




## Quotation Advert

**Opening Date:**    
**Closing Date:**    
**Closing Time:**



### INSTITUTION DETAILS

**Institution Name:**    
**Province:**   
**Department or Entity:**   
**Division or section:**   
**Place where goods / services is required**   
**Date Submitted**  

### ITEM CATEGORY AND DETAILS

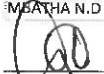
**Quotation Number:**   
**Item Category:**    
**Item Description:**   
**Quantity (if supplies)**

### COMPULSORY BRIEFING SESSION / SITE VISIT

**Select Type:**    
**Date :**    
**Time:**   
**Venue:**

**QUOTES CAN BE COLLECTED FROM:**   
**QUOTES SHOULD BE DELIVERED TO:**

### ENQUIRIES REGARDING THE ADVERT MAY BE DIRECTED TO:

**Name:**   
**Email:**   
**Contact Number:**   
**Finance Manager Name:**   
**Finance Manager Signature:** 

No late quotes will be considered



OFFICIAL PRICE PAGE FOR QUOTATIONS

ZNQ NUMBER: 245/20/21

DESCRIPTION: CONSTRUCTION OF WAITING AREA IN MDR DEPARTMENT

SIGNATURE OF BIDDER ..... DATE.....  
 [By signing this document I hereby agree to all terms and conditions]

CAPACITY UNDER WHICH THIS QUOTE IS SIGNED.....

Item No	Quantity	Description	Brand & model	Country of manufacture	Price	
					R	c
		CONSTRUCTION OF WAITING AREA FOR MDR PATIENTS AT SUNDUMBILI CHC AS PER ATTACHED SPECIFICATION				
		CIDB 1 GB AND ABOVE IS REQUIRED TO QUOTE				
		CONTACT MR: BHORAT FOR SPECIFICATION QUERRIES				
		NB: ATTACH CERTIFIED COPY OF VALID CIDB CERTIFICATE				
		NB: ATTACH CSD SUMMARY REPORT THAT REFLECTS CORE BUSINESS				
		NB: SUBMIT A COPY OF SWORN AFFIDAVIT OR VALID B-BBEE CERTIFICATE AND TAX CLEARENCE CERTIFICATE				
		FAILURE TO COMPLY WITH ABOVE REQUIREMENTS WILL RESULT IN YOUR QUOTE BEING DISQUALIFIED				
VALUE ADDED TAX @ 15% (Only if VAT Vendor)						
TOTAL QUOTATION PRICE (VALIDITY PERIOD 60 Days)						

Does This Offer Comply With The Specification?	Does The Article Conform To The S.A.N.S. / S.A.B.S. Specification?
Is The Price Firm?	State Delivery Period E.G. E.G. 1day, 1week

<p><b>Enquiries regarding the quote may be directed to:</b></p> <p>Contact Person: <u>NOZIPHO</u> ..... Tel: <u>032 4547565</u></p> <p>E-Mail Address: .....</p>	<p><b>Enquiries regarding technical information may be directed to:</b></p> <p>Contact Person: <u>MR BHORAT</u> ..... Tel: <u>032 4547540</u></p>
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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 quote (includes a price quotation, advertised competitive quote, limited quote or proposal). In view of possible allegations of favouritism, should the resulting quote, 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 quote(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 quote.
2. In order to give effect to the above, the following questionnaire must be completed and submitted with the quote.

- |   |   |
|---|---|
| 2.1. Full Name of bidder/representative.....  | 2.4. Company Registration Number: ..... |
| 2.2. Identity Number: .....   | 2.5. Tax Reference Number: .....        |
| 2.3. Position occupied in the Company (director, trustee, shareholder <sup>2</sup> ): | 2.6. VAT Registration Number: .....     |

2.7. 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. [TICK APPLICABLE]

2.8. Are you or any person connected with the bidder presently employed by the state? YES  NO

2.8.1. 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:.....

2.8.2. 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

2.8.2.1. If yes, did you attach proof of such authority to the quote document?

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

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

2.9. 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

2.9.1. If so, furnish particulars:.....

2.10. 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 quote? YES  NO

2.10.1. If so, furnish particulars:.....

2.11. 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 quote? YES  NO

2.11.1. If so, furnish particulars:.....

2.12. 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

2.12.1. If so, furnish particulars:.....

**3. Full details of directors / trustees / members / shareholders.**

NB: The Department Of Health will validate **details of directors / trustees / members / shareholders** on CSD. It is the suppliers' responsibility to ensure that their details are up-to-date and verified on CSD. If the Department cannot validate the **information** on CSD, the quote will not be considered and passed over as non-compliant according to National Treasury Instruction Note 4 (a) 2016/17.

**4 DECLARATION**

I, THE UNDERSIGNED (NAME).....CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 2.

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

..... Name of bidder	..... Signature	..... Position	..... Date
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<sup>1</sup>"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); | c) provincial legislature;                                    |
| b) any municipality or municipal entity;  | d) national Assembly or the national Council of provinces; or |
|   | e) Parliament.  |

<sup>2</sup>"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.

## SPECIAL CONTRACT CONDITIONS OF QUOTATIONS

### 1. AMENDMENT OF CONTRACT

- 1.1. Any amendment to or renunciation of the provisions of the contract shall at all times be done in writing and shall be signed by both parties.

### 2. CHANGE OF ADDRESS

- 2.1. Bidders must advise the Department of Health (institution where the offer was submitted) should their address (*domicilium citandi et executandi*) details change from the time of bidding to the expiry of the contract.

### 3. GENERAL CONDITIONS ATTACHED TO THIS QUOTATION

- 3.1. The institution is under no obligation to accept the lowest or any quote.
- 3.2. The price quoted must include VAT (if VAT vendor). However, it must be noted that the department reserves the right to evaluate all quotations excluding VAT as some bidders may not be VAT vendors.
- 3.3. The bidder must ensure the correctness & validity of quote:
- (i) *that the price(s), rate(s) & preference quoted cover all for the work/item (s) & accept that any mistakes regarding the price (s) & calculations will be at the bidder's risk*
- 3.4. The bidder must accept full responsibility for the proper execution & fulfilment of all obligations conditions devolving on under this agreement, as the Principal (s) liable for the due fulfilment of this contract.
- 3.5. This quotation will be evaluated based on the 80/20 points system, specification & correctness of information. All required documentation must be completed in full and submitted.
- 3.6. Offers must comply strictly with the specification.
- 3.7. Only offers that meet or are greater than the specification will be considered.
- 3.8. Late quotes will not be considered.
- 3.9. Expired product/s will not be accepted. All products supplied must be valid for a minimum period of six months.
- 3.10. A bidder not registered on the Central Suppliers Database or verification has failed will not be considered.
- 3.11. All delivery costs must be included in the quote price, for delivery at the prescribed destination.
- 3.12. Only firm prices will be accepted. Such prices must remain firm for the contract period. Non-firm prices (including rates of exchange variations) will not be considered.
- 3.13. In cases where different delivery points influence the pricing, a separate pricing schedule must be submitted for each delivery point.
- 3.14. In the event of a bidder having multiple quotes, only the cheapest according to specification will be considered. Furthermore a verification will be done to identify if bidders have multiple companies and are quoting (cover-quoting) for this bid. In such instances only the cheapest bid according to specification will be considered.

### 4. SPECIAL INSTRUCTIONS AND NOTICES TO BIDDERS REGARDING THE COMPLETION OF THIS QUOTATION.

- 4.1. Unless inconsistent with or expressly indicated otherwise by the context, the singular shall include the plural and vice versa and with words importing the masculine gender shall include the feminine and the neuter.
- 4.2. Under no circumstances whatsoever may the quotation/bid forms be retyped or redrafted. Photocopies of the original bid documentation may be used, but an original signature must appear on such photocopies.
- 4.3. The bidder is advised to check the number of pages and to satisfy himself that none are missing or duplicated.
- 4.4. Quotation submitted must be complete in all respects.
- 4.5. Any alteration made by the bidder must be initialled.
- 4.6. Use of correcting fluid is prohibited
- 4.7. Quotation will be opened in public as soon as practicable after the closing time of quotation.
- 4.8. Where practical, prices are made public at the time of opening quotations.
- 4.9. If it is desired to make more than one offer against any individual item, such offers should be given on a photocopy of the page in question. Clear indication thereof must be stated on the schedules attached.

### 5. SPECIAL INSTRUCTIONS REGARDING HAND DELIVERED QUOTATIONS

- 5.1. Quotation shall be lodged at the address indicated not later than the closing time specified for their receipt, and in accordance with the directives in the quotation documents.
- 5.2. Each quotation shall be addressed in accordance with the directives in the quotation documents and shall be lodged in a separate sealed envelope, with the name and address of the bidder, the quotation number and closing date indicated on the envelope. The envelope shall not contain documents relating to any quotation other than that shown on the envelope. If this provision is not complied with, such quotations/bids may be rejected as being invalid.
- 5.3. All quotations received in sealed envelopes with the relevant quotation numbers on the envelopes are kept unopened in safe custody until the closing time of the quotation/bids. Where, however, a quotation is received open, it shall be sealed. If it is received without a quotation/bid number on the envelope, it shall be opened, the quotation number ascertained, the envelope sealed and the quotation number written on the envelope.
- 5.4. A specific box is provided for the receipt of quotations, and no quotation found in any other box or elsewhere subsequent to the closing date and time of quotation will be considered.

- 5.5. No quotation/bid sent through the post will be considered if it is received after the closing date and time stipulated in the quotation documentation, and proof of posting will not be accepted as proof of delivery.
- 5.6. Quotation documents must not be included in packages containing samples. Such quotations may be rejected as being invalid.

**6. SAMPLES**

- 6.1. In the case of the quote document stipulating that samples are required, the supplier will be informed in due course when samples should be provided to the institution. (This decreases the time of safety and storage risk that may be incurred by the respective institution). The bidders sample will be retained if such bidder wins the contract.
  - (i) If a company/s who has not won the quote requires their samples, they must advise the institution in writing of such.
  - (ii) If samples are not collected within three months of close of quote the institution reserves the right to dispose of them at their discretion.
- 6.2. **Samples must be made available when requested in writing or if stipulated on the document.**
  - (i) If a Bidder fails to provide a sample of their product on offer for scrutiny against the set specification when requested, their offer will be rejected. All testing will be for the account of the bidder.

**7. COMPULSORY SITE INSPECTION / BRIEFING SESSION**

7.1. Bidders who fail to attend the compulsory meeting will be disqualified from the evaluation process.

- (i) The institution has determined that a compulsory site meeting  take place
- (ii) Date \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ Time \_\_\_\_\_ : \_\_\_\_\_ Place \_\_\_\_\_

Institution Stamp:	Institution Site Inspection / briefing session Official  Full Name: ..... Signature: ..... Date: .....
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**8. STATEMENT OF SUPPLIES AND SERVICES**

8.1. The contractor shall, when requested to do so, furnish particulars of supplies delivered or services executed. If he/she fails to do so, the Department may, without prejudice to any other rights which it may have, institute inquiries at the expense of the contractor to obtain the required particulars.

**9. SUBMISSION AND COMPLETION OF SBD 6.1**

9.1. Should a bidder wish to qualify for preference points they must complete a SBD 6.1 document. Failure by a bidder to provide all relevant information required, will result in such a bidder not being considered for preference point's allocation. The preferences applicable on the closing date will be utilized. Any changes after the closing date will not be considered for that particular quote.

**10. TAX COMPLIANCE REQUIREMENTS**

- 10.1. In the event that the tax compliance status has failed on CSD, **it is the suppliers' responsibility to provide a SARS pin in order for the institution to validate the tax compliance status of the supplier.**
- 10.2. In the event that the institution cannot validate the suppliers' tax clearance on SARS as well as the Central Suppliers Database, **the quote will not be considered and passed over as non-compliant according to National Treasury Instruction Note 4 (a) 2016/17.**

**11. TAX INVOICE**

11.1. A tax invoice shall be in the currency of the Republic of South Africa and shall contain the following particulars:

- (i) the name, address and registration number of the supplier;
- (ii) the name and address of the recipient;
- (iii) an individual serialized number and the date upon which the tax invoice is issued;
- (iv) a description and quantity or volume of the goods or services supplied;
- (v) the official department order number issued to the supplier;
- (vi) the value of the supply, the amount of tax charged;
- (vii) the words tax invoice in a prominent place.

**12. PATENT RIGHTS**

The supplier shall indemnify the **KZN Department of Health** (hereafter known as 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.

### **13. PENALTIES**

- 13.1. If at any time during the contract period, the service provider is unable to perform in a timely manner, the service provider must notify the institution in writing/email of the cause of and the duration of the delay. Upon receipt of the notification, the institution should evaluate the circumstances and, if deemed necessary, the institution may extend the service provider's time for performance.
- 13.2. In the event of delayed performance that extends beyond the delivery period, the institution is entitled to purchase commodities of a similar quantity and quality as a substitution for the outstanding commodities, without terminating the contract, as well as return commodities delivered at a later stage at the service provider's expense.
- 13.3. Alternatively, the institution may elect to terminate the contract and procure the necessary commodities in order to complete the contract. In the event that the contract is terminated the institution may claim damages from the service provider in the form of a penalty. The service provider's performance should be captured on the service provider database in order to determine whether or not the service provider should be awarded any contracts in the future.
- 13.4. 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.

### **14. TERMINATION FOR DEFAULT**

- 14.1. 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:
  - (i) if the supplier fails to deliver any or all of the goods within the period(s) specified in the contract,
  - (ii) if the supplier fails to perform any other obligation(s) under the contract; or
  - (iii) if the supplier, in the judgment of the purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the contract.
- 14.2. 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.
- 14.3. 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.

### **15. FAILURE TO COMPLY WITH ABOVE WILL RESULT IN YOUR QUOTE BEING PASSED OVER.**

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

This preference form must form part of all quotes 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 quotes:
- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
- 1.2 The value of this quote is estimated to not exceed R50 000 000 (all applicable taxes included) and therefore the 80/20 preference point system shall be applicable.
- 1.3 Points for this quote shall be awarded for:
- (a) Price; and
  - (b) B-BBEE Status Level of Contributor.
- 1.4 The maximum points for this quote is allocated as follows:

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

- 1.5 Failure on the part of a bidder to submit proof of B-BBEE Status level of contributor together with the quote, 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 quote 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 PREFERENCE POINT SYSTEMS**

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

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

- Ps = Points scored for price of bid under consideration
- Pt = Price of bid under consideration
- Pmin = 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 (80/20 system)
1	20
2	18
3	14
4	12
5	8
6	6
7	4
8	2
Non-compliant contributor	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 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**

(Tick applicable box)

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

YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
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7.1.1 If yes, indicate:

- i) What percentage of the contract will be subcontracted.....%
- ii) The name of the sub-contractor.....
- iii) The B-BBEE status level of the sub-contractor.....

8. Whether the sub-contractor is an EME or QSE

(Tick applicable box)

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

YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
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Designated Group: An EME or QSE which is at last 51% owned by:	EME √	QSE √
Black people	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Black people who are youth	<input type="checkbox"/>	<input type="checkbox"/>
Black people who are women	<input type="checkbox"/>	<input type="checkbox"/>
Black people with disabilities	<input type="checkbox"/>	<input type="checkbox"/>
Black people living in rural or underdeveloped areas or townships	<input type="checkbox"/>	<input type="checkbox"/>
Cooperative owned by black people	<input type="checkbox"/>	<input type="checkbox"/>
Black people who are military veterans	<input type="checkbox"/>	<input type="checkbox"/>
OR		
Any EME	<input type="checkbox"/>	<input type="checkbox"/>
Any QSE	<input type="checkbox"/>	<input type="checkbox"/>

9. **DECLARATION WITH REGARD TO COMPANY/FIRM**

9.1 Name of company/firm:.....

9.2 VAT registration number:.....

9.3 Company registration number:.....

9.4 **TYPE OF COMPANY/ FIRM [TICK APPLICABLE BOX]**

- Partnership/Joint Venture / Consortium
- One person business/sole propriety
- Close corporation
- Company
- (Pty) Limited

9.5 **DESCRIBE PRINCIPAL BUSINESS ACTIVITIES**

.....  
.....

9.6 **COMPANY CLASSIFICATION [TICK APPLICABLE BOX]**

- Manufacturer
- Supplier
- Professional service provider
- Other service providers, e.g. transporter, etc.

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

9.8 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.

<b>WITNESSES</b>
1. ....
2. ....

..... <b>SIGNATURE(S) OF BIDDERS(S)</b>
DATE: .....
ADDRESS..... ..... .....

PROVINCE OF KWAZULU-NATAL  
DEPARTMENT OF HEALTH

ZNQ 245 20/21  
19/20

SUNDUMBILI CHC – MDR PATIENT WAITING AREA

**1.1 SCOPE OF CONTRACT**

This Contract is for the execution of the project indicated above.

**1.2 CONTRACT DRAWINGS**

NO DRAWINGS

**1.3 CONDITIONS OF CONTRACT AND PRELIMINARIES**

**1.3.1 PERIOD OF CONTRACT**

Eight (08) *Weeks* as the Contract Period for the completion of the Work from date of Site handover.

**1.3.2 CONTRACT GUARANTEE:**

The Successful Bidder will **NOT** be required to submit a contract guarantee.

**1.3.3 GUARANTEE PERIOD**

The guarantee period for the completion of the Structural work and all materials must be a minimum of Three (3) Calendar Months from the date of first delivery.

**1.3.4 SITE AND MODE OF PROCEDURE**

The work contained in this contract will be carried out on the site of the existing at SUNDUMBILI CHC

The Bidder is advised that the existing premises will be occupied throughout the period of the contract, and that the minimum amount of disruption to services is of the utmost importance.

Damage to the existing buildings - Bidders to note that any damages done or occurring to any of the buildings will be repaired at the expense of the contractor/ Bidder.

The repairs must be to the satisfaction of the Kwazulu- Natal Department of Health. Bidders are advised to visit the site prior to tendering and to acquaint themselves with the nature of the work to be done and access to the siting of the existing buildings etc., as no claim whatsoever will be allowed on the grounds of ignorance of the conditions under which the work will be executed.

### 1.3.5 SATISFACTORY INSTALLATION

The whole of the installation shall be carried out in accordance with the South African Bureau of Standards Code of Practice for the application of National Building Regulations, the KZNPA Standard Preambles to all Trades, the KZNPA General Electrical Specification, ICASA, Telecommunications regulations, the South African Bureau of Standards Code of Practice for the Wiring of Premises SABS 0142 and the Occupational Health and Safety Act and Regulations 85/1993 as amended.

Copies of the KZNPA Standard Preambles to all Trades and the KZNPA General Electrical Specification are available at the office of the Secretary for Health – KwaZulu-Natal and can be obtained on request.

### 1.3.6 CERTIFICATE OF COMPLIANCE

On completion of the service, a copy of the "Certificate of Compliance for Electrical Installation" must be submitted to the office of the Secretary for Health: KwaZulu Natal.

### 1.3.7 GENERAL

The Bidder's / Contractors will be responsible for all masonry work associated with the electrical installation and making good of all work related to the electrical installation. The patching and painting must be to the satisfaction of the KwaZulu-Natal Department of Health.

## 2. TECHNICAL SPECIFICATIONS

### 2.1 GENERAL

This TECHNICAL SPECIFICATION shall be read in conjunction with all other sections of the SPECIFICATION and cognisance shall be taken of the clauses relevant to this particular installation, whether any specific clauses are referred to or not.

### 2.2 *Standard Preambles*

This is available from the department on request.

### 2.3 *Health and Safety Specification*

**Health and Safety Plan with Risk assessment schedule is to be compiled taking cognisance of the specific type of patient's that walk around the institution all day. All areas are to be protected at all times from patients falling in. All new and old materials are to be securely stored during construction to eliminate any person from rolling them around or playing inside them.**

### 3. SCOPE OF WORK

The work to be carried out under this contract includes the supply of all materials, and including all labour to carry out all electrical work and leaving in service condition to the satisfaction of the Secretary for Health: KwaZulu-Natal.

#### 3.1. The work comprises of:

- a) Earthworks
- b) Removal of the Existing paving and cabs
- c) Construction of ramp
- d) Construction of awning
- e) Repairs to waiting area shelter

### EARTHWORKS

**SITE CLEARANCE:** —The item given in the Bills of Quantities for site clearance shall be deemed to include the removal from the site, or burning if permitted by the Local Authority, of shrubs and trees with trunks under 200mm girth measured at 1m above ground level, hedges, bushes, other vegetation, rubbish and debris. Holes left by roots are to be backfilled with earth and rammed.

**EXCAVATIONS:** — Rates for excavations are to include for forming and trimming to the correct levels, falls, slopes, curves, etc. for trimming sides, stepping, levelling and ramming bottoms, staging and disposing of the excavated material as described in the items. Rates for excavations to reduce levels over site are also to include for forming and trimming banks to the required batter. The Contractor is to allow in his rates for the bulking of excavated material.

The term "excavate", unless otherwise stated, shall mean excavate in "soft excavation" as defined below and for the purpose of classifying excavations the following will apply:

- a) **Soft excavation:** — shall be excavation in material that can be efficiently removed by a back-acting excavator of flywheel power approximately 0, 10 kW per millimetre of tined-bucket width without the assistance of pneumatic tools such as paving breakers, or that can be efficiently loaded without prior ripping or stockpiling by a rubber tired front-end loader of approximately 15t mass and a flywheel power of approximately 100 kW.
- b) **Intermediate excavation:** — shall be excavation in material that requires a back-acting excavator of flywheel power exceeding 0,10kW per millimetre of tined-bucket width and the assistance of pneumatic tools prior to removal by equipment equivalent to that specified in (a) above.
- c) **Hard rock excavation:** — shall be excavation in material that cannot be efficiently removed without blasting or without wedging and splitting prior to removal.
- d) **Class A Boulder excavation:** — shall be excavation in material containing more than 40% by volume of boulders of size between 0.03m<sup>3</sup> and 20m<sup>3</sup> in a matrix of softer material or smaller boulders.  
**Note:** — Excavation of solid boulders or lumps of size exceeding 20m<sup>3</sup> will be classed as hard rock excavation. (2) Excavation of fissured or fractured rock will not be classed as boulder excavation but as hard rock or intermediate excavation according to the nature of the material.
- e) **Class B Boulder excavation:** — shall be excavation of boulders only in a material containing 40% or less by volume of boulders of size between 0.03m<sup>3</sup> and 20m<sup>3</sup> in a matrix of softer material or smaller boulders.  
**Note:** — Those boulders requiring individual drilling and blasting in order to be loaded by a back-acting excavator as specified in (a) above, or by a track type

front-end loader, will each be separately measured as Class B boulder excavation.

**The excavation of the rest of the material will be classed as soft or intermediate excavation according to the nature of the material.**

**Method of Classifying:** —The Contractor may use any method he chooses to excavate any class of material but his chosen method of excavation shall not determine the classification of the excavation. The Department will decide on the classification of the materials. The classification will be based on inspection of the material to be excavated and the criteria given in (a) to (e) above, as applicable. The decision of the Department shall be, subject to the relevant provisions of the contract, final and binding.

**Should the Contractor consider that the excavation is other than “soft excavation” he must notify the Department immediately in order that an inspection be made and a decision arrived at by the Department as to the category of such excavation. Should the Contractor fail to give such notification, the excavation shall be deemed to be “soft excavation” and shall be measured and valued accordingly.**

**Blasting will only be permitted with the written authority of the Department, if and when permission is granted, it is to be executed only by persons holding the necessary Government Blasting Certificate and subject to all regulations imposed by the Department and/or Local Authority. In addition, the Contractor is to indemnify the Provincial Administration against all claims in respect of damage to persons and property resulting from such blasting operations.**

**Before commencing any excavations, the Contractor must satisfy himself as to the accuracy of any levels indicated on the drawings, as no claim will be entertained at a later date for any alleged inaccuracy in such levels.**

**Excavation shall be carried down to such depths as are necessary to obtain firm foundations, but before proceeding to greater depths than are shown on the drawings, the Department’s approval must be obtained.**

The Contractor will be responsible if he excavates wider or deeper than shown or required. If the excavations are deeper than shown or required such extra excavations are to be filled in with mass concrete at the Contractor’s expense. If the excavations are wider than shown or required, any form-work or mass concrete filling required to the side of the concrete foundations is to be executed at the Contractor’s expense and to the approval of the Department.

Depths of excavations as approved shall be checked and recorded by the a Departmental Official and the Contractor’s Foreman before any concrete is laid or the excavations are otherwise covered or filled in.

**Notwithstanding such approval, any excavations which become waterlogged or otherwise spoilt after approval, shall be cleaned out and reformed, at the Contractor’s expense and to the satisfaction of the Department, before any concrete, etc. is laid.**

**WATER:** — The Contractor shall keep all excavations free from water or mud by pumping, baling or otherwise.

**WORKING SPACE:** — The Contractor is to allow against the items of “excavate to provide working space” for excavating beyond the extent of the net excavations measured to provide the necessary working space for the carrying out of such work as is described in the items. Rates are to include, in addition to the extra excavation, for any additional risk of collapse so incurred and for filling back and compacting the excavated material.

No separate item for working space is provided or will be considered where the face of the measured excavation is 750mm or more away from the finished face of the structure. Separate items for working space for the building of brick foundation walls on ordinary concrete wall footings will not be considered.

**In the case of column base and pile cap excavations, where the dimensions between the column face and the excavation face is less than 500mm, working space has been measured for the width of the column face from the commencing level of excavation to the top of the column base or pile cap only where the top of the column base or pile cap exceeds 1.5m below the commencing level of excavation.**

**RISK OF COLLAPSE:** — The Contractor shall maintain all excavated faces affecting the safety of the works and workmen. He must either provide all necessary temporary planking, strutting or shoring to all vertical excavated faces or carry the risk of collapse of these faces with all its implications. He must assume full responsibility in this connection and must allow in his rates accordingly. In addition, all excavated faces exceeding 1.5m deep are to be maintained in accordance with Government Regulations.

Quantities reflect the total superficial areas of the vertical excavated faces and will be subject to variation only in so far as these areas may vary, notwithstanding whether any temporary supports are used or not.

**FILLING, ETC.:** — All backfilling and filling under floors and paving must be of selected material from the excavations, unless otherwise stated, returned and compacted in layers as later described and with the top surface dressed to the correct levels and grades, all to the approval of the Department. Under no circumstances will the Contractor be allowed to use clay, peat or other unsuitable material for filling.

Rates for all items of filling with material from the excavations are to include haulage not exceeding 100m from the perimeter of the excavations.

Any filling supplied by the Contractor is to be of suitable material approved by the Department.

**COMPACTION OF FILLING ETC.:** — All filling and backfilling is to be done in layers not exceeding 200mm thick before compaction, with the layers level to ensure uniform compaction. Each layer is to be thoroughly compacted over the whole of the area to a dry density not less than 90% of Mod. A.A.S.H.O. density. The surface of each compacted layer shall be uniform and tightly bonded. Care is to be taken that no damage is done to foundation walls, drains and other services.

The densities of compaction referred to are to be determined by tests carried out in accordance with A.S.T.M. Designation D 1557-58 and at an optimum moisture content of not more or less than 5% of the required Mod. A.A.S.H.O. The Contractor shall be responsible for having sufficient tests taken of the density of the compacted filling to ensure that the required compaction is being attained to the satisfaction of the Department. These tests are to be undertaken by an independent testing authority nominated by the Contractor to the approval of the Department. The costs of all tests in this connection shall be borne by the Contractor and shall be allowed for in his rates.

**PROTECTION AGAINST SUBTERRANEAN WOOD-DESTROYING TERMITES:** — Where protection against termites is to be provided: —

- a) Remove vegetable matter  
All dead roots and other vegetable matter likely to encourage termites must be removed from the ground under, against the building and from all filling material.

b) Treating the ground

The ground under surface beds, and below suspended wood floors, must be treated by the application of Soil Insecticides of Chlordane or Aldrin types complying with SANS Specifications 1165 and 1164 respectively, mixed with water and applied at the rate of not less than 5 litres of solution per square metre uniformly over the whole surface. The concentration of the solution must be strictly in accordance with the manufacturer's instructions and to the approval of the Department.

The Department reserves the right to take samples of the diluted solution, at any time, in order to test the concentration of the chemicals used.

Where the ground to be treated is of earth filling, the upper 50mm layer of filling must be levelled by raking, but must not be rammed until after the solution has been applied, and where of natural ground, it must be loosened to a depth of not less than 50mm and similarly levelled, in order to enable the solution to penetrate into the soil. After the solution has been applied and allowed to penetrate the surface, the soil must be well rammed and consolidated.

Before applying the solution to the ground under the floors, splay back earth for a depth and width of 75mm from the internal faces of walls enclosing the floors, against internal walls, sleeper piers, etc. and thoroughly saturate with the solution. After the solution has soaked into the earth, the splayed grooves must be filled with earth and consolidated.

The treated layer of soil under suspended wood floors must be protected with a 75mm thick layer of approved clean gravel, finished to an even surface.

The treated layer of soil under concrete surface beds must be protected with a 25mm thick layer of well-consolidated approved grit prior to laying the waterproofing membrane.

Great care must be taken when laying concrete surface beds, protective layers, etc. in order to avoid rupturing the treated layer of soil. Should the treated layer be ruptured at any point it must be made good and the area affected re-treated with the soil insecticide.

Contractors are advised that:

- a. Special precautions must be taken to protect the workmen whilst using the soil insecticide.
- b. The treatment of filling or ground under floors shall be done as soon as practicable, so that treatment may dry out before the floors are laid.
- c. The treatment of the ground must be carried out under the supervision of the Department.
- d. The soil insecticide to be delivered to the site in sealed drums clearly labelled or stamped with the name of the product.
- e. In addition to the foregoing the application of the soil insecticide to be carried out in accordance with SANS Code of Practice 0124 — the application of Certain Soil Insecticides for the Protection of Buildings.
- f. The protective layers of gravel or grit have been measured separately.

**RE-USE OF EXCAVATED MATERIAL:** — Material of any kind that may be discovered on the site during the excavation shall remain the property of the Administration. Such material may, if approved, be used for aggregate. Material so used shall be valued and the value deducted from the Contract Sum.



## **CONCRETE, FORMWORK AND REINFORCEMENT**

**GENERAL:** — This specification applies to concrete work formed into its final shape and position in-situ.

**All concrete and formwork shall be carried out in accordance with SANS Specification 1200 G — Concrete (Structural) (a copy of which the Contractor will be required to keep on the site so that it can be referred to at all times during the Contract), with the following amplifications and amendments: —**

**INTERPRETATIONS:** — Clauses 2.1 and 2.2 of SANS Specification 1200G refer. This preamble, together with any other supplementary preambles appearing in these Bills of Quantities shall be deemed to be the project specification and are the "Portion 2" referred to in Clause 2.2.

**DEFINITIONS:** — Clause 2.3 of SANS Specification 1200 G refers. All references to the Engineer shall be deemed to mean the Department.

### **MATERIALS**

**Cement:** — unless otherwise specified, shall be one or more of the following and shall, in each case, comply with the requirements of the relevant standard specification: —

Portland cement and rapid-hardening cement to SANS 471 Specification

Portland blast-furnace cement to SANS Specification 626.

Portland cement 15 to SANS Specification 831.

Nevertheless, no cement other than ordinary Portland cement shall be used without the approval of the Department. Cement containing more than 15% blast-furnace slag will not be permitted in columns or in members less than 50mm thick.

In addition (for the abovementioned items) where Ordinary Portland cement is used, blast-furnace slag (from separate containers) **must not** be added in any proportion whatsoever.

No mixing of two different types of cement in the same batch will be allowed, and unless otherwise approved by the Department, the same brand and type shall be used in all exposed concrete.

Lumpy cement, broken sacks and sweepings shall not be used.

Cement supplied in sacks shall be used in the order in which it was delivered and shall not be kept in storage for longer than six (6) weeks without the approval of the Department.

**Water:** — shall be clean and free from injurious amounts of acids, alkalis, sugar, organic matter and other substances that could impair the strength or durability of the concrete. If so required by the Department, the suitability of the water shall be proved by tests carried out by an approved laboratory.

**Aggregates:** — unless otherwise specified both the coarse aggregate (stone) and the fine aggregate (sand) shall comply with the requirements of SANS Specification 1083. The Contractor is to prove compliance by means of either a certificate from the supplier or by grading analysis tests.

**Admixtures:** — i.e. materials other than cement, aggregate and water shall not be used in the concrete mix without the approval of the Department. The onus for proof of satisfaction to the Department for any admixture proposed shall be with Contractor.

**Reinforcement:** — for concrete shall be as specified and shall, in each case, comply with one of the following: —

- a) Type A hot rolled mild steel bars of plain round cross section to SANS Specification 920
- b) Type C Class 2 hot rolled high yield stress Grade 1 deformed bars to SANS Specification 920
- c) Type D Grade 1 cold worked deformed bars to SANS Specification 920.
- d) Welded steel fabric to SANS Specification 1024 manufactured from plain hard-drawn mild steel wire.

A sample reinforcing rod, approximately 600mm long, may be taken from each consignment of rods of similar diameter, for testing. If any sample is found unsatisfactory the whole consignment of rods from which the sample was taken will be rejected.

No substitution of the bars specified shall be made without the prior approval of the Department.

## REINFORCEMENT

**Bending:** — Reinforcing bars shall be cut and bent according to the dimensions shown on the working drawings and in accordance with SANS Specification 82.

Except as allowed for below, all bars shall be bent cold and bending shall be done slowly, a steady even pressure being used without jerk or impact.

If approved by the Department, hot bending of bars of diameter at least 32mm shall be permitted, provided that the bars do not depend for their strength on cold working. When hot bending is approved, the bars shall be heated slowly to a cherry red heat (not above 840 C°) and after bending shall be allowed to cool slowly in air. Quenching with water shall not be permitted.

**Fixing:** — All steel reinforcement, at the time of placing of the concrete, must be free from loose rust, scale, oil and other agents which will reduce the bond between the steel and the concrete or initiate corrosion of the reinforcement. Reinforcement exposed to sea spray shall be washed down, and the formwork drained, just prior to concreting.

Reinforcement shall be positioned as shown on the working drawings or as directed by the Department and maintained in those positions within the tolerances given in the Specification for Tolerances. It shall be secured against displacement by tying at intersections with 1.6 or 1.25mm diameter annealed wire or by the use of suitable clips or, if permitted by the Department, by welding in accordance with SANS 1856. Welding will not be permitted on cold worked bars. Reinforcement shall be supported in its correct position by hangers, saddles or cover blocks and aligned by chairs and spacers all of approved design and material. Where such hangers, saddles, chairs or spacers are of steel, they will be detailed on the drawings or in bending schedules.

**Cover:** — The minimum cover of concrete over reinforcement, excluding any applied finish, shall be as shown on the working drawings, or as directed by the Department.

Cover shall be maintained by using cover blocks, which shall be made of small aggregate concrete, not mortar, using the same cement and aggregate type and ratio as the parent concrete. Alternatively, cover blocks may be of the plastic type provided that sufficient number are used to prevent their collapse, that they are of a colour compatible with that of concrete and that the prior approval of the Department is given. Metal cover blocks shall not be used.

If the concrete face has a Class F2 smooth finish or some other special finish as is described elsewhere, hemispherical or pyramid shaped concrete cover blocks shall be used unless otherwise specifically approved by the Department.

**Splicing:** — or joining of reinforcing bars shall be made only as and where shown on the working drawings or as otherwise approved. The length of the overlap in a splice shall be not less than that shown on the working drawings or forty-five times the diameter of the bar if not shown.

**Protection of Exposed Bars:** — If left exposed for future bonding of extensions to the works, reinforcement shall be protected from corrosion as specified by the Department.

**Electric Current:** — Reinforcement shall not be used as a means for conducting electric current unless there is conformity with the requirements of SANS Code of Practice 03.

**Inspection of Reinforcement:** — Reinforcement shall be subject to inspection by the Department after the Contractor is satisfied that it has been completely and correctly fixed. The amount of notice given by the Contractor to the Department before concreting commences that reinforcement is ready for his inspection shall be agreed between the Department and the Contractor at the commencement of the Contract.

## FORM WORK

**Design:** — Formwork shall be so designed and constructed by the Contractor that the concrete can be properly placed and compacted and that the required shapes, finishes, positions, levels and dimensions shown on the working drawings are maintained, subject to the tolerances given in the Specification for Tolerances. Unless otherwise directed by the Department, all formwork to beams and slabs shall be evenly cambered, unless otherwise specified or shown on the drawings, to the mid-point of the span of the member at the rate of 2mm per metre of span, all to the approval of the Department and the full cross section of the member shall be maintained after placing of concrete.

**The formwork and joints shall be capable of resisting the dead load and pressure of the wet concrete, effect of vibration equipment, wind forces and all other superimposed loads and forces it is necessary for it to carry.**

Should it be necessary to support formwork off suspended or ground bearing slabs, the manner of execution of the support shall be agreed with the Department so that overstress of, or damage to, those members is prevented.

In structures having, in whole or part, two or more reinforced concrete floors, props to the approval of the Department shall be provided under the soffits of beams and slabs of any floor which is being used to support the formwork and new concrete of the floor above. These props shall not be removed until the formwork for the new concrete has been struck.

Wedges and clamps shall be used in preference to nails. Joints in forms shall be tight enough to prevent leakage of cement paste.

**Finish:** — The quality of the finished surface of the concrete shall be as shown on the working drawings or as otherwise specified, and the type of formwork used shall be adequate to provide such finishes.

**Ties:** — The type of ties used and their position shall be such that the finish required in terms of the clause "Finish" is achieved. Tie rods are preferable to wire ties and the forms shall not be secured to the reinforcement. No corrodible tie rod or wire tie shall be allowed within the depth of concrete cover, and in the case of water-retaining or tanked structures, no removable tie rod or wire shall pass right through the concrete member.

**Preparation of Formwork:** — Surfaces that are to be in contact with fresh (wet) concrete shall be so treated by coating with a non-staining mineral oil or other approved material, or, in the case of timber forms, by thoroughly wetting surfaces so as to ensure easy release and non-adhesion to formwork during stripping. If any substance other than water is used, every precaution shall be taken to avoid contamination of the reinforcement.

**Re-use of Formwork:** — Before re-use, all formwork shall be reconditioned, and all form surfaces that are to be in contact with the concrete shall be thoroughly cleaned without unduly damaging the surfaces of the formwork.

**Openings:** — Where necessary for the proper placing of the concrete, temporary openings for cleaning, inspection or placing purposes shall be provided, taking cognisance of the finishes specified.

**Removal of Formwork:** — Formwork shall not be removed before the concrete has attained sufficient strength to support its own mass and any loads that may be imposed on it. Except where the Contractor can prove by means of cube tests, at his own expense to the satisfaction of the Department that, because of its strength development characteristics the concrete has attained sufficient strength and that shorter periods are practicable, formwork shall not be removed within shorter periods than those given in Table A. The number of cube tests required shall be equal to the number required for testing at 28 days. Where full design loads are carried, no soffit forms and props may be removed until the full design strength is attained.

**In structures having, in whole or part, two or more reinforced concrete floors, props to the approval of the Department shall be provided under the soffits of beams and slabs of any floor which is being used to support the formwork and concrete of the new floor above. These props shall not be removed until the formwork for the new concrete has been struck.**

**All formwork props shall have been removed from under beams and slabs before the commencement of construction of brickwork thereon, unless otherwise agreed with the Department. Formwork shall be removed carefully so that shock and damage to the concrete are avoided.**

**TABLE A—REMOVAL OF FORMWORK (MINIMUM TIMES IN DAYS (24 hrs))**

1	2	3	4	5	6	7	8	9	10
Type of structural member or formwork	Type of cement used								
	Portland cement and Portland cement 15			Rapid-hardening Portland cement* and rapid-hardening Portland cement 15			Portland blast-furnace cement		
	Weather								
	Hot or normal	Cool	Cold	Hot or normal	Cool	Cold	Hot or normal	Cool	Cold
(a) Beam sides, walls, and unloaded columns.	0,75	+	1,5	0,5	+	1	2	+	4
(b) Slabs with props left underneath	4	+	7	2	+	4	6	+	10
(c) Beam soffits with props left underneath, and of a ribbed floor construction	7	+	12	3	+	5	10	+	17
(d) Slab props including cantilevers	10	+	17	5	+	9	10	+	17
(e) Beam props including cantilevers	14	+	21	7	+	12	14	+	21

\* Shorter periods may be used for sections of thickness 300mm or more.

+ In cool weather, stripping times shall be determined by interpolation between the periods specified for normal and cold weather.

## CONCRETE QUALITY

**General:** — Concrete shall comply with the requirements for “Strength Concrete” as specified. The type of aggregate and cement, and their sources of supply, shall not be altered during the currency of the Contract without the prior written agreement of or instruction from the Department.

**Strength Concrete:** — The Contractor shall be responsible for the design of the concrete mix and for the proportions of its constituent materials, measured as described, necessary to produce concrete that complies with the requirements specified by the Department thus:-

- a) For each section of the work, the class of concrete and position on the Works, as shown on the drawings:
- b) For each class of concrete:
  - i) the minimum compressive strength at 28 days as shown in Table B
  - ii) the maximum nominal size of coarse aggregate as shown in Table B
  - iii) the slump as shown in Table D
  - iv) the maximum cement/water ratios as shown in Table C.

At the earliest possible stage in the Contract, at least 35 (thirty-five) days before the first concrete is placed, or as otherwise agreed with the Department, the Contractor shall submit samples of the aggregates which he proposes to use on the works to the Department.

The Contractor, under the supervision of the Department, shall prepare trial mixes using these same aggregates, to establish his ability to achieve the strengths specified, and satisfactory workability of the concrete. The Contractor shall provide all necessary equipment for, and carry out tests of moisture content of aggregates at the time of preparation of the trial mixes, tests of the slump of the mixes and at the same time cast not less than six standard cubes from each mix for compression tests.

The target strengths to be achieved under trial mix procedure shall exceed the specified minimum compressive strengths by a factor which is acceptable to the Department.

The Contractor shall also, when required to do so, prove the concrete yield obtained per sack of cement by suitable measurement of batches after placing.

No structural concrete work shall be poured until trial mix procedure has been properly followed and satisfactory 7 (seven) day compression strengths achieved. (Equivalent 28 (twenty-eight) day strength =  $4/3 \times 7$  day strength + 5 MPA).

Thereafter, the materials, preparation of and method of manufacture of subsequent concrete shall conform accurately to those used in the trial mixes. If materials vary in the course of the Contract from the samples first submitted, the Contractor shall, on the instructions of the Department, repeat the trial mix procedure and vary the proportions to attain the specified qualities.

The costs of preparation of trial mixes, with tests associated with them, shall be borne by the Contractor and must be allowed for in the pricing of the concrete.

A valid concrete test result shall be the average obtained from the testing of three test cubes of concrete in accordance with SANS Method 863.

**TABLE B—CONCRETE CLASSES: STRENGTH, AGGREGATE SIZE AND COMPACTION**

Class	Minimum 28 day cube compressive strength (MPA)	Maximum nominal size of coarse aggregate (mm)	Method of Compaction
50/26 50/19	50	26,5 19,0	Mechanical (see clause "Compaction")
45/26 45/19	45	26,5 19,0	
40/26 40/19	40	26,5 19,0	
35/26 35/19	35	26,5 19,0	
30/37 30/26 30/19 30/13	30	37,5 26,5 19,0 13,2	
25/37 25/26 25/19 25/13	25	37,5 26,5 19,0 13,2	
20/37 20/26 20/19 20/13	20	37,5 26,5 19,0 13,2	
15/37 15/26 15/19	15	37,5 26,5 19,0	
10/37 10/26 10/19	10	37,5 26,5 19,0	

**The Contractor shall be deemed to have satisfied himself, before tendering, of his ability to produce concrete of the required quality with available materials conforming to the specification, and mixed in the proportions on which his tendered rates are based. Any subsequent alterations of the mix proportions to meet these requirements shall be at the Contractors expense.**

If, in the opinion of the Department, the concrete proportions are likely to lead to excessive segregation, honeycombing, bleeding or shrinkage cracking, he shall have the right to order the Contractor to amend the proportions at the Contractors own cost.

**TABLE C — MAXIMUM CEMENT / WATER RATIOS FOR DIFFERENT CONDITIONS OF EXPOSURE**

1	2	3	4	5
Type of structure	Exposure Conditions			
	Mild	Moderate	Severe	Very Severe
Thin sections; reinforced piles; all sections with less than 25mm cover reinforcement.	*	0.53	0.48	0.40
Moderate sections; retaining walls, piers, beams	*	*	0.53	0.43
Exterior portions of mass concrete	*	*	0.53	0.43
Concrete slabs laid on ground	*	0.53	0.48	*
Concrete protected from the weather, inside buildings, or in ground below frost level	*	*		*

\* In these cases the ratio will be based on the strength for the workability desired.

**Consistency and Workability:** — Slump measurements taken in accordance with SANS Method 862 shall be within the limits given in Table D appropriate to the type of construction, or within such other limits as are laid down by the Department.

The concrete shall be of such workability that it can readily be compacted into the corners of the formwork and around reinforcement without segregation of the materials or excessive "bleeding" of free water at the surface.

**TABLE D—SLUMP LIMITS**

1	2	3	4	5
Type of construction	Slump, mm			
	Non-mechanical compaction		Mechanical compaction	
	Max.	mm.	Max.	mm.
Paving and pre-cast units	75	50	50	30
Heavy mass construction	75	25	50	20
Reinforcing foundation walls and footings	125	50	80	30
Slabs, beams, columns, and reinforced walls	125	50	80	30
Slabs and industrial floors on ground	125	75	80	50
Plain footings, caissons, and substructure walls	100	25	60	20



**Ready-mixed Concrete:** — This may be used subject to the approval of the Department. This approval may be withdrawn on 24 (twenty-four) hours notice to the Contractor if at any time if documents do not conform to the requirements of this Specification. Ready-mixed concrete shall also comply with the requirements of SANS Specification 878. Details of the mix ingredients and tests thereon, the mix designs and relevant tests shall be forwarded to the Department for his approval. Ready-mixed concrete shall be cast within 3 (three) hours of placing all the ingredients in the mixing plant. Ready-mixed concrete shall be subject to the same sampling and testing at the site as that mixed on site and only the results of these tests will be regarded as valid.

## **TRANSPORTATION AND PLACING**

**Transportation:** — Unless agreed with the Department, concrete shall not be pumped into its final position.

The Contractor must provide suitable runways for the distribution of concrete to the various parts of the structure and these must be solidly constructed in such a manner so as to obviate the possibility of interference with the steel reinforcement.

**Placing:** — Unless otherwise agreed with the Department, the Contractor shall give the Department at least 24 (twenty-four) hours notice of his intention to place concrete. No concrete shall be placed without the prior approval of the Department and without a representative of the Department being present. Concrete shall be placed within one hour of the time of its discharge from the mixer. Concrete shall not be re-tempered by the addition of water or other material. The forms to be filled shall be clean internally. All excavations and other surfaces of an absorbent nature that are to come into contact with the concrete shall be dampened with water. There shall be no free-water on the surface against which concrete is to be placed. Wherever possible, the concrete shall be deposited directly into its final position to avoid segregation and displacement of reinforcement and other items that are to be embedded. Deposited concrete shall not be so worked (whether by means of vibrators or otherwise) as to cause it to flow laterally in such a way that segregation occurs. Where possible, the concrete shall be brought up in horizontal layers of compacted thickness not exceeding 450mm and heaping shall be avoided.

Where a chute is used to convey the concrete, its slope shall be such as will not cause segregation, and a suitable spout or baffles shall be provided for the discharge of the concrete. Concrete shall not be allowed to fall freely through a height of more than 3 m, unless otherwise approved. Concrete shall not be placed during periods of heavy or prolonged rainfall.

**Compaction:** — The concrete shall be fully compacted by approved means during and immediately after placing. It shall be thoroughly worked against the formwork and around reinforcement and other embedded fittings without displacing them.

The concrete shall be free of honeycombing and planes of weakness. Successive layers of the same lift shall be thoroughly worked together.

The method of compaction shall be as specified. Mechanical compaction shall be undertaken by means of high frequency immersion vibrators of minimum frequency of 6000 vibrations per minute and a maximum acceleration of 4 g when under load, being capable of visibly affecting concrete over a radius of at least 500mm. Vibrators shall be inserted at about 500mm centres and withdrawn slowly to close the hole formed by the vibrator.

Non-mechanical compaction shall be undertaken by means of spading, rodding or forking.

Over-compaction resulting in segregation, surface laitance or leakage (or any combination of these) shall not be allowed.

Vibrators shall not be allowed to come within 30mm of the face of the formwork in the case of formed finishes, nor within 75mm of the face of the formwork in the case of special finishes.

**Construction Joints:** — Concreting shall be carried out continuously up to the construction joints shown on the working drawings or as prior approved by the Department, except that if, because of an emergency (such as a breakdown of the mixing plant or the occurrence of unsuitable weather), concreting has to be interrupted a construction joint shall be formed at the place of stoppage in conformity with the detail shown on the drawings for construction joints generally and in the manner which will least impair the durability, appearance and proper functioning of the concrete. The Department shall approve the method adopted for forming the construction joints, one of the following methods being adopted, as relevant: —

- a) Construction joints when concrete is not more than 24h old: —The surface of the concrete shall be brushed with a steel wire brush before new mortar and concrete are placed as specified in (b) below.
- b) Construction joints when concrete is more than 24h but not more than 3 days old: — The surface of the concrete shall be sand-blasted or chipped with a light hammer, swept clean, and thoroughly wetted and covered with a 10mm thick layer of mortar composed of cement and sand mixed in the same ratio as the cement and sand in the concrete mixture. This mortar shall be freshly mixed and placed immediately before the new concrete is placed.
- c) Construction joints when concrete is more than 3 days old: — The procedure specified in (b) above shall be followed, except that the old surface shall be prepared and kept continuously wet for at least 24h before the mortar and new concrete are placed.
- d) Construction joints at tops of columns: — The procedure for brushing or cleaning specified in (a) or (b) above, as applicable, shall be followed before the steel reinforcement of the slab or floor to be cast on the columns is placed in position.

**Curing and protection:** — Formwork shall be retained in position for the appropriate period given in the clause "Removal of Formwork" and shall be considered as providing adequate curing on those surfaces for that period. Should this curing period still be less than that specified, alternatively, should surfaces not be cured by forms then all such concrete shall immediately be protected from contamination and loss of moisture by one or more of the following methods: —

- a) ponding the exposed surfaces by means of water, except where atmospheric temperatures are low, i.e., less than 2°C,
- b) covering the concrete with sand, or mats made of a moisture-retaining material, and keeping the covering continuously wet;
- c) continuous spraying of the exposed surfaces with water;
- d) covering with a waterproof or plastic sheeting firmly anchored at the edges,
- e) using a prior approved curing compound applied in accordance with the manufacturer's instructions, provided that in this case, the presence of the compound is not detrimental to subsequently applied finishes.

**Whatever method of curing is adopted, its application shall not cause staining, contamination, or marring of the surface of the concrete.**

The curing period shall be at least 5 days for concrete made with Portland cement, at least 2 days for that made with rapid-hardening Portland cement and at least 7 days if Portland blast-furnace cement is used. When atmospheric temperatures are below 5° C these minimum curing periods shall be extended by 72, 36 and 72 hours respectively.

## CONSTRUCTION DETAILS

**Holes, Chases and Fixing Blocks:** — No holes or chases other than those shown on the working drawings or approved by the Department shall be cut or otherwise formed in the concrete. No blocks for the attachment of fixtures shall be embedded in the concrete unless approved by the Department.

**Pipes and Conduits:** — No pipes or conduits other than those shown on the working drawings shall be embedded in the concrete without the approval of the Department. The clear space between any such pipes and the clear distance between such-a pipe and any reinforcement shall be at least 25mm or the maximum size of the coarse aggregate plus 5mm, whichever is greater. The amount of concrete cover over pipes and fittings shall be at least 25mm.

**Honeycombing and Other Defects:** — After removal of the forms, if the concrete shows any defect in terms of the Specification for Finishes for that concrete, the Contractor shall, on the instructions of the Department, make good the defect at his own cost, by either removing and replacing the defective concrete, or by patching, all as approved by the Department and to the standard of finish required. No remedial work shall be carried out by the Contractor without the prior approval of the Department.

**Building on Concrete Footings:** — No structural load shall be imposed on concrete footings until at least three days after depositing the concrete in the case of mass concrete footings and after seven days in the case of reinforced concrete footings, or as may be directed by the Department.

**RECORDS:** —The Contractor shall maintain written records indicating: —

- a) the date on which each section was concreted, the time taken to place the concrete, and the position of that section in the Works and its construction joints;
- b) daily weather conditions with temperatures being recorded by maximum and minimum thermometers and
- c) The nature of samples and dates on which they were taken. In the case of cubes these shall also state the identification marks, test results and age, minimum strength required and position of parent concrete.

## TESTS

**Compressive Strength:** — During the time in which each class of concrete, having a specified 28 day compressive strength equal to or greater than 20 MPA, is being placed, samples of the concrete shall be taken from the point of deposit at the rate of at least one sample from each 5m<sup>3</sup> of concrete placed in columns, and from each 30 m<sup>3</sup> or part thereof of concrete placed elsewhere, but in either case, nevertheless at least once a week. A group of at least three 150mm test cubes shall be made from each sample for testing at 28 days age. If the Contractor plans to execute further work which relies on previously completed work for support but for which the results of 28 day tests are not available, he is to prove the strength of that concrete by taking and testing at 7 days age an equal number of test cubes to that which is to be tested at 28 days age, prior to the commencement of the planned further work.

The cost of the necessary extra test cubes and testing will be for the Contractor's account. Each group of test cubes shall be deemed to represent the whole of the concrete from which sample was taken and shall be identifiable with the concrete.

The Contractor shall provide, at his own expense, sufficient moulds to keep pace with the rate of concreting. He shall also perform all tasks in respect of compressive strength testing except the actual crushing.

If ready-mixed concrete is used, site testing as specified herein shall still be undertaken, and only the results of such site testing shall be considered in determining the acceptance or otherwise of the concrete.

**Grading Analysis:** — If so directed by the Department, a grading analysis shall be made for each 40m<sup>3</sup> of fine aggregate to be used and for each 75 m<sup>3</sup> of the coarse aggregate to be used. The analysis shall be made by the method given in SANS Specification 1083.

**Determination of Consistency:** — When the slump test is used to measure the consistency of the concrete mix, it shall be carried out by the method given in SANS Method 862 with samples taken in accordance with SANS Method 861.

**Costs of Tests:** — to concrete, trial mixes, cement, aggregates, water and reinforcing steel shall be borne by the Contractor. The Contractor shall also bear the costs of any other tests (including load tests), which are required as a result of failure on the part of the Contractor to meet the requirements of the Specification.

An item against which the Contractor may allow for all costs in connection with tests on concrete cubes has been included elsewhere in these Bills of Quantities.

**Testing Authority:** — The crushing of cubes and testing of other samples except in the case of the clause "Determination of Consistency" shall be undertaken by an independent Authority as approved by the Department. The Contractor shall arrange with the Authority that copies of the results of all tests are sent direct to the Department.

**ACCEPTANCE CRITERIA FOR STRENGTH OF CONCRETE:** — Should any test result obtained from a set of three test cubes of concrete of a specific grade that have been made and tested as specified show that the strength is more than 3 MPA below the specified strength, the concrete represented by such results shall be deemed to have failed to meet the Specification. Should an examination carried out in terms of the clause "Procedure in the event of failure" satisfy the Department that the structural adequacy and durability of that part of the structure where the concrete concerned has been used, is not impaired, the concrete will be acceptable. The Contractor will however be required to review the mix design and any other factors influencing the quality to ensure that further concrete is acceptable.

Where three or more consecutive valid test results (i.e., results of sets of three test cubes that have been made and tested as specified) become available, the following criteria shall apply: —

- a) The average of any three consecutive valid test results obtained on concrete of a specific grade must exceed the specified strength by at least 2 MPA.
- a) If the criterion given in (a) above is not met but the average is at least equal to the specified strength, the concrete cast will be acceptable but the Contractor will be required to adjust the mix design and standard of control.
- b) Should the average result be less than the specified strength, an examination must be carried out in terms of the clause "Procedure in the event of failure" on that part of the structure in which concrete represented by the result has been used.

Alternatively, should a concreting operation be of such size or the testing be of such frequency that thirty or more valid test results (i.e., results of sets of three test cubes that have been made and tested as specified) become available within three months, the Contractor may choose, subject to the approval of the Department, to have the results assessed statistically. In such a case, the average of all the test results of a specific trade of concrete at *any stage* must exceed the specified strength by at least 1,7 standard deviations, failing which the Contractor will be required to adjust the mix design to ensure compliance with this criterion.

**PROCEDURE IN THE EVENT OF FAILURE:** — If after the evaluation of the test results in terms of the clause "Acceptance criteria for strength concrete" an examination of the concrete in the structure is necessary, one or more of the following procedures in the sequence given may be adopted at the discretion of the Department, and for the account of the Contractor, to determine the acceptability or otherwise of the concrete in that particular part of the structure: —

- a) An assessment of the stress level in the structure concerned in relation to the test result obtained.
- b) Non-destructive testing, subject to the availability of similar concrete of proven acceptable quality in comparable members in the same construction as a reference.
- c) The testing of drilled cores in accordance with the relevant SANS Standard Methods.
- d) Full scale load tests in accordance with Section 6 of SANS Code of Practice 0100: Part II.

Where load tests are, in the opinion of the Department, unsuitable or impracticable, and if an examination carried out in terms of the above does not show the concrete strength to be acceptable, or if a tested portion of the structure fails to pass the tests, the Contractor shall, on the instructions of the Department, replace or strengthen by approved means: —

- a) each portion that failed or contains concrete that failed, as relevant, and
- b) any other portion, irrespective of strength, the functional purpose of which is affected by the portion or concrete referred to in (a) above.

**NON-STRUCTURAL PRESCRIBED MIX CONCRETE:** — Concrete for non-structural purposes shall be "Prescribed mix concrete" produced in accordance with the requirements indicated in the table below, and the Contractor is also referred to the foregoing Preambles insofar as they apply: —

**TABLE E – PRESCRIBED MIX CONCRETE FOR NON-STRUCTURAL PURPOSES**

Class of Concrete	Estimated minimum compressive strength in MPA at 28 days	Maximum nominal size of coarse aggregate in mm	Proportion of Constituents		
			Cement (Parts)	Fine Aggregate (Parts)	Coarse Aggregate (Parts)
A	1	37,5	1	2	3
B	15	19,0	1	2	3
C	20	19,0	1	2 ½	3 ½

Cement and aggregates shall be mixed by volume and the contents of a 50 kg sack of cement shall be taken to be 0.033 m<sup>3</sup>

**The cement / water ratios and the maximum and minimum slumps for concrete shall be as previously listed in Tables C and D.**

The Department shall have the right to vary the proportions of the constituents in any of the prescribed mixes as necessary to obtain the required compressive strength, optimum density and workability of the concrete. Any variation in the rates of the concrete will only be considered if the proportion of cement to the total volume of aggregate, in each case, is varied from that Specified.

Notwithstanding any requirements previously described, the Department may permit certain items of non-structural concrete in small quantities to be mixed by hand.

Where concrete is mixed by hand, the coarse aggregate shall be spread out on a timber, concrete or metal platform in a flat heap, the sand-then spread evenly over the heap, followed by the cement also spread evenly, and the whole thoroughly mixed by shovelling from the centre to the side to form a ring, then back to the centre and again to the side. Water shall then be poured into the ring and the materials mixed into it and then back into the ring, the remainder of the water then added slowly as materials are mixed into it. Mixing shall continue until the colour

is uniform and the consistency the same throughout the pile.

**“NO-FINES” CONCRETE:** — shall consist of one part of cement to eight parts of 19mm aggregate (1:8— 19mm stone) with a water/cement ratio of approximately 0, 46. This water/cement ratio may be varied slightly to suit conditions on approval by the Department.

The quantity of water used shall be just sufficient to form a smooth grout, which shall completely coat every particle of aggregate, and also to ensure that the grout is just wet enough to form a small fillet at each point of contact between the stones. ‘No-fines’ concrete mixed with excessive water, which results in a thin grout which drops off the aggregate, will be rejected.

**“No-fines” concrete shall be placed in its final position within 20 minutes of mixing and shall be placed in continuous horizontal layers. “No-fines” concrete shall be spade worked sufficiently to ensure that it fills the forms but vibrating, tampering or ramming will not be permitted.**

**BREEZE CONCRETE:** — shall consists of one part cement to eight parts clean dry furnace ashes, the ashes being free from all coal or other foreign matter and graded up to particles which will pass a 26. 5mm ring from a minimum which passes a 4.75mm mesh. The finer materials from the screening to be first mixed with the cement into the mortar and the ashes added afterwards and thoroughly incorporated. The breeze concrete is to be mixed in batches not exceeding 0, 1 in 3 and each batch is to be immediately placed in position. The ashes for breeze concrete are to be obtained in an unscreened state and are to be kept dry so that sufficient fine material will be obtained from the screening to make the mortar.

#### **FINISHES TO IN-SITU CONCRETE**

**Formed Finishes:** — are the concrete surface finishes developed using formwork and whose standard of finish in each class shall be as described.

The Department shall be informed by the Contractor of any defect in terms of this Specification, and no remedial work shall be carried out by the Contractor without the prior approval of the Department. Any defect shall be made good at the Contractor’s expense by either removing and replacing the defective concrete, or, in certain instances only, by patching, all as approved by the Department and to the standard of finish required.

**Class F1 Ordinary Finish:** — Formwork panels shall be of such quality that upon removal, the concrete is true and even, free from fins and recesses greater than 5mm size, honeycombing, large air holes and the like. Bolt holes shall be filled if so required by the Department.

**Class F2 Smooth Finish:** —This class of finish requires a high standard of concrete work, formwork and technique.

Concrete placed in any one structure to give this finish shall be made from cement and aggregates from the same source, and similarly, the grading of the aggregate shall be kept constant.

Formwork shall be metal or wrot timber in a new condition designed and constructed to suit the particular job in hand and with shutter bolts and joints between panes in a pattern approved by the Department. Joints between panels shall be watertight, but the use of sealing tape, which marks the concrete, shall not be permitted.

Construction joints shall be in the position and of the detail shown upon the working drawings. Should the Contractor wish to incorporate further construction joints or amend the position of those shown to suit his own requirements or technique, this may be allowed provided that all design considerations are met, that the prior approval of the Department is obtained and that any extra costs are borne by the Contractor. In

the case of horizontal construction joints, the top edge of the concrete on the Class F2 smooth finish side is to be struck true and level with a trowel.

Special care shall be taken to ensure that forms are clean of all pieces of tying wire, nails and other debris at the time of concreting.

The standard of finish shall be such that, upon removal of the formwork, no further treatment, other than treatment of bolt holes if required shall be found necessary to provide a straight, smooth and uniform finish of good quality and consistent colour and texture, free of all honeycombing and large air holes.

**UNFORMED FINISHES:** — are those concrete surface finishes developed without the use of formwork -

**Class U1 Ordinary Finish:** — Immediately after placing, the concrete shall be finished by screeding with the edge of a wooden board of straight and true line and working between guides set accurately to level. No mortar shall be added and noticeable surface irregularities caused by the displacement of coarse aggregate shall be made good by re-screeding after removing or tamping down the offending aggregate.

**Class U2 Wood Float Finish:** — The concrete surface shall first be brought to the standard Class U1 ordinary finish and then floated with a wood float. Floating shall be started as soon as the screeded finish is stiffened sufficiently and the bleed water has evaporated or been removed and it shall be the minimum necessary to produce a surface free from screed marks and uniform in texture.

**Class U3 Steel Trowel Finish:** — The concrete surface shall first be brought to the standard of Class U2 wood float finish with floating being continued until a small amount of mortar without excess water is brought to the surface and then when the floated surface has hardened sufficiently to prevent any more excess fine material from being drawn to the surface, troweling with a steel trowel. Troweling shall be performed with firm pressure such as will flatten the sandy texture of the floated surface and produce a dense uniform surface free from blemishes and trowel marks. Gradual surface irregularities shall not exceed 5mm over any 3m. The sprinkling of sand and/or neat cement on the surface to absorb excess moisture shall not be permitted.

**Class U4 Power Float Finish:** — The concrete surface shall first be brought to the standard of Class U1 ordinary finish using wooden screeding boards or steel rollers. After evaporation or removal of all bleed water and immediately the concrete is stiff enough to support the machine the surface shall be closed with a mechanical power float and then finished with a mechanical power trowel. The texture of the finished surface shall be either non-slip or polished as shown on the drawings. Irregularities shall be of long wavelength not exceeding a curvature of 2mm in 600mm. Under no circumstances shall sand and/or neat cement be sprinkled over the surface either to absorb excess moisture or to fill surface blemishes or irregularities. Power floats and trowels shall be operated by skilled operators.

**TOLERANCES:** — Clause 6 of SANS Specification 1200G refers. Unless otherwise agreed by the Department, 'Degree of Accuracy' shall apply to all concrete work and steel reinforcing.

**SUPERVISION:** — The construction of all concrete work shall, at all times, be under the supervision of a competent person experienced in the production and placing of high-grade concrete. He shall personally supervise all work relating to the concrete construction and pay special regard to: —

- a) The quality, testing and mixing of materials.
- b) The finish, stability and cleanliness of formwork and excavations.
- c) The cleanliness, correct positioning and maintenance in position of steel reinforcement.
- d) The transporting, placing, compacting and curing of the concrete. The construction and stripping of formwork.
- e) The production of samples, test cubes, slump and other tests.

## GENERAL

**Measurement and Payment:** — The provisions of Clause 8 of SANS Specification 1200G will NOT apply and the system of measurement that is adopted in these Bills of Quantities is the only system of measurement that will be recognised in this Contract.

No deductions have been made for pipes not exceeding 200mm internal diameter, reinforcement, conduits, structural steel, bolts and the like.

**Rates for Concrete:** — are to include for mixing, handling and depositing (by hoisting or lowering) in the forms. Rates for items of reinforced concrete are to include for thoroughly working and packing around the steel reinforcement. All reinforcement, except where otherwise described, has been measured separately.

Rates for concrete surface beds are to include for laying in suitable size panels not exceeding 20m<sup>2</sup> or as may be directed. The Contractor is to allow in his pricing of the concrete for all construction joints.

**Striking off and Curing:** — of concrete slabs and surface beds has been measured separately. The rates for all other items of concrete including stairs and landings and concrete bindings, are, except where otherwise described, to include for all necessary striking off of surfaces and curing.

The rates for items of striking off and curing top surfaces of concrete shall, unless otherwise described, apply to level surfaces.

Where exposed sloping surfaces of concrete do not exceed the limits of pitches laid down for the measurement of back shuttering, the striking off and curing of the sloping top surfaces has been measured in the case of concrete slabs and surface beds, and in other-cases provision has been made for dressing the concrete surfaces to splay.

Where items of striking off and curing are described as to falls or ramps this shall include cross-falls, etc.

The rates for striking off and curing of surface beds formed in panels must also include for all necessary temporary formwork in forming the panels.

**Rates for Formwork:** — are to be for use and waste only (except where described as "permanent") and are to include for fitting together in the required forms, propping, strutting, shoring, wedging, plumbing and fixing to true angles and surfaces, cambering formwork to slabs and beams where required, preparation and treatment of surfaces as necessary to ensure easy release during stripping, reconditioning as necessary before re-use, providing necessary temporary openings for the purpose of cleaning, inspection and placing of concrete, and for all straight cutting, splayed edges, intersections, notching and narrow widths, including waste and properly fitting at intersections, maintaining in position for periods as directed and for striking and removing.

Rates for items of formwork to soffits of slabs and to sides and soffits of beams, lintels and the like are to include for horsing exceeding 1,5m and not exceeding 4,5m high unless otherwise stated in the items.

Rates for formwork to soffits of stairs and landings are to include for all necessary horsing.



**Rates for Permanent Formwork:** — are to include for leaving in all formwork, props, etc. as permanent formwork shall be regarded as not being recoverable.

**Rates for Steel Fabric Reinforcement:** — are to include for lapping the reinforcement at all edges, as specified, for all cutting and waste, notching, etc. bending where required, wiring together at laps and for maintaining in position during placing of concrete.

**Rates for Steel Bar Reinforcement:** — are to include for all cutting, bending, hooked ends, wiring together at passing points, hoisting or lowering to the required levels, fixing in accordance with the detail drawings, cover blocks and maintaining in position during placing of concrete. The mass of mild and high yield stress steel bars shall be based on the values shown in Table E1 of SANS Specification 920— Appendix E (with no allowance being made for rolling margin and waste).

The mass of the binding wire required for fastening the reinforcement together is not included in the mass of the reinforcement. Provision for the cost of this wire shall be deemed to have been made by the Contractor in calculating the unit rate for the net mass (i.e. excluding the mass of binding wire) of the reinforcement.

#### 4. ROOF COVERINGS

**"CHROMODEK" ROOFING SHEETS:** - Shall be the secret fixed type, supplied with all fittings in full-length sheets in the profile and colour as specified. Sheets shall be a minimum of .58mm and maximum of .8mm thickness. When .58 thick sheets are used, purlin spacing shall be a maximum of 1.2mtr $\phi$  and maximum 1.5mtr $\phi$  for .8 thickness. Sheets shall leave the factory in the specified colour and any scratches etc., due to handling are to be 'touched up' on site after installation. All fixings, valleys, capping's and securing clips shall be to manufacturers' recommendations and no variations shall be accepted without prior approval from the department. 0,58mm thick roof sheeting for purlins up to 1,2m spacing and 0,8mm thick roof sheeting for purlins exceeding 1,2m – 1,5m spacing. In area's up to 30Km from the coast, metal roof sheeting to be 0,58mm thick with special corrosion protection as supplied in " Global- Duro" roofing sheets. All other area's to be 0,58mm as "Global-Tech corrosion protection. 0,58mm "Klip Lock 700 " or "Craflock " and 0,8mm " Brownbuilt ". (0,8mm is recommended for high rainfall and snow fall area's due to deeper trough)

**RATES:** — for roof coverings, are to include for all necessary half tiles at verges and for all square cutting and waste at verges, abutments, and top and bottom edges and to both sides of ridges. Rates for cappings, etc. are to include for all short lengths, cutting, waste and fitting at intersections. All measurements are nett. No allowances have been made for overlaps.

**Rates for roofing, cladding and fittings are to include for: —**

- a) Fixing as described.
- b) Bedding washers in an approved mastic sealing compound
- c) Coating projecting ends of hook bolts and nuts with bitumen after fixing
- d) All square notches, square cutting and waste, laps, fitting and drilling. All measurements are nett. No allowance has been made for laps.

#### 5. CARPENTRY AND JOINERY

**NOMENCLATURE OF TIMBERS:** — Timber described as "softwood" is to be South African softwood of the relevant type, grade, etc. as specified. The names used for imported timbers are those given in Supplement No. 1 to SANS Code of Practice 12 under "Nomenclature of Standard Trade Names of Imported Commercial Timbers used in South Africa" and the Contractor is referred thereto.

**TIMBER SIZES:** — Sawn and wrot timbers are to be of the full sizes stated. Where "out of" sizes have been shown for wrot timbers on the drawings, an allowance of 4mm for each wrot face off the sizes shown has been made. Doors, fanlight, sashes, manufactured boarding, plywood,

veneers, etc. must be of the full thickness specified. Where doors, door frames, fanlights and frames; sashes, windows and frames are measured as numbered items, the overall sizes are given to the nearest 10mm. Tolerances in nominal dimensions for imported timber shall not exceed the following:

a) For nominal dimensions up to 76mm the actual dimension may be 2.5mm under for each 25mm

b) For nominal dimensions 76mm and over the actual dimension may be 1.6mm under for each 25mm.

**STORAGE OF TIMBERS:** — Timber delivered to the site is to be properly stacked above ground, either on bearers or platforms under cover and protected from inclement weather.

**ORDERS:** — for timber, are to be placed immediately after the Contract is signed, as the Contractor will be held responsible for any delay in delivery.

**PRE-TREATMENT OF TIMBERS:** — All permanent timbers installed in the buildings are to be treated against borer, cryptoterms, termites, and all wood destroying agencies with an approved preventative, all in accordance with SANS Code of Practice 05.

Any surface subsequently exposed by cutting or planing must be touched up with the same preservative solution and rates are to include for all preservative required.

The Contractor is to obtain a certificate from the merchants supplying the treated timber, to the effect that the timber has been treated against wood destroying agencies. The Department has the right to remove samples of the treated timber to have tests carried out by the Division of Entomology or any other Authority.

Temporary timber on the site, e.g. shuttering props, etc. must be free from wood destroying agencies. Any timber so affected is to be immediately removed from the site.

Materials which do not comply with the above requirements or are in any way damaged or discoloured by the pre-treatment must be replaced by the Contractor at his own expense, if so directed by the Department.

**STRESS GRADING OF SOFTWOOD TIMBER:** —The Mechanical Stress Grading of Softwood Timber (Flexural Method) shall be in accordance with SANS Code of Practice 0149.

**STRUCTURAL TIMBER:** — for carpentry is to be South African softwood in accordance with SANS Specification 563 and, unless otherwise specified, of Stress Grade V4, and branded accordingly. If it is necessary to use sizes that have to be re-sawn, these shall be re-graded and stamped with the respective SANS stress grade mark. Unless this is done, timber which is re-sawn is no longer considered as complying with the specification and shall on no account be used.

**BRANDERING / BATTENS:** — of cross-sectional size 50 x 50mm and under shall be South African softwood in accordance with SANS Specification 653 and branded accordingly.

**JOINERY AND SHELVING:** — Softwood for joinery and shelving shall be South African softwood (S. A. Pine) in accordance with SANS Specification 1359 and branded accordingly. All timber for joinery is to be air or kiln-dried to a moisture content of approximately 12 %.

Shelving to linen stores to be timber slatted with wall bands or free standing units as specified.

**STRUCTURAL LAMINATED TIMBERS:** — are to be of the sizes detailed, wrot on all faces and are to be manufactured by an experienced fabricator to the approval of the Department. Adhesives used must meet the requirements of the current SANS 1204 for external use.

The surface appearance of members shall be Class C (Constructional) or Class S (Selected) as defined in SANS Specification 876 and as stated in the items

**FINGER-JOINTED TIMBERS:** — are to be manufactured in accordance with SANS Code of Practice 096— "The manufacture of finger-jointed structural timber".

Contractors wishing to use finger-jointed timber must supply a guarantee that the finger jointing complies with the above Code of Practice and that the glue is suitable for the particular member.

**JOINTING OF PURLINS, FASCIAS, RAILS, BEAMS, ETC.:** —shall, unless otherwise detailed, be as follows: —

Purlins, slating battens, etc. of cross-sectional size 50 x 76mm and under shall be jointed over the rafter. Larger sized purlins may be dealt with in the same way or by using some other suitable, recognised method. All purlins and battens shall be fixed to the supporting rafter by at least one nail skew driven from the direction of the ridge. Where the purlin or batten is fixed at more than 900mm centres, at least two nails shall be used at every fixing point.

Fascias shall be jointed over rafters.

Beams, rails, etc. shall be jointed over a support or at 1/5th span with a recognised joint using bolts, etc.

Roof and floor plates are to be halved at joints, angles and intersections and nailed together.

Floor joists and bearers are to have splayed heading joints nailed together and staggered to occur over bearers and sleeper piers respectively.

Sawn brandering is to be butt-jointed at heading joints and angles and where wrot, is to have splayed heading joints and mitred angles over all point of support.

**HARD WOODS:** — (Red Meranti and Sapele) are to be best quality, specially selected and well seasoned, free from all sapwood to the approval of the Department and are to be well kiln-dried.

Red Meranti is to be even in grain and colour, selected from "Standard and Better" grade from Malaysia. Sapele is to be *Entaindrophragma cylindrium* of F..A.S. grade.

## 6. SCHEDULE OF RATES

### 6.1 ITEMS AND PRICING

The Department reserves the right to place an order for any quantities of items included in the Schedules. The Schedule of Rates must also not be assumed to include and describe every detail of the supply requirement, but must be taken and read in conjunction with the other parts of the document. Thus the supplier shall not have claim for further payment in respect of any order which may be described or implied in the contract, although apparently no corresponding items are given in the Schedule of Rates. The supplier shall be deemed to have satisfied himself before quoting as to the correctness and sufficiency of his quote for the contract and of the rates and prices stated in the Schedule of Rates.

### 6.2 TAX AND DUTIES

Prices, quoted and paid, must include all customs, excise and import duties, and any other tariffs or taxes levied by the government or statutory body having jurisdiction on the goods provided under this contract, **including Value Added Tax (applicable to the current rate).**

### 6.3 RATES

Except where provision is made in the Schedule of Rates, the rates and prices inserted shall be the full rates and prices for the service delivered described under the respective items and shall cover all labor, transport, overhead charges and profit, etc. as well as the general liabilities, obligations and risks arising out of the Conditions of Contract, the overhead charges and profit being spread proportionately over the rates of the relative items in the Schedule of Rates.

For all floor coverings are to include for laying as described, for cleaning down backing surfaces before laying and for all square and raking cutting and waste and fitting, fair edges where no skirting occur, protection from injury and for cleaning down etc. as described at completion.

Rates for all finings are to include for lying as described, cleaning down backing surfaces before laying, sizing backing surfaces if necessary to ensure proper adhesion, all square and raking cutting and waste and fitting, fair etc. as described at completion.

Rates for skirting, stair nosing, edging strips, etc. are to include for fixing as described, cutting to lengths, fitting at intersections, mitres, ends, etc. and for cleaning down at completion.

**SCHEDULE OF RATES**

**WORK TO BE DONE AND SCHEDULE OF PRICES:**

Item No	Description	Unit	Qty	Rate	Total
<b><u>BILL NO. 1</u></b>	<b><u>EARTHWORKS</u></b>  For Preambles see " Standard Preambles to all Trades - W20"- 1986", including Supplementary Preambles to the standard Preambles				
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>  ALL MATERIALS TO BECOME THE PROPERTY OF THE CONTRACTOR:  Old material for alterations, except where described to be reused or handed over become the property of the Contractor who must allow credit for same in final summary  OLD MATERIAL TO BE CARTED AWAY  Old material from the alteration, except where described to be reused or handed over, as well as all rubbish, etc. must be regularly carted from site and not be allowed to accumulate on the site.  OLD MATERIAL NOT TO BE RE-USED  None old material are to be used for new work except where specifically described being set aside for re-use				
	<b><u>CARTING AWAY OF EXCAVATED MATERIAL</u></b>  <u>Take out and remove roofs, ceilings, etc.</u>  Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations, or alternatively from stock piles situated on the building				
BILL NO. 1 Earthworks					

Item No	Description	Unit	Qty	Rate	Total
	<b><u>EXCAVATION, ETC</u></b>				
	<u>Excavation not exceeding 2m deep for Stub Column, Catchips</u>				
1.	Trenches	m <sup>3</sup>	1		
	<u>Keeping excavation free of water</u>				
2.	Keeping excavation free from water, mud etc.	Item			
	<b><u>FILLING, ETC</u></b>				
	Earth filling obtained from the excavation or prescribed stock piles on site compacted to 90% Mod AASHTO density				
	Back filling to trenches holes, etc.	m <sup>3</sup>	1		
	<b><u>PROTECTION AGAINST TERMITES</u></b>				
	<u>Soil insecticide</u>				
	Under floors, etc including forming and poisoning shallow furrows against foundation wall, and filling in furrows and ramming, including issuing of certificate	m <sup>2</sup>			
4.			32		
	<b><u>COLLECTION</u></b>				
	Bill No. 1 Earthworks				

**SCHEDULE OF RATES**

**WORK TO BE DONE AND SCHEDULE OF PRICES:**

Item No	Description	Unit	Qty	Rate	Total
	<b><u>BILL NO.2</u></b>				
	<b><u>CARPENTRY AND JOINERY</u></b>				
	<b><u>EAVES, VERGES, ETC.</u></b>				
1.	225 x 12 fibre cement fascia boards screwed to 100 x 75x 20mm 3mm thick lipped mild steel channel, channel else where measured	m	26		
2.	225 x 75 x 12 fibre cement badge boards screwed to mild steel bracket with brass nuts and bolts bracket else where measured	m	5		
3.	114 x 38mm SABS approved timber screwed to 100 x 75x 20mm 3mmthick lipped mild steel channel, channel elsewhere measured	m	26		
<b>COLLECTION</b>					
Bill No. 2 Carpentry And Joinery					

Item No	Description	Unit	Qty	Rate	Total
	<p><b><u>BILL NO. 3</u></b>  <b><u>ROOF COVERING, ETC.</u></b></p> <p><b><u>PREAMBLES</u></b></p> <p>For Preambles see " Standard Preambles to all Trades – W20"- 1986", including Supplementary Preambles to the standard Preambles</p> <p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><u>Proprietary items or materials</u></p> <p>Proprietary items or materials where specified are to be of be of brand specified or other approved by Head: Health</p> <p><u>Fixing</u></p> <p>Fixing must be done in accordance to SABS 1200HB with minimum 225mm end laps</p> <p><b><u>STEEL ROOF SHEETING AND ACCESSORIES</u></b></p> <p><u>Finishing</u></p> <p>Roof sheeting and accessories shall match the existing galvanized steel sheets</p> <p><u>0.8mm chromadec metal roof sheet secured to 100mmx 75mmx 20mmx 3mm thick lipped channel with galvanized hooked bolts</u></p> <p>Roof sheet (13000 x 2500mm)</p>	m <sup>2</sup>	32.5		
	<b>COLLECTION</b>				
	Bill No. 3 Roof Covering, etc.				



Item No	Description	Unit	Qty	Rate	Total
	<b><u>BILL NO.4</u></b>				
	<b><u>STRUCTURAL STEELWORK</u></b>				
	<u>Mild steel structural steel components manufactured and erected to client details and specifications and erected onsite as drawing details and all steel components i.e. uprights, base plates angled cleats etc.</u>				
1.	127 x 76.2mm x 4mm thick mild steel hot dipped galvanized hollow type column steel posts posts 4000mm high welded to 240 x 70 x 10mm thick mild steel plate, top of the post to be cut out and bolted to receive rafter. Two end flanges to be bent inwards	No	08		
2.	100 x 75x 20mm 3mm thick heavy hot dipped galvanized lipped mild steel channel (2500mm long)	m	10		
3.	100 x 75x 20mm 3mmthick lipped mild steel channel (13000mm long)	m	36		
	<b><u>BOLTS</u></b>				
4.	10mm diameter bolts	No	36		
5.	<b><u>Sundries</u></b>	No	12		
6.	240 x 70 x 10mm plate welded to I127x76x4mm heavy duty galvanized hollow type upright	No	10		
7.	300 x 150 x 0.3mm Mild steel bracket welded to end of 150 x 76 lipped channel	No	12		
	<b><u>COLLECTION</u></b>				
	Bill No. 4				
	<u>Structural Steelwork</u>				

Item No	Description	Qty	Rate	Amount
	<p><b><u>BILL NO, 5</u></b></p> <p><b>METAL WORK</b></p> <p><b>ALUMINIUM WINDOWS, DOORS, SCREENS, ETC.</b></p> <p>Aluminium Windows</p> <p>Aluminium windows are to be manufactured and supplied by Messrs. Sheerline Systems or other approved institution.</p> <p>Windows are to be factory-glazed and fitted with all necessary PVC or neoprene glazing gaskets, aluminium glazing beads, weather seals, etc., in accordance with the manufacturers standard details.</p> <p>After fabrication the windows, glazing beads, etc., are to be properly etched and anodised bronze with an anodised film thickness of 25 microns in accordance with SABS 999.</p> <p>The frames are to be formed perfectly flat on all faces, truly square and properly jointed at angles and intersections.</p> <p>The sight lines are to be the same throughout each window of the same type.</p> <p>All frames are to be fitted with standard fixing lugs spaced one near each corner and not exceeding 450mm apart intermediately all round frame.</p> <p>The windows are to be protected with plastic sheeting held in position with non-staining adhesive tape capable of easy stripping.</p> <p>Prices for windows are to include for assembling the component parts, setting up in position and plugging and screwing fixing lugs to concrete, oiling and easing all opening sections, protecting from damage and cleaning down and leaving in perfect condition at completion.</p>		R	
Metal work				

Item No	Description	Qty	Rate	Amount
	<u>'Sheerline System 30' natural anodised aluminium windows glazed as scheduled and factory fitted with burglar bars to all opening sections:</u>			
	Window in nine top hung opening lights and six fixed bottom lights 1550 x 2580mm high fitted with 4mm 'Armourplate' six top hung clear bottom lights obscure glass.	No	18	
	Window in nine top hung opening lights and six fixed bottom lights 2500 x 2750mm high fitted with 4mm 'Armourplate' six top hung clear bottom lights obscure glass.	No	2	
	Aluminium double door 2520 x 2215mm high fitted with 4mm 'Armourplate' clear top half and obscure bottom glass.	No	1	
	<b>Carried to Summary</b> Metal work			

Item No	Description	Qty	Rate	Amount
	<b><u>BILLNO. 6</u></b>			
	<b><u>PLUMBING AND DRAINAGE</u></b>			
	<b>WATER DISPOSAL</b>			
	<b><u>0,7mm Baked enamel on aluminium gutters system in continuous lengths including brackets, etc.</u></b>			
	127 x 80 mm high aluminium seamless gutters	m	12	
	75mm x 50mm x 4000mm long aluminium seamless down pipes including brackets and cutting into gutters to accommodate down pipes as specified in item 3.5 brackets shall be installed 7000mm apart including of sets and outlet shoe	No	02	
	127 x 80 mm high aluminium seamless gutters end cap	No	02	
	<b>Carried to Collection PLUMBING AND DRAINAGE</b>		R	

**COLLECTION SUMMARY**

**INSTITUTION:**                      **SUNDUMBILI CHC**

**PROJECT DESCRIPTION:**   **MDR PATIENT WAITING AREA**

NOTE:

THIS COLLECTION SUMMARY MUST BE COMPLETED IN FULL BY THE CONTRACTOR AND RETURNED TOGETHER WITH THE QUOTATION FORM.

EARTHWORKS	R	
CARPENTRY AND JOINERY	R	
ROOF COVERING, ETC.	R	
STRUCTURAL STEELWORK	R	
METAL WORK	R	
PLUMBING AND DRAINAGE	R	
<b><u>SUB-TOTAL:</u> CARRIED TO QUOTATION FORM</b>	<b>R</b>	