section 02-02 Sheet 1 of 2</b>
<b>CWD 0513</b>	<b>Sheet 13 of 16 Quarry development section 02-02 Sheet 2 of 2</b>
<b>CWD 0514</b>	<b>Sheet 14 of 16 Quarry development section 01-01 Sheet 1 of 2</b>
<b>CWD 0515</b>	<b>Sheet 15 of 16 Quarry development section 01-01 Sheet 2 of 2</b>
<b>CWD 0516</b>	<b>Sheet 16 of 16 Quarry Development Layout with rating of individual bore holes</b>

## CWD 0101: Quarry Area Layout and Designated stockpile areas



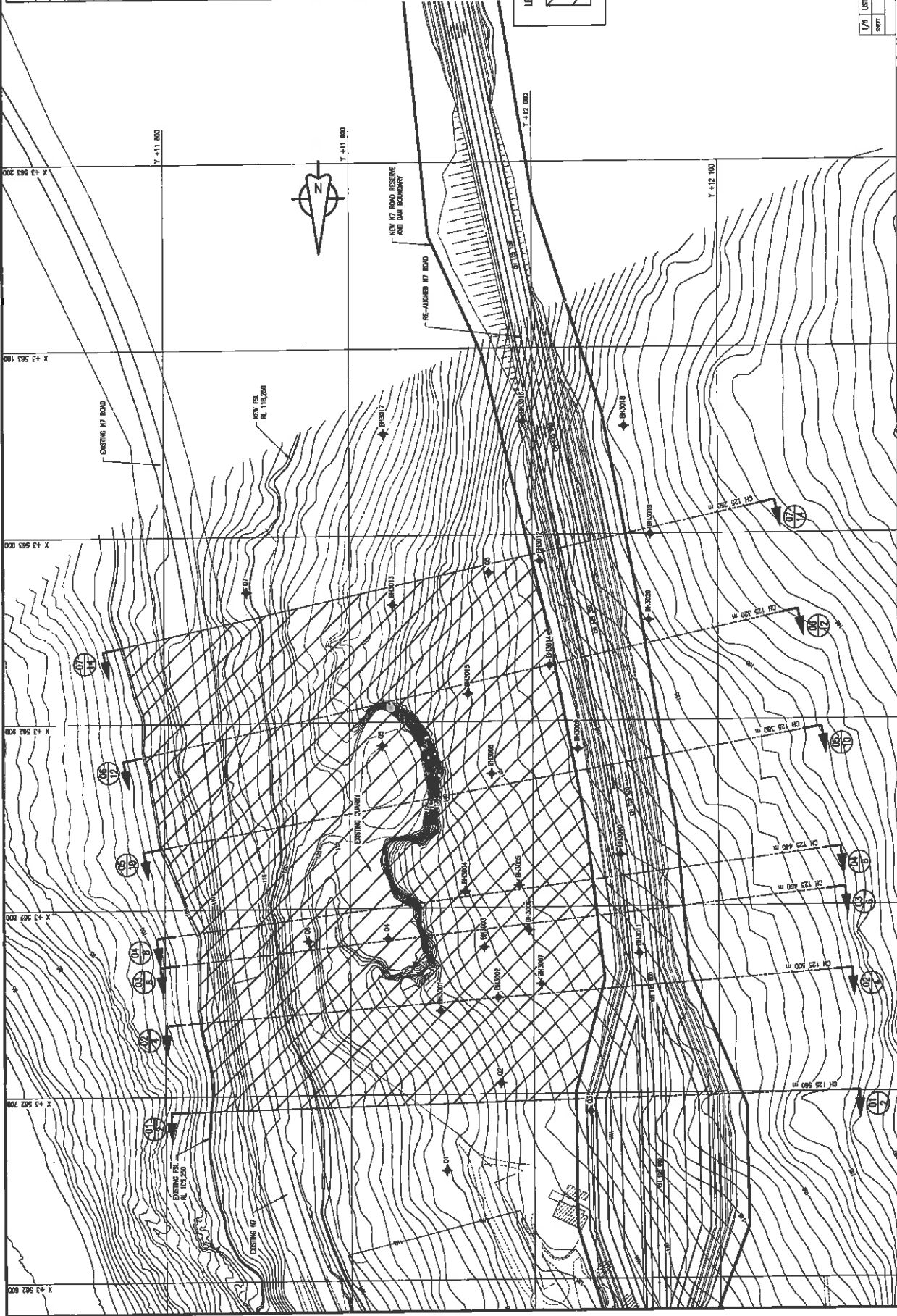
The following distances are to the centre of the stockpile from the existing outlet of the quarry (as a radius)

- Stockpile 1: 810m
- Stockpile 2: 1120m
- Stockpile 3: 1865m
- Stockpile 4: 2245m
- Furthest point in Stockpile 4: 2550m

CO-ORDINATES PROJECTION WGS84 DATUM : 10 19			
POINT	Y	X	Z
BK001	+11 949.884	+3 503 744.881	
BK002	+11 949.884	+3 502 751.681	
BK003	+11 949.884	+3 502 758.081	
BK004	+11 949.884	+3 502 764.481	
BK005	+11 949.884	+3 502 770.881	
BK006	+11 949.884	+3 502 777.281	
BK007	+11 949.884	+3 502 783.681	
BK008	+11 949.884	+3 502 790.081	
BK009	+11 949.884	+3 502 796.481	
BK010	+11 949.884	+3 502 802.881	
BK011	+11 949.884	+3 502 809.281	
BK012	+11 949.884	+3 502 815.681	
BK013	+11 949.884	+3 502 822.081	
BK014	+11 949.884	+3 502 828.481	
BK015	+11 949.884	+3 502 834.881	
BK016	+11 949.884	+3 502 841.281	
BK017	+11 949.884	+3 502 847.681	
BK018	+11 949.884	+3 502 854.081	
BK019	+11 949.884	+3 502 860.481	
BK020	+11 949.884	+3 502 866.881	
BK021	+11 949.884	+3 502 873.281	
BK022	+11 949.884	+3 502 879.681	
BK023	+11 949.884	+3 502 886.081	
BK024	+11 949.884	+3 502 892.481	
BK025	+11 949.884	+3 502 898.881	
BK026	+11 949.884	+3 502 905.281	
BK027	+11 949.884	+3 502 911.681	
BK028	+11 949.884	+3 502 918.081	
BK029	+11 949.884	+3 502 924.481	
BK030	+11 949.884	+3 502 930.881	
BK031	+11 949.884	+3 502 937.281	
BK032	+11 949.884	+3 502 943.681	
BK033	+11 949.884	+3 502 950.081	
BK034	+11 949.884	+3 502 956.481	
BK035	+11 949.884	+3 502 962.881	
BK036	+11 949.884	+3 502 969.281	
BK037	+11 949.884	+3 502 975.681	
BK038	+11 949.884	+3 502 982.081	
BK039	+11 949.884	+3 502 988.481	
BK040	+11 949.884	+3 502 994.881	
BK041	+11 949.884	+3 502 1001.281	
BK042	+11 949.884	+3 502 1007.681	
BK043	+11 949.884	+3 502 1014.081	
BK044	+11 949.884	+3 502 1020.481	
BK045	+11 949.884	+3 502 1026.881	
BK046	+11 949.884	+3 502 1033.281	
BK047	+11 949.884	+3 502 1039.681	
BK048	+11 949.884	+3 502 1046.081	
BK049	+11 949.884	+3 502 1052.481	
BK050	+11 949.884	+3 502 1058.881	

LEGEND

AREA OF QUARRY DEVELOPMENT  
CONSIDERED IN VALUE  
CALCULATIONS.



**QUARRY DEVELOPMENT**  
SCALE 1:1 000

1/4 LIST OF DRAINAGES

SHORT	DESCRIPTION	OTHER NO.	REC. NO.
CH00001	168 571/13		

LIST OF DRAINAGES

**RAISING OF CLANWILLIAM DAM**  
QUARRY DEVELOPMENT LAYOUT

CLIENT: OULFANTS-DOORN RIVER WATER RESOURCES PROJECT

PROJECT NO: 168 598/14

DATE: 2014/01/14

SCALE: 1:1 000

PROJECTED BY: [Signature]

CHECKED BY: [Signature]

APPROVED BY: [Signature]

DATE: 2014/01/14

SCALE: 1:1 000





THE QUARRY CONTRACTOR MUST NOTE THAT QUARRY EXCAVATIONS, INCLUDING THE FACES, MUST BE INSPECTED BY THE CLIENT'S ENGINEERING GEOLOGIST. THIS MUST BE COORDINATED SO THAT THE EXCAVATIONS/ROCK FACES ARE INSPECTED WITH EACH 5 M ADVANCE.

THE QUARRY CONTRACTOR MUST IMPLEMENT A SLOPE STABILITY MONITORING SYSTEM FOR APPROVAL BY THE CLIENT.



**SHEET 2 OF 2**  
**SCALE 1:250**

- 1 HSL NATURAL GROUND LEVEL
- 2 UPPER BOUNDARY BEDROCK
- 3 UPPER BOUNDARY OF USABLE ROCK
- 4 GROUNDWATER LEVEL
- 5 PROPOSED FREE DRAINING DRAINRY FLOOR
- 6 USABLE ROCK WITHIN THE DEFINED DRAINRY BOUNDARY

1. IN SOME INSTANCES BORISBOLES HAVE BEEN PLACED ALONG THE CONTOUR AND OTHER INSTANCES PERPENDICULAR TO THE INTERFACE LINE, WICKED IN THE SHORTEST DIRECTION.
2. FIVE GEOLOGY DETAILS, INTENT TO BECOME ENGINEERING GEOLOGICAL REPORT ON HARD ROCK QUARTZ.
3. GROUND FLOOR ASSEMBLY AT R. 105, 250 FOR FREE DRAINAGE PURPOSES.
4. ASSIGNED IS A SANDAL FLOOR RESERVE. THE CONTINUATION TO GET MIXED COMPARISON FROM SANDAL ON THE LIMIT OF WATERS TOWARDS THE RED HILL ROAD RESERVE.
5. ASSIGNED SLOPE OF 1:1.5 H TO BE APPROVED BY DMS.

LIST OF DRAWINGS	CLANN WILLIAM DAM									
GUADY DEVELOPMENT										
SECTION 07-07										
SHEET 2 OF 2										
NO.	DATE	BY	CHKD.	DATE	BY	CHKD.	DATE	BY	CHKD.	DATE
1	3-18	168	600/14	1000						

[illegible]

REVISED	DATE	BY	REVISION
10/20/01	10/20/01	10/20/01	10/20/01



THE QUARRY CONTRACTOR MUST NOTE THAT QUARRY EXCAVATIONS, INCLUDING THE FACES, MUST BE INSPECTED BY THE CLIENT'S ENGINEERING GEOLOGIST. THIS MUST BE COORDINATED SO THAT THE EXCAVATIONS/ROCK FACES ARE INSPECTED WITH EACH 5 M ADVANCE.

THE QUARRY CONTRACTOR MUST IMPLEMENT A SLOPE STABILITY MONITORING SYSTEM FOR APPROVAL BY THE CLIENT.



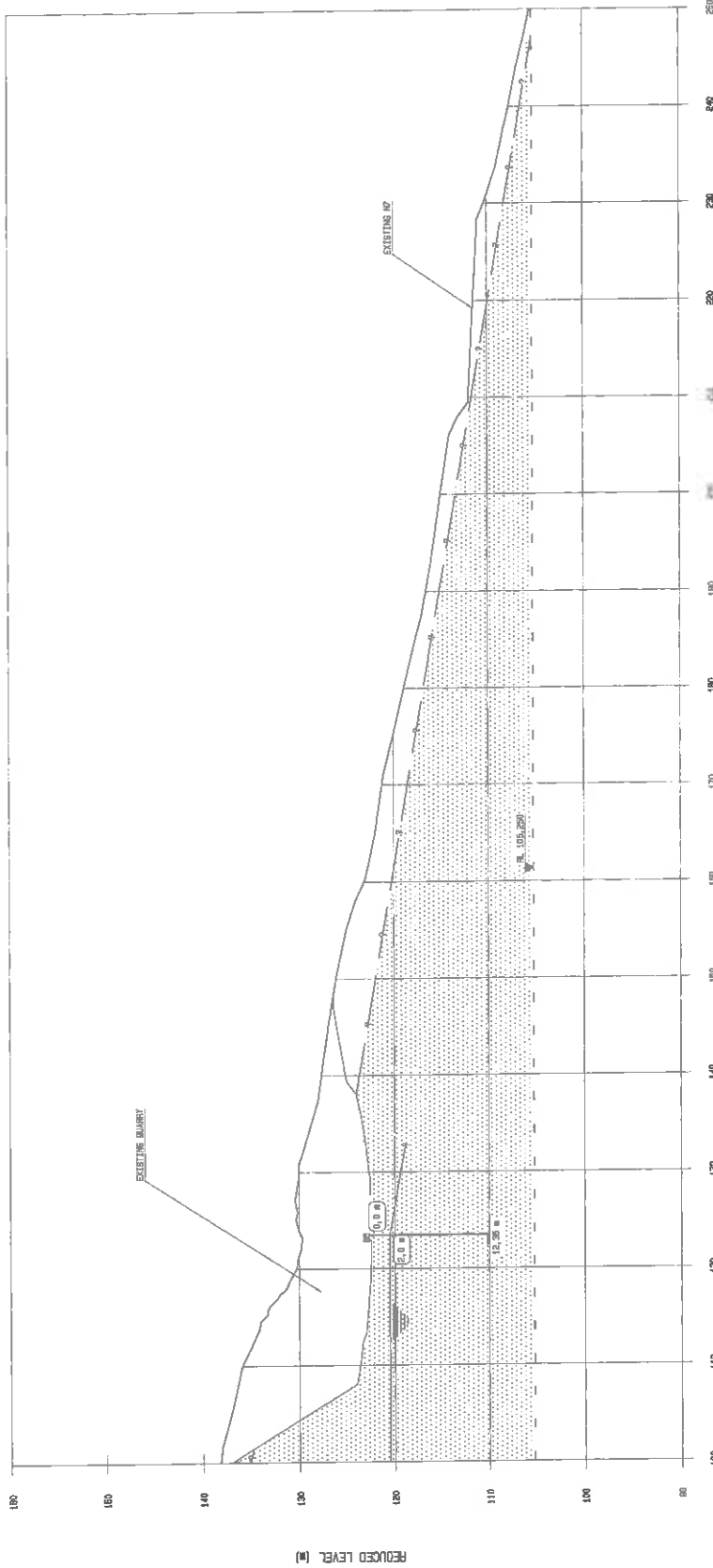
- 100' NATURAL GROUND LEVEL  
 UPPER BOUNDARY BEDROCK  
 UPPER BOUNDARY OF USABLE ROCK  
 GROUNDWATER LEVEL  
 PROPOSED FREE GRAVING QUARRY FLOOR  
 USABLE ROCK WITHIN THE DEFINED QUARRY BOUNDARY

1. IN SOME INSTANCES BOMBHOLES HAVE BEEN PROJECTED ALONG THE DITCHION AND OTHER INSTANCES PARTICULARLY TO THE INSUFFICIENT LANE, SUBJECTS IN THE ADJACENT OUTCROUSE.
2. FOR SECURITY DETAIL, REFER TO SECOND ENGINEERING DETAIL REPORT ON HARD ROCK QUARRY.
3. QUARRY FLOOR ASSIGNED AT FL. 100, 200 FOR FREE COLLISION PURPOSES.
4. ASSIGNED IS 15 MINIMUM ROAD RESERVE. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING THE ROAD RESERVE. THE RESULT OF PLANNING TOWARDS THE NEW 10 ROAD RESERVE.
5. ASSIGNED SLOPE OF 1:1.5 IN TO BE APPROVED BY DMG.

[illegible]

# SPECIFICATIONS:

THE QUARRY CONTRACTOR MUST NOTE THAT QUARRY EXCAVATIONS INCLUDING THE FACES MUST BE INSPECTED BY THE CLIENT'S ENGINEERING GEOLOGIST. THIS MUST BE COORDINATED SO THAT THE EXCAVATIONS/ROCK FACES ARE INSPECTED WITHIN 5 H ADVANCE. THE QUARRY CONTRACTOR MUST IMPLEMENT A SLOPE STABILITY MONITORING SYSTEM FOR APPROVAL BY THE CLIENT.



CHAINAGE (m)

## SECTION 06-06

SHEET 2 OF 2  
SCALE 1:250

### LEGEND:

- 1. NEW NATURAL BOUNDARY LEVEL
- 2. UPPER BOUNDARY BOUNDARY
- 3. UPPER BOUNDARY OF USABLE ROCK
- 4. BOUNDARY LEVEL
- 5. PROPOSED FREE QUARRY BOUNDARY FLOOR
- 6. USABLE ROCK WITHIN THE BOUNDARY BOUNDARY

### NOTES:

1. IN SOME INSTANCES BOUNDARIES HAVE BEEN PROJECTED ALONG THE CONTOUR AND OTHER INSTANCES PERPENDICULAR TO THE REFERENCE LINE. WHICHEVER IS THE SHORTEST DISTANCE.
2. FOR BOUNDARY DETAIL, REFER TO SECOND ENGINEERING GEOLOGICAL REPORT ON HARD ROCK QUARRY.
3. QUARRY FLOOR ASSUMED AT FL 100, 200 FOR FREE BOUNDARY FLOOR.
4. ASSUMED IS A BOUNDARY FLOOR. THE CONTINUATION TO SET WRITTEN INFORMATION FROM BOUNDARY OF THE LIMIT OF MINING TOWARDS THE NEW AP FLOOR RESERVE.
5. ASSUMED SLOPE OF 1V:1H TO BE APPROVED BY DMF.

SCALE 1:250



LIST OF REVISIONS		CH0001	108 07/13
REV	DESCRIPTION	DATE	BY
1/0	LIST OF REVISIONS	CH0001	108 07/13

LIST OF DIMENSIONS		CH0001	108 07/13
REV	DESCRIPTION	DATE	BY
1/0	LIST OF DIMENSIONS	CH0001	108 07/13

REVISION		CH0001	108 07/13
REV	DESCRIPTION	DATE	BY
1/0	REVISION	CH0001	108 07/13

DEPARTMENT OF WATER AND RIVER ENGINEERING		CH0001	108 07/13
REV	DESCRIPTION	DATE	BY
1/0	DEPARTMENT OF WATER AND RIVER ENGINEERING	CH0001	108 07/13

RAISING OF CLANWILLIAM DAM		CH0001	108 07/13
REV	DESCRIPTION	DATE	BY
1/0	RAISING OF CLANWILLIAM DAM	CH0001	108 07/13

SECTION 06-06		CH0001	108 07/13
REV	DESCRIPTION	DATE	BY
1/0	SECTION 06-06	CH0001	108 07/13

SHEET 2 OF 2		CH0001	108 07/13
REV	DESCRIPTION	DATE	BY
1/0	SHEET 2 OF 2	CH0001	108 07/13

PROJECT: RAISING OF CLANWILLIAM DAM		CH0001	108 07/13
REV	DESCRIPTION	DATE	BY
1/0	PROJECT: RAISING OF CLANWILLIAM DAM	CH0001	108 07/13

LOCALITY: RAISING OF CLANWILLIAM DAM		CH0001	108 07/13
REV	DESCRIPTION	DATE	BY
1/0	LOCALITY: RAISING OF CLANWILLIAM DAM	CH0001	108 07/13

DATE: 2022/06/06		CH0001	108 07/13
REV	DESCRIPTION	DATE	BY
1/0	DATE: 2022/06/06	CH0001	108 07/13

DRAWN: 2022/06/06		CH0001	108 07/13
REV	DESCRIPTION	DATE	BY
1/0	DRAWN: 2022/06/06	CH0001	108 07/13

CHECKED: 2022/06/06		CH0001	108 07/13
REV	DESCRIPTION	DATE	BY
1/0	CHECKED: 2022/06/06	CH0001	108 07/13

APPROVED: 2022/06/06		CH0001	108 07/13
REV	DESCRIPTION	DATE	BY
1/0	APPROVED: 2022/06/06	CH0001	108 07/13

THE QUARRY CONTRACTOR MUST NOTE THAT QUARRY EXCAVATIONS, INCLUDING THE FACES MUST BE INSPECTED BY THE CLIENT'S ENGINEERING GEOLOGIST. THIS MUST BE COORDINATED SO THAT THE EXCAVATIONS/ROCK FACES ARE INSPECTED WITH EACH 5 M ADVANCE.

THE QUARRY CONTRACTOR MUST IMPLEMENT A SLOPE STABILITY MONITORING SYSTEM FOR APPROVAL BY THE CLIENT.



**SHEET 1 OF 2**  
**SCALE 1:250**

- **NATURAL GROUND LEVEL**
- **UPPER BOUNDARY BEDROCK**
- **UPPER BOUNDARY OF USABLE ROCK**
- **GROUNDWATER LEVEL**
- **PROPOSED FREE DRAINING DRAINAGE FLOOR**
- **USABLE ROCK WITHIN THE DEFINED BUREAU BOUNDARY**

1. IN SOME INSTANCES BORDERS MAY HAVE BEEN PROJECTED ALONG THE CONTIGUOUS AND ADJACENT PROPERTY LINES. THE CONTIGUOUS PROPERTY LINES ARE PERPENDICULAR TO THE SHORTEST DISTANCE LINE, WHICHEVER IS THE SHORTEST DISTANCE.
2. FOR REBUILT DETAIL, REFER TO SECOND ENGINEERING GEOLOGICAL REPORT ON HARD ROCK QUARRY.
3. QUANTITY FLOORS ASSUMED AT RL. 100,250 FOR FREE DRAINING FLOODING.
4. ASSUMED IS A DRAINAL ROAD RESERVE. THE CONSTRUCTION OF THE WHITEFORTH CANTONMENT FROM BORIAL ON THE WEST OF MINING TOWNSHIP THE WEST OF ROAD RESERVE.
5. ASSUMED SLOPE OF 1V:1H TO BE APPROVED BY DMR.

L/VS	LIST OF DRAWINGS	CHD0001	180 5/13
ASST	ASST/PTT	CHD 18	180 5/13
LIST OF DRAWINGS			
RIVER WATER RESOURCES PROJECT			
F CLANWILLIAM DAM			
URARY DEVELOPMENT			
SHEET 1 OF 2			
DATE	DATE	DATE	DATE
180 5/13	180 5/13	180 5/13	180 5/13

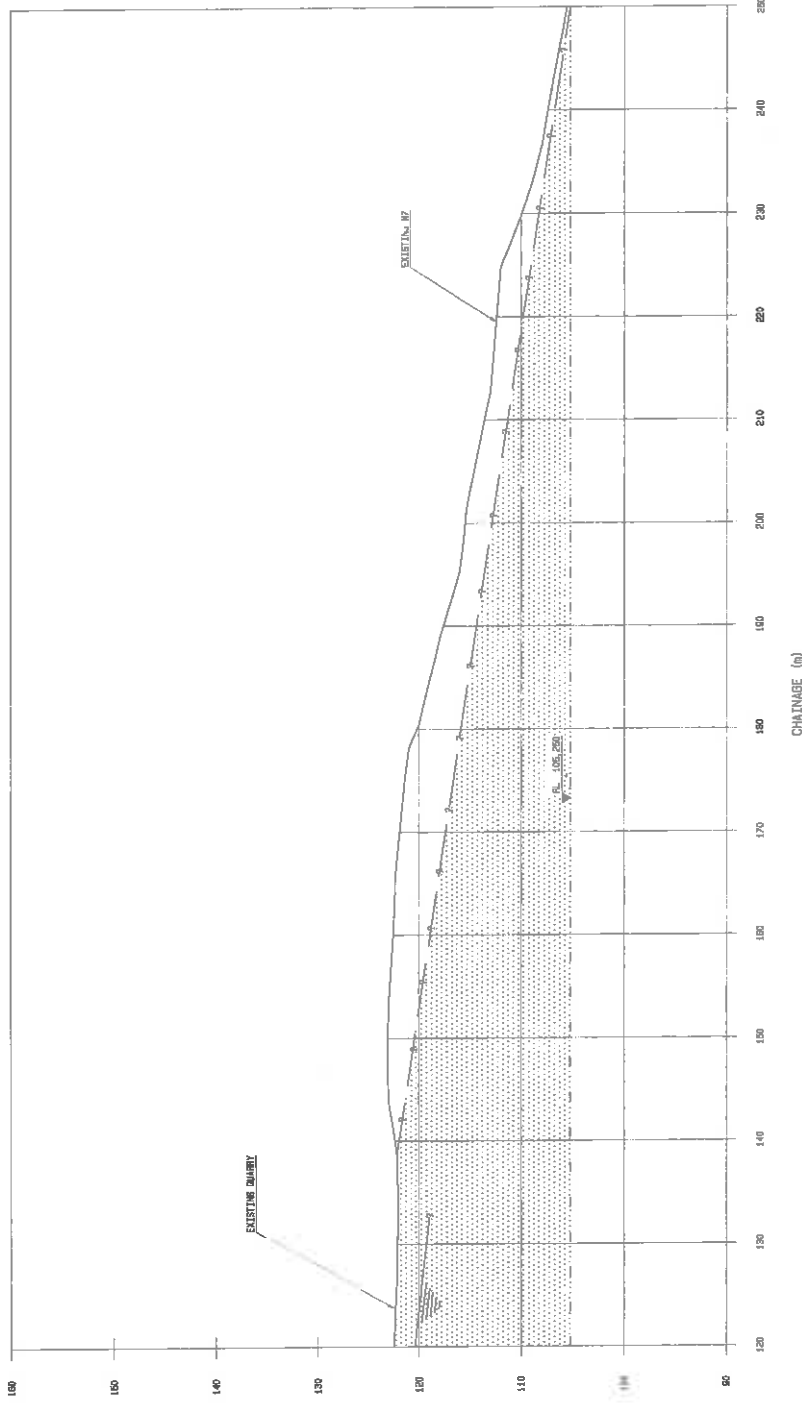
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REV	DATE	BY	DESCRIPTION
001	01/11/11	001	INITIAL RELEASE
002	01/11/11	001	REVISION



**SPECIFICATIONS:**

THE QUARRY CONTRACTOR MUST NOTE THAT QUARRY EXCAVATIONS, INCLUDING THE FACES, MUST BE INSPECTED BY THE CLIENT'S ENGINEERING SURVEYOR. THIS MUST BE COORDINATED SO THAT THE EXCAVATIONS/ROCK FACES ARE INSPECTED WITHIN 5 M ADVANCE. THE QUARRY CONTRACTOR MUST IMPLEMENT A SLOPE STABILITY MONITORING SYSTEM FOR APPROVAL BY THE CLIENT.



**SECTION 05-05**

SHEET 2 OF 2  
SCALE 1:250

**LEGEND:**

- REL. NATURAL GROUND LEVEL
- UPPER BOUNDARY ROCK
- UPPER BOUNDARY OF USABLE ROCK
- BOUNDARY LEVEL
- PROPOSED FREE DRAINING QUARRY FLOOR
- USABLE ROCK WITHIN THE DEFINED QUARRY BOUNDARY

**NOTES:**

- IN SOME INSTANCES BENCHMARKS HAVE BEEN PROVIDED ALONG THE CENTER AND OTHER LOCATIONS. THE BENCHMARK IS THE SHORTEST DISTANCE.
- FOR BENCH DETAIL, REFER TO SECOND ENGINEERING GEOLOGICAL REPORT ON HARD ROCK QUARRY.
- QUARRY FLOOR ASSUMED AT RL 105.250 FOR FREE DRAINING PURPOSES.
- ASSUMED 25 M BARRIAL ROAD RESERVE. THE CONTRACTOR MUST PROVIDE A 10 M BARRIAL ROAD RESERVE. THE LIMIT OF PAVING TOWARD THE 10 M ROAD RESERVE.
- ASSUMED SLOPE OF 1:1.14 TO BE APPROVED BY DML.

SCALE 1:250



1/5	LIST OF DRAWINGS	CHNOOR	168 67/13
SHEET	DESCRIPTION	THIN No.	REG. No.

LIST OF DRAWINGS
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OLIFANTS-ODORN RIVER WATER RESOURCES PROJECT

RAISING OF CLANNILLIAM DAM

QUARRY DEVELOPMENT

SECTION 05-05

SHEET 2 OF 2

PROJECT: WESTERN CAPE	SURVEY: CLANNILLIAM	DATE: 2012/08/20/21/11/13	SCALE: 1:250
LOCALITY No.: E100-02	DATE: 2012/08/20/21/11/13	DATE: 2012/08/20/21/11/13	DATE: 2012/08/20/21/11/13
LOCALITY No.: E100-02	DATE: 2012/08/20/21/11/13	DATE: 2012/08/20/21/11/13	DATE: 2012/08/20/21/11/13

168 646/14	00
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THE QUARRY CONTRACTOR MUST NOTE THAT QUARRY EXCAVATIONS, CONCLUDING THE FACES, MUST BE INSPECTED BY THE CLIENT'S COMPETENT GEOTECHNICAL ENGINEER. THIS MUST BE COORDINATED SO THAT THE EXCAVATIONS/ROCK FACES ARE INSPECTED WITH EACH 5 M ADVANCE.

THE QUARRY CONTRACTOR MUST IMPLEMENT A SLOPE STABILITY MONITORING SYSTEM FOR APPROVAL BY THE CLIENT.



**SHEET 1 OF 2**  
**SCALE 1:250**

- ### NET NATURAL GROUND LEVEL

- UPPER BOUNDARY BEDROCK
- UPPER BOUNDARY OF USABLE ROCK
- GROUNDWATER LEVEL
- PROPOSED FREE DRAINING QUARRY FLOOR
- USABLE ROCK WITHIN THE  
DEFINED QUARRY BOUNDARY

1. IN SOME DISTANCES REVEALED HAVE BEEN  
UNDESIRABLE. THE DISTANCE BETWEEN  
UNDESIRABLE ALONG THE CONTOUR AND OTHER  
UNDESIRABLE PERPENDICULAR TO THE REFERENCE  
LINE, INDICATES IN THE SHORTEST DISTANCE.
2. FOR GEOLOGY DETAILS, REFER TO GEOTECHNICAL  
ENGINEERING REPORT ON HARD ROCK MAPPING.
3. QUARRY FLOOR ASSUMED AT R. 105, 205 FOR FREE  
BATHING PURPOSES.
4. ASSUMED IS A SHALLOW ROAD RESERVE. THE CONTINUATION  
OF THE ROAD FROM THE SHALLOW ROAD RESERVE  
TO THE LIGHT OF PLANTATION FORMED THE NEW R. ROAD  
RESERVE.
5. ASSUMED SLOPE OF 1V:1H TO BE APPROVED BY DMR.

1/6	LIST OF DRAWINGS	ENCLOSURE	183 674/13
6487	DESCRIPTION	DT-4R No.	NO. NO.

REV	DATE	REVISION	DESCRIPTION
100	2/15		
101	2/15		
102	2/15		
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DEPARTMENT OF WATER AND IRRIGATION  
REPUBLIC OF BOTSWANA

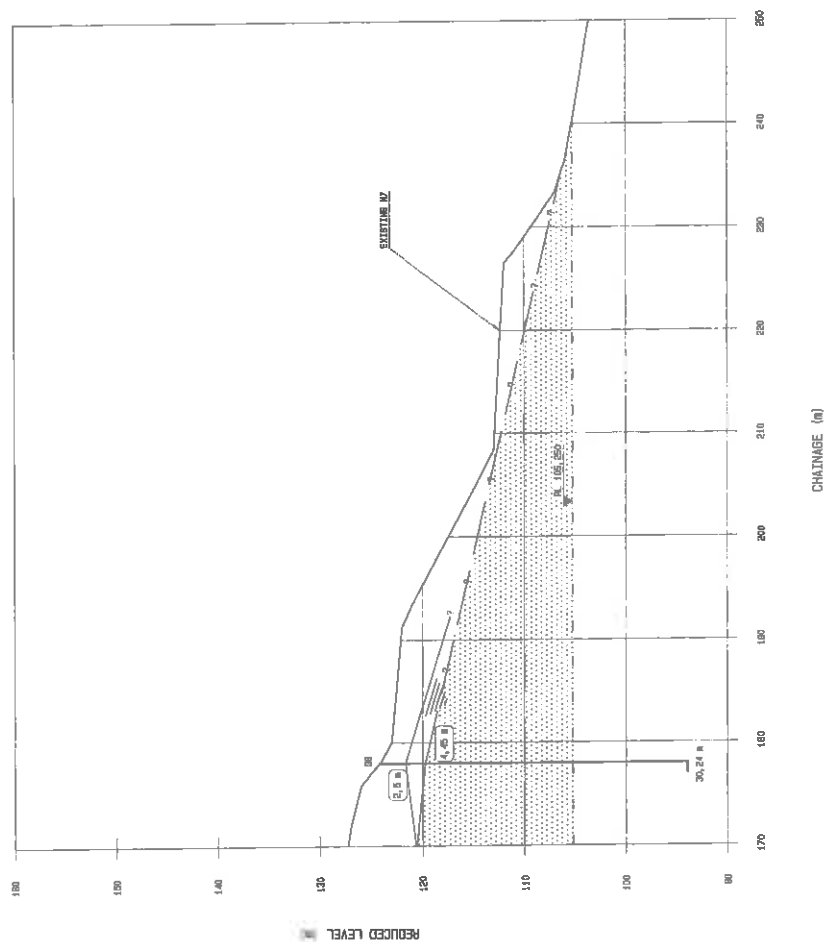
HEAD OFFICE  
CENTRAL BUILDING  
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PRIME MEA  
GABORONE

REGIONAL OFFICE  
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THE QUARRY CONTRACTOR MUST NOTE THAT QUARRY EXCAVATIONS, INCLUDING THE FACES, MUST BE INSPECTED BY THE CLIENT'S ENGINEERING GEOLOGIST. THIS MUST BE COORDINATED SO THAT THE EXCAVATIONS/ROCK FACES ARE INSPECTED WITH EACH 5 M ADVANCE.

THE QUARRY CONTRACTOR MUST IMPLEMENT A SLOPE STABILITY MONITORING SYSTEM FOR APPROVAL BY THE CLIENT.



**SHEET 2 OF 2**  
**SCALE 1:250**

-  NATURAL GROUND LEVEL.
-  UPPER BOUNDARY BEDROCK
-  LOWER BOUNDARY BEDROCK
-  GROUNDWATER LEVEL.
-  UPPER BOUNDARY OF USABLE ROCK
-  PROPOSED FREE DRAINING QUARRY FLOOR
-  USABLE ROCK WITHIN THE DEFINED QUARRY BOUNDARY

1. IN SOME INSTANCES BORROWERS HAVE BEEN PROJECTED ALONG THE CONTOUR AND OTHER INSTANCES PERPENDICULAR TO THE REFERENCE LINE, IN OTHERS IS THE SHORTEST CLOSURE.
2. FOR SECURITY DETAIL, REFER TO SECOND ENGINEERING GEOLOGICAL REPORT ON HARD ROCK BARRI.
3. BATTERY FILL ASSUMED AT 7% 10% AND FOR FREE DRAINAGE PURPOSES.
4. ASSUMED IS A SHELVE ROAD RESERVE. THE CONTRACTOR TO SET WATER CONVICTION FROM SURVEY IN THE LIMIT OF MOVING TOWARDS THE NEW W/ ROAD RESERVE.
5. ASSUMED SLOPE OF 1V:1H TO BE APPROVED BY DMR.

**SCALE 1:250**

[illegible]



THE QUARRY CONTRACTOR MUST NOTE THAT QUARRY EXCAVATIONS, INCLUDING THE FACES, MUST BE INSPECTED BY THE CLIENT'S ENGINEERING GEOLOGIST. THIS MUST BE COORDINATED SO THAT THE EXCAVATIONS/ROCK FACES ARE INSPECTED WITH EACH 8 M ADVANCE.

THE QUARRY CONTRACTOR MUST IMPLEMENT A SLOPE STABILITY MONITORING SYSTEM FOR APPROVAL BY THE CLIENT.



**SHEET 1 OF 2**  
**SCALE 1:250**

- VOL. NATURAL GROUND LEVEL
- UPPER BOUNDARY REINFORC.
- UPPER BOUNDARY OF VARIABLE ROCK
- GROUNDWATER LEVEL
- PICTURED TREE CHAINING GARRY FLOOR
- VARIABLE ROCK WITHIN THE DEFINED BARRY BOUNDARY

1. IN SOME INSTANCES BORROWDES HAVE BEEN PROTECTED ALONG THE CONTIGUOUS OTHER INSTANCES PERPENDICULAR TO THE REFERENCE LINE, INDICATING THE SHORTEST DISTANCE.
2. FOR SECURITY OF DETAIL, REFER TO SECOND DRAINAGE/GEOTECHNICAL REPORT ON HARD ROCK BLASTING.
3. QUARRY CULVER ASSIGNED AT N. 105,000 FOR FIVE DRAINAGE PURPOSES.
4. FORMED AS A HAVIL ROAD RESERVE, THE CONTRACTOR TO SET WRITER CONSTRUCTION FROM BARRAL ON THE LIMIT OF MINING TOWARDS THE NEW AV ROAD RESERVE.
5. ASSIGNED BLOCK OF 154.14 TO BE APPROVED BY DMR.

LIBRARY OF DRAWINGS

TWER WATER RESOURCES PROJECT

## RAISING OF CLANWILLIAM DAM

SECTION 03-03  
EO-EO ND11235  
SHEET 1 OF 2

ALLIAN	sequence	DAL	DBS	SEC	SPDR	CW00510
1)	10-18	WLT	NO			168 649/14 00

CIVIL ENGINEERING  
PRIVATE BAG 1313  
PRETORIA 0001

105 FRANCIS BAARD STREET  
PRETORIA  
1020 338-7500

**M. COUNTESS**  
**DEPUTY GENERAL**

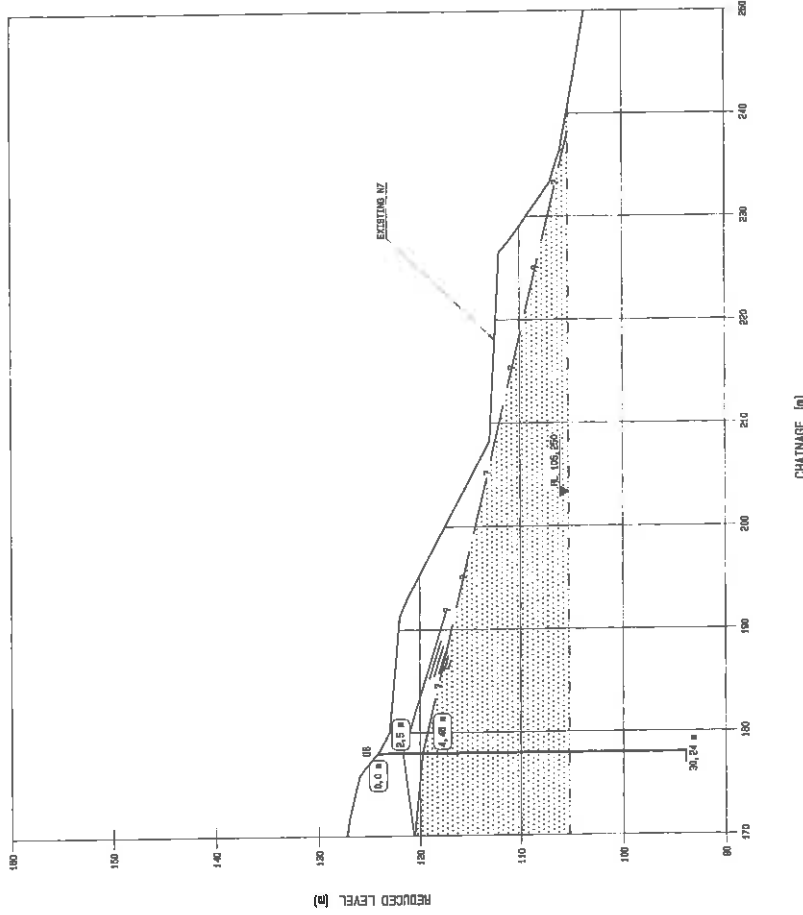
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SCALE 1:250

# SPECIFICATIONS:

THE QUARRY CONTRACTOR MUST NOTE THAT QUARRY EXCAVATIONS, INCLUDING THE FACES, MUST BE INSPECTED BY THE CLIENT'S ENGINEERING GEOLOGIST. THIS MUST BE COORDINATED SO THAT THE EXCAVATIONS/ROCK FACES ARE INSPECTED WITH EACH 8 M ADVANCE. THE QUARRY CONTRACTOR MUST IMPLEMENT A SLOPE STABILITY MONITORING SYSTEM FOR APPROVAL BY THE CLIENT.



## SECTION 03-03

SHEET 2 OF 2  
SCALE 1:250

### LEGEND:

- 1. NEW NATURAL GROUND LEVEL
- 2. UPPER BOUNDARY BEDROCK
- 3. UPPER BOUNDARY OF UNABLE ROCK
- 4. GROUNDWATER LEVEL
- 5. PROPOSED FREE QUARRYING QUARRY FLOOR
- 6. UNABLE ROCK WITHIN THE DEFLECTED QUARRY BOUNDARY

### NOTES:

1. IN SOME INSTANCES UNDESIGNED HAVE BEEN PROJECTED ALONG THE CONTOUR AND OTHER INSTANCES PERPENDICULAR TO THE REFERENCE LINE, INDICATED IS THE SHORTEST DISTANCE.
2. FOR REGULAR DETAIL, REFER TO SECOND UNDERGROUND REGULATORY REPORT ON HARD ROCK QUARRY.
3. QUARRY FLOOR ASSUMED AT RL 100.250 FOR FREE DRAINING PURPOSES.
4. ASSUMED 15 M SLOPE RATIO RESERVE, THE CONTRACTOR TO BEY WRITTEN CONFIRMATION FROM BARRAL ON THE LIMIT OF MINING TOWARDS THE NEW R7 ROAD RESERVE.
5. ASSUMED SLOPE OF 1V:1H TO BE APPROVED BY DM.

DEPARTMENT OF WATER AND SANITATION  
HEAD OFFICE  
CIVIL ENGINEERING  
PRIVATE BAG 2019  
PRETORIA 0001

M. OBERKAMPF  
ENGINEER  
2016/01/01

2016/01/01

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REVISION  
NO. DATE DESCRIPTION

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1/5	LIST OF DRAWINGS	CHANGED	188 574/13
SHEET	DESCRIPTION	CHANGED	NO.

LIST OF CHANGES	DATE	BY	NO.

OLIFANTS-DOORN RIVER WATER RESOURCES PROJECT  
RAISING OF CLANNILLIAM DAM  
SECTION 03-03  
SHEET 2 OF 2

PREVIOUS EDITION DATE: 2016/01/01  
LOCALITY No. 1: E00-02  
LOCALITY No. 2: 110-10  
LOCALITY No. 3: 168 650/14

PROJECT: RAISING OF CLANNILLIAM DAM  
LOCALITY No. 1: E00-02  
LOCALITY No. 2: 110-10  
LOCALITY No. 3: 168 650/14

PROJECT: RAISING OF CLANNILLIAM DAM  
LOCALITY No. 1: E00-02  
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LOCALITY No. 3: 168 650/14

PROJECT: RAISING OF CLANNILLIAM DAM  
LOCALITY No. 1: E00-02  
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PROJECT: RAISING OF CLANNILLIAM DAM  
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PROJECT: RAISING OF CLANNILLIAM DAM  
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PROJECT: RAISING OF CLANNILLIAM DAM  
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PROJECT: RAISING OF CLANNILLIAM DAM  
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PROJECT: RAISING OF CLANNILLIAM DAM  
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LOCALITY No. 3: 168 650/14

PROJECT: RAISING OF CLANNILLIAM DAM  
LOCALITY No. 1: E00-02  
LOCALITY No. 2: 110-10  
LOCALITY No. 3: 168 650/14

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PROJECT: RAISING OF CLANNILLIAM DAM  
LOCALITY No. 1: E00-02  
LOCALITY No. 2: 110-10  
LOCALITY No. 3: 168 650/14

THE QUARRY CONTRACTOR MUST NOTE THAT QUARRY EXCAVATIONS, INCLUDING THE FACES, MUST BE INSPECTED BY THE CLIENT'S ENGINEERING BEDROJIST. THIS MUST BE COORDINATED SO THAT THE EXCAVATIONS/ROCK FACES ARE INSPECTED WITH EACH 8 W ADVANCE.

THE QUARRY CONTRACTOR MUST IMPLEMENT A SLOPE STABILITY MONITORING SYSTEM FOR APPROVAL BY THE CLIENT.



**SHEET 1 OF 2**  
**SCALE 1:250**

- |   |   |
|---|---|
|  | 1. NATURAL GROUND LEVEL                           |
|  | 2. UPPER BOUNDARY BEDROCK                         |
|  | 3. GROUNDWATER LEVEL                              |
|  | 4. PROPOSED FREE GRAVITATIONAL BLURRY FLOOR       |
|  | 5. USABLE ROCK WITHIN THE DEFINED BLURRY BOUNDARY |

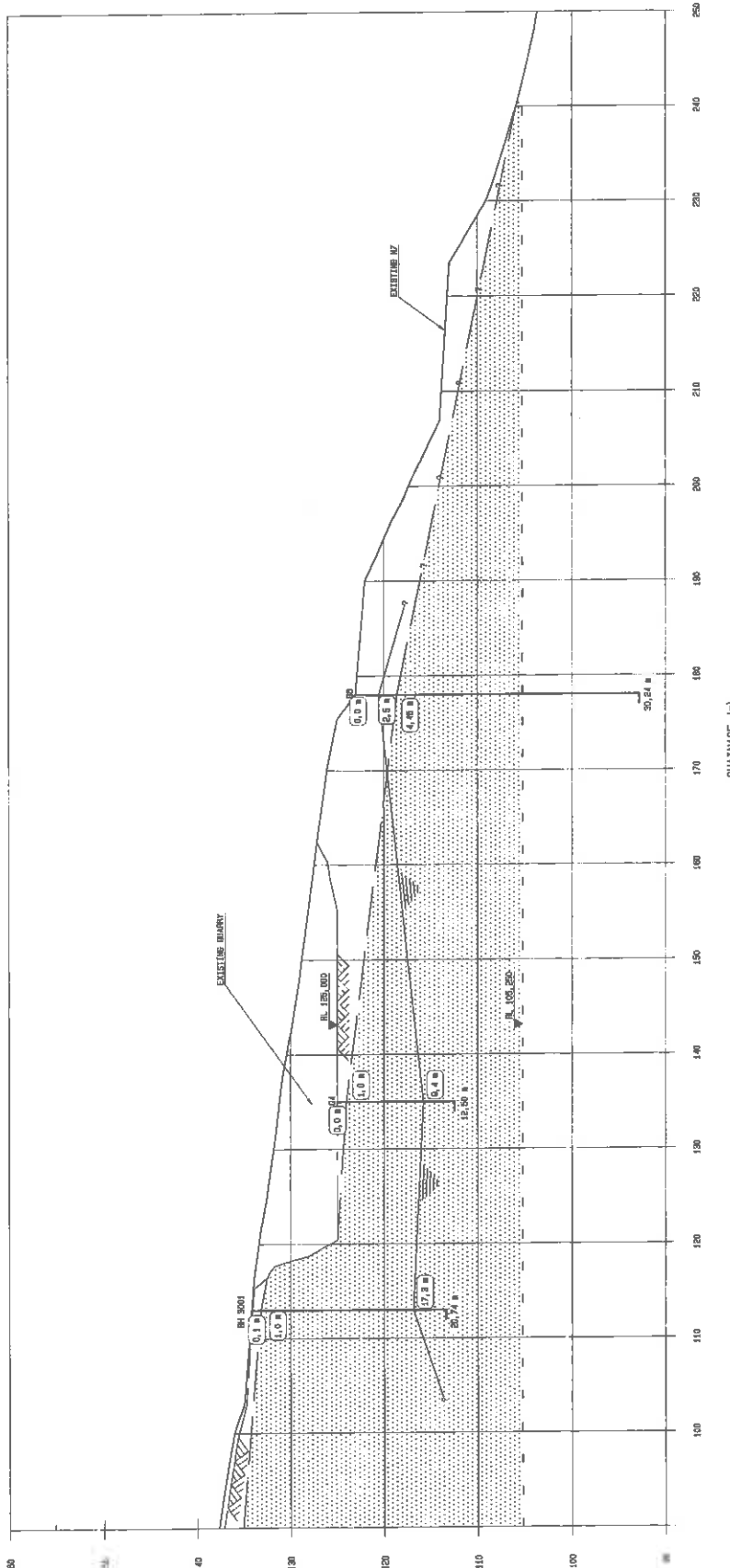
1. IN SOME INSTANCES BRIDGEMEN HAVE BEEN PROTECTED ALONG THE CONTOUR AND OTHER FEATURES OF THE TERRAIN BY THE DEFENSIVE LINE, INDICATED IN THE ADJACENT PLACES.
2. FOR BREVITY DETAIL, REFER TO SECOND ENGINEERING GEOLOGICAL REPORT ON HARD ROCK QUARRY.
3. QUARRY PLANT ASSUMED AT RL 100, 250 FOR FINE GRANULITE PURPOSES.
4. GRADIENT IN SURVEY ROAD RESUME. THE CONTINUATION TO BE SET WITHIN COORDINATION WITH SURVEY IN THE LIGHT OF MONITOR TOWARDS THE NEW 10' ROAD RESUME.
5. ASSIGNED SLOPE OF 1V:1H TO BE APPROVED BY DMR.

[illegible]

SCALE 1:250

# SPECIFICATIONS:

THE QUARRY CONTRACTOR MUST NOTE THAT QUARRY EXCAVATIONS, INCLUDING THE PAGES, MUST BE INSPECTED BY THE CLIENT'S ENGINEERING CONSULTANT. THIS MUST BE COMPLETED SO THAT THE EXCAVATION/ROCK PAGES ARE INSPECTED WITH EACH 6 M ADVANCE. THE QUARRY CONTRACTOR MUST IMPLEMENT A SLOPE STABILITY MONITORING SYSTEM FOR APPROVAL BY THE CLIENT.



## SECTION 02-02

SHEET 2 OF 2  
SCALE 1:250

### LEGEND:

- NATURAL GROUND LEVEL
- UPPER BOUNDARY ROCK
- UPPER BOUNDARY OF DEBRIS ROCK
- BOUNDARY LEVEL
- PROPOSED FREE EXCAVATION QUARRY FLOOR
- DEBRIS ROCK WITHIN THE DEFINED QUARRY BOUNDARY

### NOTES:

- IN SOME INSTANCES BOUNDARIES HAVE BEEN PROJECTED ALONG THE CONTINUAL AND OTHER DISTANCES PERPENDICULAR TO THE REFERENCE LINE, INDICATED IN THE INSTANT QUANTITIES.
- FOR BOUNDARY DETAIL, REFER TO SECOND ENGINEERING CONSULTANT REPORT ON QUARRY ROCK QUANTITY.
- QUARRY FLOOR ASSUMED AT RL 105.250 FOR FREE EXCAVATION PURPOSES.
- ASSUMED IS A 10% BOUNDARY RESERVE. THE CONTRACTOR TO BE WRITTEN CONFIRMATION FROM BOUNDARY ON THE CLAY OF MOUNTAIN TOWARDS THE RIGHT OF ROAD RESERVE.
- ASSUMED SLOPE OF 1V:1H TO BE APPROVED BY DMR.

NO.	LIST OF DRAWINGS	DESCRIPTION	DATE	NO.
1	02-02	SECTION 02-02	13-16	168 652/14

**OLIFANTS-DOORN RIVER WATER RESOURCES PROJECT**

**RAISING OF CLANWILLIAM DAM**

**QUARRY DEVELOPMENT**

**SECTION 02-02**

**SHEET 2 OF 2**

PROJECT NO. 168 652/14

LOCALITY NO. 168 652/14

LOCALITY NAME: 168 652/14

DATE: 13-16

SCALE: 1:250

PROJECT NO. 168 652/14

LOCALITY NO. 168 652/14

LOCALITY NAME: 168 652/14

DATE: 13-16

SCALE: 1:250

PROJECT NO. 168 652/14

LOCALITY NO. 168 652/14

LOCALITY NAME: 168 652/14

DATE: 13-16







SCALE: 1:250

THE QUARRY CONTRACTOR MUST NOTE THAT QUARRY EXCAVATIONS, INCLUDING THE FACES, MUST BE INSPECTED BY THE CLIENT'S ENGINEERING GEOLOGIST. THIS MUST BE COORDINATED SO THAT THE EXCAVATIONS/ROCK FACES ARE INSPECTED WITH EACH 5 M ADVANCE.

THE QUARRY CONTRACTOR MUST IMPLEMENT A SLOPE STABILITY MONITORING SYSTEM FOR APPROVAL BY THE CLIENT.



**SHEET 1 OF 2**  
**SCALE 1:250**

- 1.  NATURAL GROUND LEVEL
- 2.  UPPER BOUNDARY BEDROCK
- 3.  UPPER BOUNDARY OF USABLE ROCK
- 4.  PROPOSED QUARRY FLOOR
- 5.  PROPOSED FREE DRAINING QUARRY FLOOR
- 6.  USABLE ROCK WITHIN THE DEFINED QUARRY BOUNDARY

1. IN SOME DISTANCES REMEASURES MAY BE REQUIRED ALONG THE CONTOUR AND OTHER DISTANCES PERPENDICULAR TO THE REFERENCE LINE, WHENEVER IS THE SHORTEST DISTANCE.
2. FOR GEOLOGIST DETAIL, REFER TO SECOND ENGINEERING GEOLOGICAL REPORT ON HARD ROCK QUARRY.
3. QUARRY FLOOR ASSUMED AT RL. 105.00 FOR FREE DRAINING PURPOSES.
4. ASSUMED IS A SIGNAL ROAD RESERVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROVISION OF THE NECESSARY WIDTH OF ROAD FOR THE NEUTRAL POSITION TOWARDS THE NEW SIGNAL RESERVE.
5. ASSIGNED SLOPE OF 1V:1.4 TO BE APPROVED BY DMF.

[illegible]

SCALE 1:250

THE QUARRY CONTRACTOR MUST NOTE THAT QUARRY EXCAVATIONS, INCLUDING THE FACES, MUST BE INSPECTED BY THE CLIENT'S ENGINEERING GEOLOGIST. THIS MUST BE COORDINATED SO THAT THE EXCAVATIONS/ROCK FACES ARE INSPECTED WITH EACH 8 W ADVANCE.

THE QUARRY CONTRACTOR MUST IMPLEMENT A SLOPE STABILITY MONITORING SYSTEM FOR APPROVAL BY THE CLIENT.



- ## NOTES:
1. IN SOME INSTANCES BOUNDARIES HAVE BEEN PROJECTED ALONG THE CONTIGUOUS AND OTHER TRANSVERSE PERPENDICULAR TO THE REFERENCE LINE, INDICATED IN THE SHORTEST DISTANCE.
  2. FOR ACQUIRY DETAIL, REFER TO RECORD ENGINEERING GEOLOGICAL REPORT ON HARBOR ROCK QUARRY.
  3. BRANCHING FLOOD ASSUMED AT RL. 100.250 FOR FREE DRAINING FLOODS.
  4. ASSUMED AS A SURFICIAL FLOOD RESERVE, THE CONTRACTION TO BEET WITHIN CONFIRMATION FROM SAMPLING ON THE LINK OF MOUND TENDERS THE NEW 47 ROAD RESERVE.
  5. ASSUMED SLOPE OF 1V:1H TO BE APPROVED BY DMR.

[illegible]

CO-ORDINATES  
PROJECTION WGS84 DATUM : LO 19

POINT	Y	X
BK0001	+11 940.004	+3 502 744.891
BK0002	+11 962.894	+3 502 751.051
BK0003	+11 973.214	+3 502 770.391
BK0004	+11 982.644	+3 502 800.841
BK0005	+11 992.412	+3 502 811.481
BK0006	+11 997.683	+3 502 787.051
BK0007	+12 004.173	+3 502 758.061
BK0008	+11 977.003	+3 502 671.890
BK0009	+12 024.103	+3 502 694.650
BK0010	+12 043.123	+3 502 627.560
BK0011	+12 027.033	+3 502 774.961
BK0012	+11 004.023	+3 502 066.880
BK0013	+11 923.334	+3 501 982.990
BK0014	+12 008.333	+3 502 039.890
BK0015	+11 964.698	+3 502 814.450
BK0016	+11 984.673	+3 503 000.659
BK0017	+11 914.532	+3 503 054.407
BK0018	+12 046.383	+3 503 057.459
BK0019	+12 063.313	+3 502 996.560
BK0020	+12 062.023	+3 502 953.560
01	+11 923.188	+3 502 688.950
02	+11 962.163	+3 502 700.874
03	+12 030.288	+3 502 800.361
04	+11 909.891	+3 503 763.088
05	+11 912.827	+3 502 687.332
06	+11 979.383	+3 502 679.759
07	+11 844.600	+3 502 976.161
08	+11 877.440	+3 502 792.541

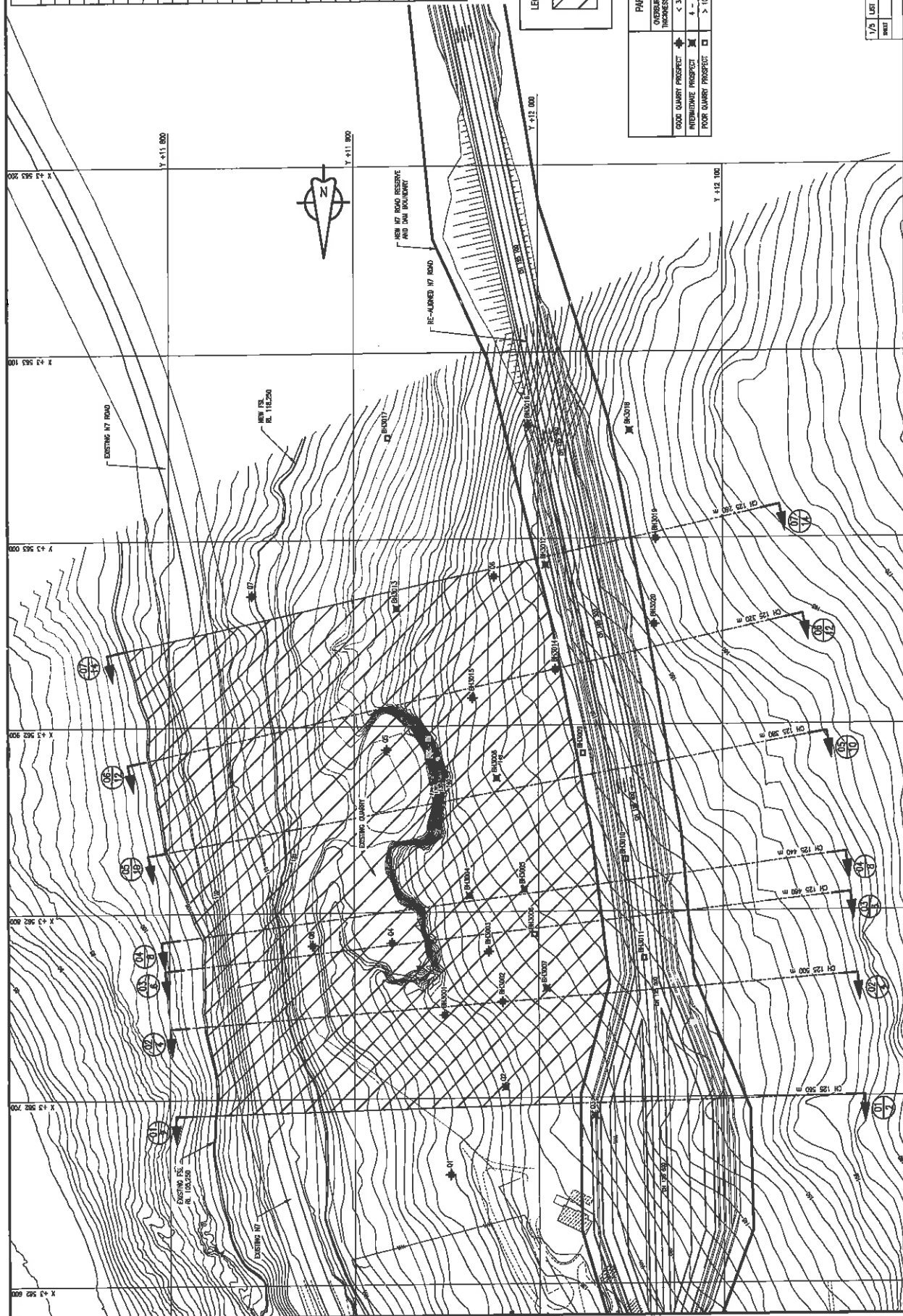
LEGEND

AREA OF QUARRY DEVELOPMENT  
CALCULATED VOLUME

PARAMETER RANGE OF VALUES AND RATING

PARAMETER	RANGE OF VALUES	RATING
PERCENTAGE OF WASTE ROCK (%)	< 3	10 - 20
PERCENTAGE OF WASTE ROCK (%)	3 - 8	5 - 10
PERCENTAGE OF WASTE ROCK (%)	8 - 10	10 - 20
PERCENTAGE OF WASTE ROCK (%)	> 10	> 25

**NOTE:**  
RATING OF QUARRY PROSPECT DOES NOT CONSIDER STABILIZATION BY RE-ALIGNED BY NATURAL ROAD.



**QUARRY DEVELOPMENT**  
SCALE 1:1,000

0 10 20 30 40 50 100 200 m

**RAISING OF CLANWILLIAM DAM**  
QUARRY DEVELOPMENT LAYOUT WITH  
RATING OF INDIVIDUAL BOREHOLES

1/2 LIST OF BOREHOLES

BOREHOLE	DEPTH (m)	DATE
CH00001	145.571/13	
CH00002	145.571/13	

LIST OF DAMAGES

BOREHOLE	DEPTH (m)	DATE
CH00001	145.571/13	
CH00002	145.571/13	

RE-ALIGNED BY ROAD

NEW FSL R. 118.250

EXISTING BY ROAD

RE-ALIGNED BY ROAD AND DAM BOUNDARY

RAISING OF CLANWILLIAM DAM

QUARRY DEVELOPMENT LAYOUT WITH

RATING OF INDIVIDUAL BOREHOLES

RAISING OF CLANWILLIAM DAM

QUARRY DEVELOPMENT LAYOUT WITH

RATING OF INDIVIDUAL BOREHOLES

RAISING OF CLANWILLIAM DAM

QUARRY DEVELOPMENT LAYOUT WITH

RATING OF INDIVIDUAL BOREHOLES





## **DEPARTMENT OF WATER AND SANITATION**

**DWS03-0419 (WTE)**

**THE SUPPLY AND DELIVERY OF FINE AGGREGATE, COARSE AGGREGATE, CRUSHER  
RUN AND RIP RAP TO THE DEPARTMENT OF WATER AND SANITATION, CLANWILLIAM  
DAM**

### **C5. SITE INFORMATION**

#### **CONTENTS**

**C5.1 AVAILABLE GEOLOGICAL DOCUMENTATION**

## **C5.1 AVAILABLE GEOLOGICAL DOCUMENTATION**

The following geological reports are available for Clanwilliam dam:

### **C 5.1.1 CLANWILLIAM DAM QUARRY REPORT (December 2006)**

### **C5.1.2 CLANWILLIAM DAM SECOND ENGINEERING GEOLOGICAL REPORT FOR QUARRY FINAL (29 MAY 2015)**

### **C5.1.3 NATURAL SAND REPORT C6 20-2-E100-02-C-1-9-(B) REPORT ON SOURCES FOR SAND (NOVEMBER 2010)**

The documents will be handed out as a CD at the compulsory site meeting.

The information and interpretations made in the above mentioned reports 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.